

# Income in Retirement: The Equity Option

---

---

---

Can it Work?  
How might it work in practice?

**Ian McKeever**  
**October 2018**

## Table of Contents

Introduction.....	3
1. An Age of Uncertainty.....	5
1.1 The solution discussed in this paper .....	6
2 An Examination of Long-Term Equity performance.....	7
2.1 Capital performance of the equity market back to 1900.....	7
Worrying features in the long view .....	8
2.2 Solutions to volatility.....	9
2.4 The British Experience Compared with the American Experience.....	10
Price Volatility.....	10
Dividend Volatility .....	11
Comparison Summary .....	12
2.5 Equity Performance Summary.....	12
2.6 Equity Dividends as an alternative to a Level Annuity Income .....	13
3 The Plan in its Simplest Form.....	15
3.1 The additional purpose of the cash balance .....	15
3.2 The Model in More Detail .....	16
First more Conservative Model .....	17
Second more Conservative Model.....	17
3.3 The Results in Context.....	18
3.4 Conclusion for pensioners living off income alone .....	19
4 Inflation or Paying the Rates Bill in Twenty Years' time .....	20
4.1 Inflation a Historical perspective .....	20
4.2 Equity Dividends and inflation .....	22
Inflation & Capital Growth.....	23
An Indexed Income Comparison .....	23
4.3 A pensioner's inflation problem .....	24
4.4 How Much inflation protection have equity dividends provided in the past?.....	27
5 The Life Expectancy Issue.....	30
5.1 How long will I live for?.....	30
5.2 Annuity Purchase Rule of Thumb.....	32
5.3 Investment implications for someone retiring now. ....	32
6 The Problem with Equities.....	33
6.1 Split Capital Investment Trusts.....	33
Splitting the Capital Risk.....	33
Splitting the Income risk.....	33
Splitting Income from Capital .....	34

## Equity Income in Retirement

A Recent Example .....	34
6.2 A Split Capital Design .....	34
7 Portfolio Construction.....	35
7.1 Identifying the risks and dealing with them.....	36
7.2 Suggestions for a pensioner using this plan.....	37
8 The Underlying Investments.....	39
8.1 Currency risk.....	41
Exchange rate and Inflation Risk.....	42
8.2 Withholding Tax .....	42
8.3 The Implications of Withholding Tax for Investment Strategy.....	45
America.....	45
Europe.....	45
Japan .....	46
Pacific Ex-Japan.....	46
Emerging Markets.....	46
Frontier Markets.....	46
8.4 Other Asset classes .....	47
Property.....	47
Infrastructure.....	48
Reinsurance Bonds.....	48
8.5 Investment Summary .....	48
9 An Institutional Solution.....	50
9.1 The Pensions Context .....	50
9.2 Outside Pensions.....	51
ETF Providers .....	51
Investment Trusts.....	51
Life Assurance Products .....	52
Conclusion .....	52
10 Summary .....	53
References.....	54

## Introduction

For someone not that far from retirement this is a question very relevant to me personally, but luckily, I have been involved with this particular problem for some time.

With the advent of pensions freedoms, investment after retirement has become of much broader application, particularly for very ordinary people with very limited funds. It is also a task that has become, if anything, more difficult of late for any number of reasons.

One goes to an investment conference and the speaker puts up a chart of historic bond yields and you see that yields are so much lower than they were 25 years ago, but the chart is misleading. Ignoring the recent uptick, bond yields are not just lower than they have been in the last 25 years. They are not even just lower than they have been in a century. They are, on best estimates, lower than they have ever been in the whole of human history.

There is a lot of discussion about whether equities are cheap or expensive or fair value, but gilts and bonds are expensive, in historical terms at least, and almost certainly very expensive. Many ordinary people now think that annuities are poor value for money. Although for some people they aren't necessarily that expensive, generally they are expensive, and that is because they are backed by bond investment and bonds are expensive.

That is not to say that bond yields have bottomed out. There is no way of knowing that they will not lurch down again. A case can certainly be made for bond yields to fall further, and as John Maynard Keynes once said, "The market can stay irrational longer than you can stay solvent." That is even more true once Central Banks became major players in the world's bond markets, because the profit motive is not what drives their activity.

As a profession we used to monitor mortality, but it is only recently that we have become interested in the rate at which mortality is improving. This is partly because, years ago with interest rates at 10% per annum, the financial significance of mortality rates in twenty years' time was trivial. At 5% interest rates, mortality improvement rates started to have some impact, but at current interest rates mortality improvement rates really matter. Our profession has adapted to that new reality, particularly as a period of rapidly falling interest rates also coincided with a period of rapidly falling mortality rates.

However, there is still this generally accepted view that bonds provide income and security, while equities provide growth potential but with considerable risk. With bond yields generally less than half equity yields it is hard to justify the assumption that bonds provide much in the way of income. As regards bonds providing safety, if bond yields were to rise back to historic levels, bond prices could have a long way to fall. If held to maturity, Gilts do provide a guaranteed return, but they are guaranteed to provide a return which is very low.

Equities may well be expensive, but we know bonds are expensive and we know that with some certainty, particularly on the very long view. We also know that the interest rates on cash deposits are negligible. The retired must invest their money somewhere, and with that comparison in mind, equities have to be at least considered.

Dividend yields are better than bond yields and so equities can certainly provide income, at least in the short term. This paper looks at the question of how reliable that income is, or has been in the past, and how that income might be used to provide a retirement income with at least, a degree of security.

However, most retired people do not have sufficient capital to live off the income from their investments alone. They need to eat in to their capital to supplement that income. With equity investment, that is a problem. In the last 2 crashes following 1999 and 2007, equity prices fell by almost 50%, in the crash

## Equity Income in Retirement

following 1973 equities fell by over 70%, and in the Wall Street Crash equity prices eventually fell by 90%. Having to sell into those sorts of markets, to meet immediate income needs, is a good way to have nothing left, very quickly.

There has been much discussion about good ways to invest, but much less discussion about good ways to disinvest. This paper discusses how the financial services industry might help with that. Perversely solutions did exist that could have helped with that problem, but they no longer exist. They could however, be resurrected.

This is a discussion about equity investment for the income investor. Equities are normally seen as providing capital growth, so there is a lot of discussion about getting capital growth and possibly about reducing capital risk. There is much less discussion about providing income and reducing income risk. Once income rather than capital becomes the focus, the world of equity investment becomes quite a different place. Issues that may be of passing interest to an investor focused on capital, become crucial for an investor focused on income.

There are certainly complications with income investment. There are benefits to a more sophisticated approach, but that is, if anything, a bad thing.

Finally, there is a very superficial discussion of how we, and the financial services industry might be able to provide that sophistication through some sort of packaged product that might be attractive to the average pensioner.

Investing in retirement is currently a big issue. Financial services companies, insurance companies, regulators and even politicians, all recognize that it is a big problem, so the will to solve it, is there. Hopefully this paper can add to the discussion.

# Equity Income in Retirement

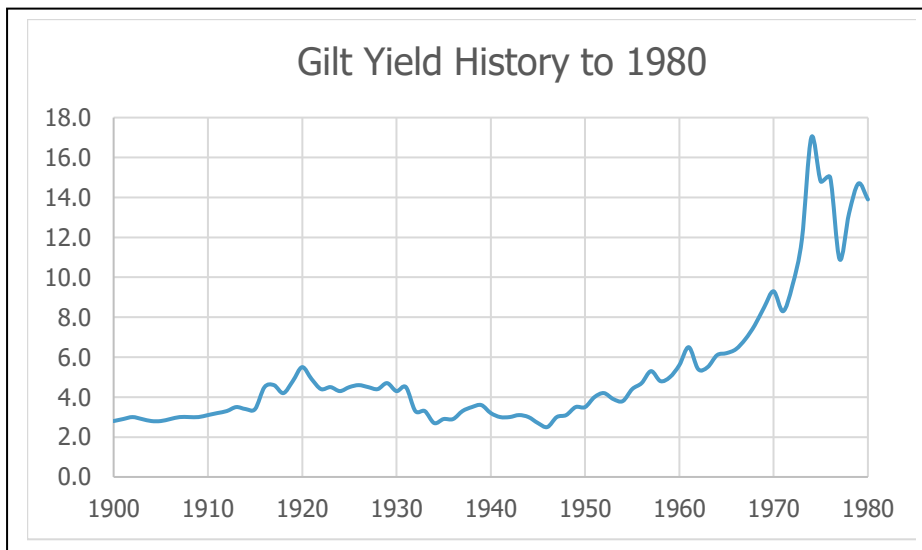
## 1. An Age of Uncertainty

The basic financial requirement for most retired people is a trouble-free income for life; a pension.

Taking the long view, the great enemy of retired people living on a fixed income is inflation, but this needs to be seen in the context of secular change. Forty years ago, inflation rose from about 4% per annum in the 1960's, to peak at about 25% in 1975, and indeed, was in double figures for most of the 1970's.

It is not surprising that in those times Life Offices gave away annuity rate guarantees based on interest rates of 3% or 4%. From the perspective of the time it must have seemed that it was impossible for interest rates to fall to such incredibly low levels.

What they saw in 1980 was:



Gilt yields had never been below 2½% since the beginning of the century, and that was after the war in 1946, and it was very temporary. There was now a new normal and this was a guarantee that would obviously not cost very much, but at least it provided policyholders with some reassurance.

However, this is what the future held



## Equity Income in Retirement

Coupled with future mortality improvements these guarantees, that at the time they were given were seen as almost costless, could potentially threaten the solvency of the Life Offices giving them.

What subsequently happened showed how dangerous it is to believe that what is happening now represents a new normal, which will persist forever.

This was a time when one frequently came across widows who had a pension from the 1960s which was generous at the time, but which was, by then, virtually worthless. The lesson learned at the time was that nothing destroys a fixed pension like inflation.

For someone looking on their retirement income for the next 30 years, inflation must be an ever-present threat to their financial wellbeing, even today.

Just as in the 1970s it was almost impossible to envisage inflation rates and interest rates below 1%, it is now difficult to envisage inflation rates and interest rates above 10%. However, from some perspectives, inflation rates at such a level would solve an awful lot of problems in the UK economy, although it would create many others.

The solution is obviously an Index-Linked annuity. However, such annuities are backed by portfolios of Index-Linked Gilts and yields on Index-Linked Gilts are around minus 1½%. Allowing for Life Office expenses the real return on an Index linked annuity is therefore probably about minus 2%. Such annuities are therefore incredibly expensive.

Bond yields are, according to the Bank of England, at around 2000-year lows and so even level annuities are not cheap, certainly for younger retirees.

Not only is the yield on conventional corporate and government bonds low, but with a conventional bond the coupon is fixed for the life of the bond, leaving the retiree fully exposed to the inflation risk. Index-linked bonds are almost exclusively government issued and, in any event, the amount in issue is small and tightly held. By comparison, although dividends may be cut, they do tend to increase with time.

### 1.1 The solution discussed in this paper

Until very recently, the UK asset class providing the highest investment returns over any 20-year period, was equities. However, this was not true for the 20-year period up to 2008 and this has also not been true over most 20-year periods ending subsequently.

In 1987, Gilt yields were 9½% but have now fallen to 2% or less. Gilt yields are not expected to fall by another 7½% to minus 5½% over the next 30 years, and therefore similar outperformance cannot be expected over the lifetime of current retirees.

This though, is also another reflection of the fact that, in historic terms, bond yields are at extraordinarily low levels and that points towards an equity-based solution.

## Equity Income in Retirement

### 2 An Examination of Long-Term Equity performance

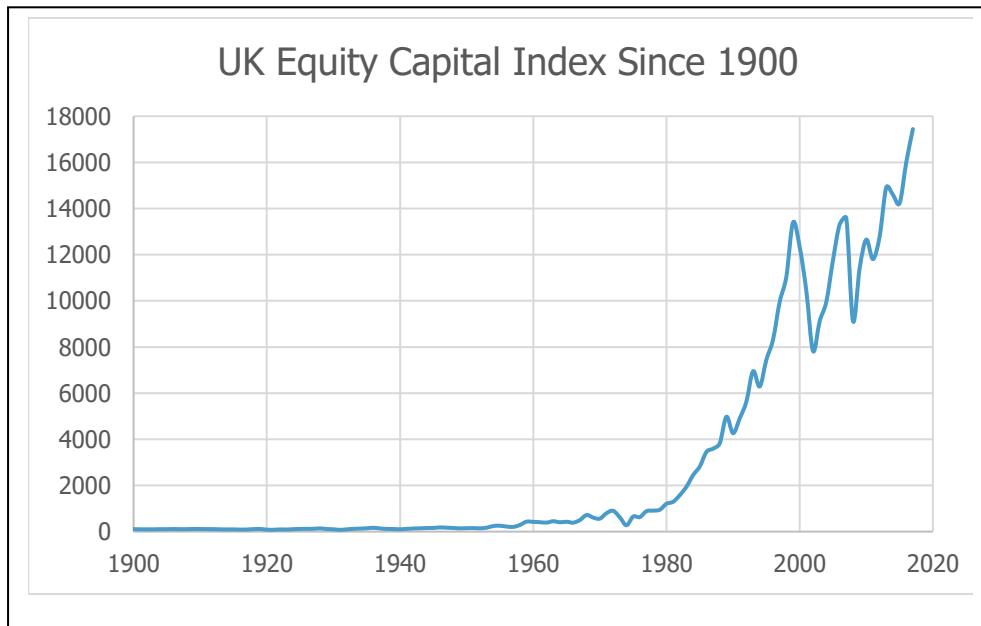
With life expectancy at current levels, retirement generally lasts for 20 to 30 years. In that context any consideration of equity performance must look at how the market has performed, not only recently, but also over previous 20- or 30-year time periods.

The source for historic market performance data used in this paper was the Barclays Capital Equity Gilt Study which is published annually and provides data going back to 1900. It needs to be born in mind that the All-Share Index is a relatively recent invention. Before that the main index of equity performance was the FT 30 share index. Comparability is an issue but as investment over multi decade periods is what is being considered the focus is on broad trends. Even with the comparability issues, the data is thought to be sufficiently comparable for that purpose.

Equity markets are intrinsically volatile, but this works in an investor's favour. Assuming an investor invests a fixed amount every month he or she, will buy more shares after prices have fallen, and fewer shares when prices are near their peak, which will result in the average price paid by the investor being less than the average price. Indeed, for an investor, a falling market is actually a good thing, although it is human nature not to see it that way.

However, for someone who is retired and therefore selling shares in order to provide themselves with a level income, the same process results in them getting less than the average price for their shares. In this case an extended period of low share prices can decimate a retiree's portfolio, as they are selling off their portfolio at an insupportable rate.

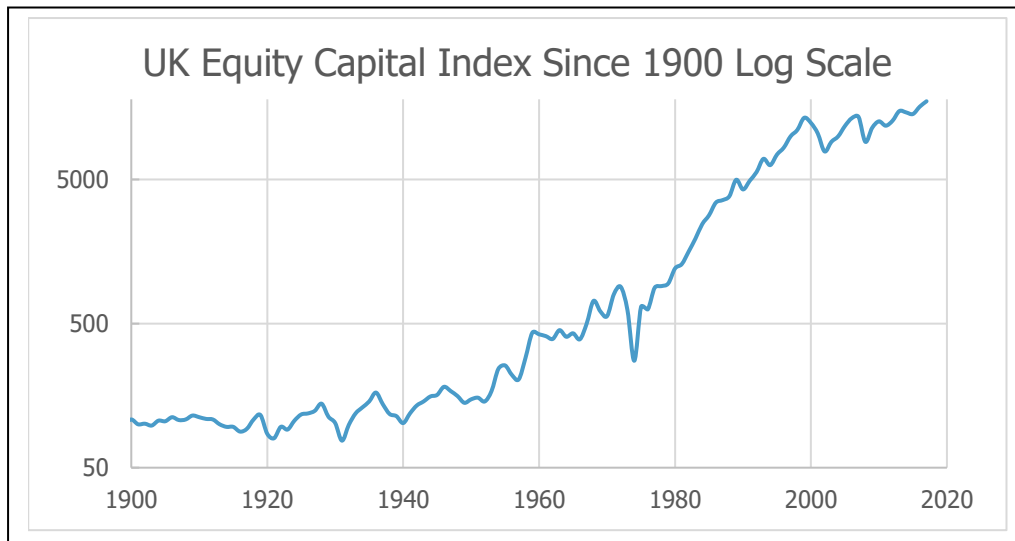
#### 2.1 Capital performance of the equity market back to 1900.



Recent index values are so high relative to earlier periods, that all detail is lost. What is really of concern is not absolute values, but rates of change, and a logarithmic scale demonstrates that, much better.



## Equity Income in Retirement



The logarithmic scale is a very useful way of comparing current conditions with those that pertained in the past.

What this chart demonstrates is that stock market behavior has drastically changed during the period and shows graphically that stock market performance in any given quarter-century is very different from what it was in the previous quarter-century.

1. The first quarter-century from 1900 to 1925 was initially a period of relatively stable equity prices, although as will be demonstrated later this represented a rerating as dividends were falling rapidly. Even World War 1 had a relatively marginal effect on share prices.
2. The second quarter-century brought with it a period of quite extreme volatility, which really started in 1919 and was a period of deflation and depression terminated by the Second World War and finished with the start of a post Second World War recovery. As with the first quarter century, capital growth was decidedly muted.
3. 1950 to 1975 was a period of recovery and economic growth and generally good equity market returns although it ended with the biggest stock market crash in living memory, with share prices falling to almost a quarter of their pre-crash prices.
4. The final quarter of the twentieth century saw an almost continuous bull market in equities. There were short term pull-backs, but they were not sustained enough to really register in the year-end figures. This was not just an underlying trend, it was also amplified by the fact that it was a period of recovery from the 1973-4 crash. Indeed, it was a period when equity returns were very high, that lasted for such a long period, that such returns came to be considered normal. Part of this nominal capital growth reflected the still high levels of inflation. In a historical context, it was quite an extraordinary period
5. The first quarter of the 21st century, opened with the crash of 1999 to 2002. In the first decade of this quarter century equity prices never really recovered, before the Financial Crisis hit, bringing with it another fall in equity prices of around 50%. The last few years have been a period first of containment, and then limited recovery.

### Worrying features in the long view

The above chart does however contain some worrying features

During the first fifty years of the 20th century equity prices hardly rose at all. In fact, over that half century capital growth averaged 0.8% per annum.

## Equity Income in Retirement

Looking at the overall pattern of performance in the early years of the 21st century, equity performance seems very similar to the experience in the early years of the 20th century, particularly to that experienced in the 1920s and 1930s.

At the time, the Financial Crisis was seen as being the financial equivalent of World War 1, and hence Central Bank policy has been directed towards preventing the depression which they expected to follow. This took the form of printing money, as both events effectively destroyed money.

The effect was most felt in the bond market where interest rates are at an unprecedented low level. However, equity market performance since 2000 has not been that dissimilar to that post World War 1.

The parallels with today here are quite surprising. The period that came to be known on Wall Street as "The Long Bull Market" was indeed long. It lasted almost ten years from 1920, with a minor setback in 1923. It ended in 1929 with the Wall Street Crash, when equity prices fell by over 90%.

Currently Wall Street is probably close to the end of an unprecedentedly long bull market. The most positive difference is that "The Long Bull Market" was well loved while it lasted, with even ordinary people speculating, much like the current fascination with Bitcoin. By comparison the current bull market on Wall Street is probably the most unloved bull market in history, as most ordinary Americans were put off, following their losses during the Financial Crisis.

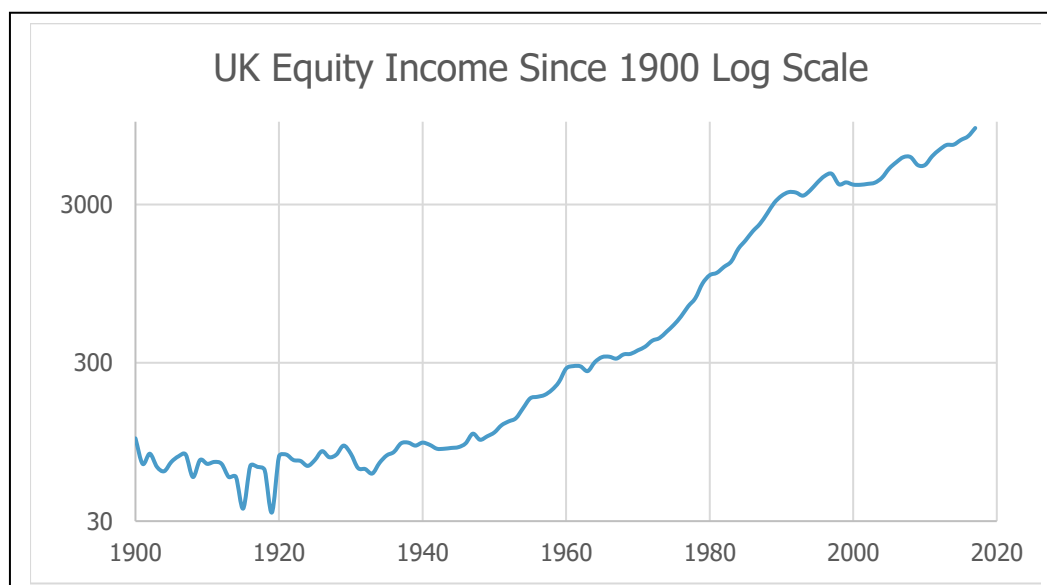
Central Banks are now reversing quantitative easing and entering a period of quantitative tightening, the likely effects of which are unknown. It has never been done before. Will it end in a period of hyperinflation as experienced by the Weimar Republic in the 1920s or a period of deflationary depression as was experienced by most countries in the 1920s and 1930s? One hopes for some kind of middle course.

Our recovery from the Financial Crisis is not over. It is only moving into a new, and potentially even more dangerous phase.

### 2.2 Solutions to volatility

One solution to the problem of selling equities in an inherently volatile market, is simply not to sell, and to live off the dividends. In principle this should work, but the problem is that dividends are not guaranteed or even promised. However, in the UK, equity dividends have for some time, been a lot more stable than equity prices.

A similar logarithmic chart of equity dividends since the beginning of the 20th century demonstrates that although equity dividends have been volatile, they have been a lot less so than equity prices.



The comparison with the capital performance of the equity market is striking.

## Equity Income in Retirement

In the first quarter of the twentieth century, equity dividends were extremely volatile, which stands in sharp contrast to the relative stability of equity prices during the period.

During the period from 1900 to the end of World War 1 there was a decline in equity dividends which can best be described as precipitous. After 1900 equity dividends fell by 31% the following year. It was a period of extreme dividend volatility, terminating with 1919 by which time dividends halved again only to recover in 1920.

After that nominal dividends returned roughly to the average for the first 20 years of the 20<sup>th</sup> century. That was about two-thirds of the level seen in 1900. As with equity prices, overall there was little dividend growth in nominal terms, although this quarter century included a period of depression and price deflation. This meant that although dividends fell again around 1930 they subsequently rose in real terms because prices were falling while dividend payments were largely being maintained.

The second half of the twentieth century saw a steady rise in nominal equity dividends that was pretty well continuous until 1990.

As the twenty-first century approached dividends also became more volatile, although overall dividends continued to grow, all be it, at a reduced rate.

Overall the historic data does suggest that it is worth exploring the possibility of using equity dividends to provide an income in retirement particularly given the fact that the yield on the All-Share index is at the time of writing is 3.77%, whereas the yield on the 15-year Gilt Index is almost exactly half that.

### 2.4 The British Experience Compared with the American Experience

Generally, when it comes to looking at investment statistics, it almost seems normal practice to look at what has happened in the US market and to assume that what is observed there also applies to other markets such as the UK. This is because

1. The US market has scale and so the statistics are more reliable
2. The statistics are available
3. Because of the scale of the market, US fund managers already have scale when they enter the UK market and are keen to present their expertise based on the statistics they have
4. The US represents 60% of Global Market Capitalisation

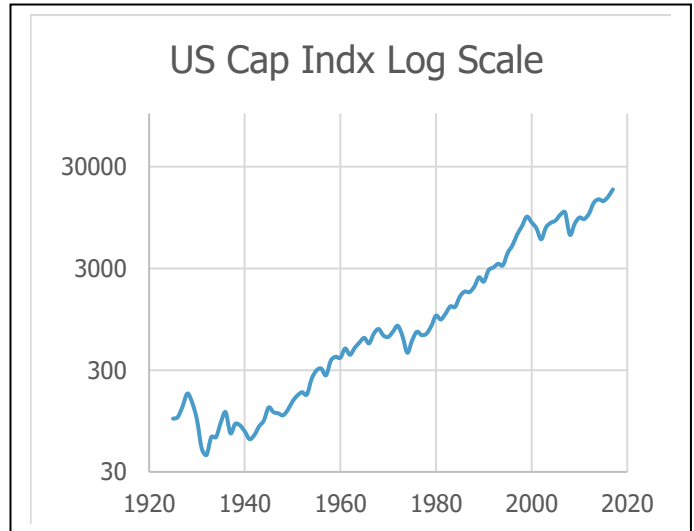
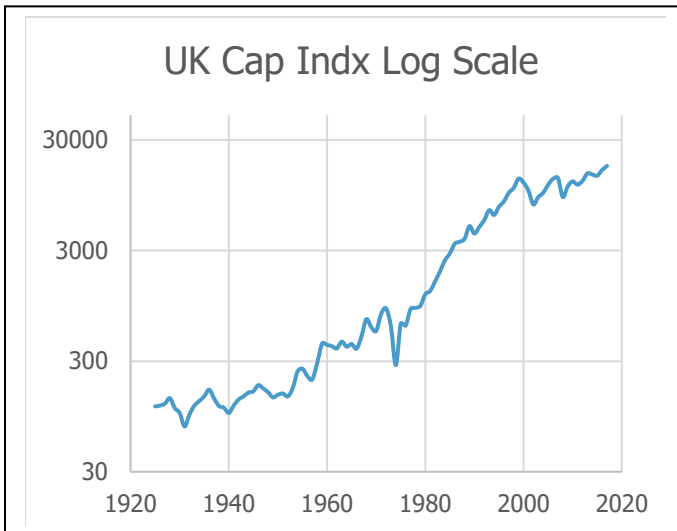
The US is so big that it is largely a self-contained economy, with virtually every possible economic activity carried out at scale, which can therefore be analysed without venturing abroad. It is also a society where only 36% of the population owns a passport, as opposed to 76% in the UK. This therefore tends to create an implicit assumption that what happens in America is "normal", particularly among Americans, which is all the more insidious, because it is implicit.

It is therefore worth carrying out a comparison. The Barclays Capital Gilt Equity study provides US statistics but only going back to 1925, and so the comparison below looks at performance since then. In the first instance the focus is on volatility

#### Price Volatility

Long term returns are obscured by the changes in the foreign exchange rate which have in the past frequently been step changes. However, in a world of floating exchange rates, it is still worth doing an unadjusted comparison on the log scale to compare short-term price volatility.

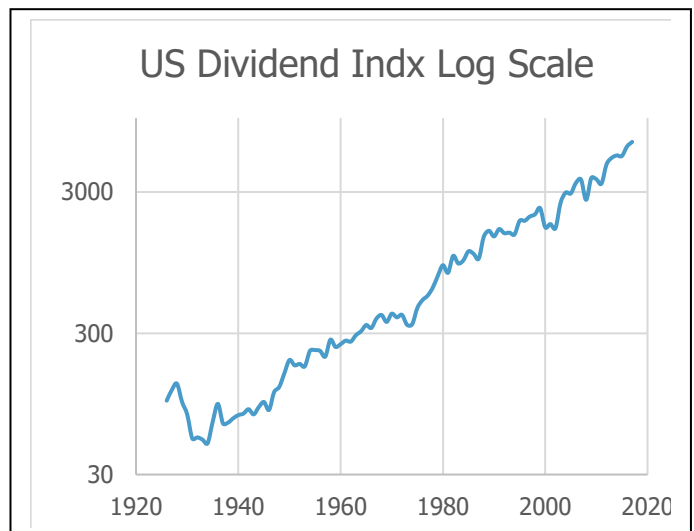
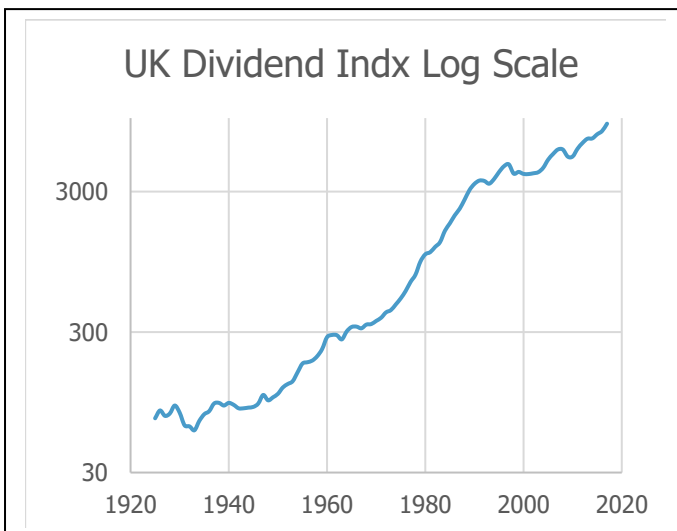
## Equity Income in Retirement



In general, up to the year 2000, very short-term volatility has been greater in the US than the UK, as shown by the wavier line, but except for the Wall Street Crash, the UK has reacted more strongly to major market shocks. However, if anything the US has been the more volatile in the 21<sup>st</sup> century, all be it, with more of a growth bias.

### Dividend Volatility

Dividends in the US have been more volatile than in the UK, in relation to all kinds of economic shocks, be they big or small. A UK retiree looking for income reliability from dividends needs to be selective in the choice of US stocks in his portfolio. There are US stocks with a very long history of paying increasing and reliable dividends over a considerable period of time, but they are the exception.



### Features

1. The comparison of overall dividend growth in the UK and the US broadly follows the overall level of capital growth in the relevant markets.
2. The big difference is dividend volatility, which is far greater in the US as compared with the UK.
3. Interestingly in the period from 1925 to 1980 UK dividends did grow by almost 50% in real terms whereas the capital index actually fell slightly in real terms.

# Equity Income in Retirement

## Comparison Summary

The major message from the above, is that different markets perform differently, and that may be as much for cultural, or tax reasons, as for economic ones. It is therefore dangerous to read across lessons from one market into another one, without checking that they are in fact similar.

Until the mid-1980's, although US dividends fluctuated more than UK dividends, dividend yields were broadly comparable between the two countries. Since then US companies have tended to distribute their profits more through share buy-backs rather than dividends and US dividend yields have therefore fallen relative to UK dividend yields. This phenomenon was discussed in "Triumph of the Optimists: 101 Years of Global Investment Returns" which commented on this as being a trend going back to the 1950s. However, that is not to say that in the US there are not several companies with a solid history of providing a steady flow of dividends, however dividend yields still tend to be low relative to the UK.

Share buy-backs are also becoming more common in the UK. Clearly profits used to buy back shares are not available to pay dividends but paying a dividend may create an expectation that a similar dividend will be paid next year. There is no such expectation with a share buy-back. Share buy-backs therefore represent a way of distributing exceptional profits without creating an implied future commitment. In principle share buy-backs should serve to stabilise dividend streams, however there are also clearly tax and cultural factors at work.

Part of the reason for Britain's exit from the EU, is cultural differences between the UK and continental Europe. It is therefore fair to assume that the future performance of continental European markets and their attitude to dividend payment are not necessarily the same as either the UK or the US. Attitudes may even differ between the various countries in the EU. Statistics were not available for this paper although this is clearly an area for research. However, the various wars during the twentieth century clearly had an impact on continental Europe which will have caused discontinuities in the data. The only real exception to this would be Switzerland.

Asia will be different again, particularly China. Whereas it is frequently argued that in America the political establishment is in thrall to corporate America, corporate China is very much in the service of the government.

## 2.5 Equity Performance Summary

Given that the problem being addressed is how the retired should invest their portfolios and how our profession might offer advice on the direction such a portfolio might take, the first thing we need to do is establish where we are. It is, after all, impossible to give directions without knowing where one is now.

From an investment point of view our starting point is a problem. Interest rates are low. It has been argued that interest rates are just coming off the lowest level they have been in all of human history. It has taken a while to get here, and therefore it is tempting to think that the investment world of today is normal or at least represents a new normal.

In practical terms, for the retired, this means that never before have annuities been more expensive.

That may indeed be the situation that this a new normal, but past experience suggests that in twenty years there will be a new normality, completely different from today's normality.

Never before have governments in the form of Central Banks owned so much of their own debt.

We are currently in a period where technical advance is fast moving on from enhancing the capabilities of human workers, and potentially onto a stage where it is replacing human labour.

## Equity Income in Retirement

One feature of the twentieth century was that the cost of ordinary human labour rose almost continuously, as real standards of living rose. Recent experience tends to suggest that this trend may be over. Indeed, it looks very much as if this trend is not only reversing but potentially doing so at an ever-increasing rate. The political and economic implications of that are likely to drive massive economic change over the coming decades.

The scale of such changes may be far greater than anything seen in living memory. To see changes on such a scale, maybe we need to go back to the original Agricultural Revolution or the original Industrial Revolution. Unfortunately, we do not have stock market data covering those periods or, at the time, even much of a stock market.

Back in the day, the stock market giants in America were Exxon Mobil, General Electric and Ford. All these companies owned a lot of stuff, mainly in the form of production facilities and logistics assets. Today the stock market giants, the Alphabet, Amazon's and Apples of this world own virtually nothing apart from intellectual property.

This makes the investment world a much more dangerous place than it has ever been before. However, if the value of much human labour is falling, the value of some human labour is rising, as hopefully is the value of capital.

Despite the risks, that is positive for those who have assets, such as the retired, but the risks are high, and it is important to take as long a long-term perspective as possible.

In that context one must assume that life will go on, people will continue to need things and services and companies will continue to make profits providing them.

Lastly, companies need to take a long-term perspective when deciding on the appropriate level of dividend declaration, and it is the major assumption in this paper that dividends will not be subject to the wild oscillations in sentiment that is seen in stock market equity pricing.

Maybe that is an optimistic assumption but with bond yields at such depressed levels, it is a necessary one.

### 2.6 Equity Dividends as an alternative to a Level Annuity Income

Broadly speaking, companies do seem to try to maintain dividends year on year, at least in nominal terms. Dividends are occasionally cut because the company gets into trouble but that must be expected. There is always specific business risk but that can be avoided or at least ameliorated through diversification. Many companies also cut dividends in the face of adverse economic conditions, particularly where there is uncertainty and a risk that economic conditions might deteriorate further. In the latter case this is, at least in part, a prudent response to uncertainty and when that uncertainty is resolved dividends are broadly restored to previous levels.

The only period covered by the data, when there was a sustained fall in nominal dividends was from 1900 to 1919, and in that period nominal dividends fell by 64%, or in other words, lost two-thirds of their value in nominal terms. However before putting the blame on the First World War, by 1912 dividends had already dropped by roughly a third to 69% of their level in 1900. The First World War merely halved dividends from pre-war levels.

There may have been secular trends at work here. There is some suggestion that in the 19<sup>th</sup> Century equities were mainly seen as income producing rather than sources of capital growth. This would tend to be supported by the fact that over the same period equity prices remained relatively stable, and indeed, by 1919 share prices had risen 8% above their 1900 level.

## Equity Income in Retirement

The experience in the period after the First World War was much more supportive of the contention that broadly, over the medium term, equity dividends are relatively stable and, at least potentially, can support a level income like that available under a level annuity model. The next section of this paper suggests a way of stabilising such an income.

## Equity Income in Retirement

### 3 The Plan in its Simplest Form

Clearly if cash flow needs in retirement can be met out of the income generated by the investment, those assets never need to be sold, volatility in capital value is then only of concern to one's heirs

Various strategies are available to achieve this where the income stream is itself volatile.

1. Live off only a percentage of the income generated by the portfolio. That way dividends can fall while still being sufficient to fund retirement.
2. Hold a cash balance sufficient to cover any shortfall should equity dividends fall temporarily.
3. Cut retirement expenditure in response to a fall in income.

In practice it seems prudent to employ the above techniques in combination, and this model assumes a portfolio including cash, amounting to a year's income or say 4% of the portfolio, with 96% invested in an All-Share Index Tracker Fund. In practice a tracker fund might be replaced with a somewhat different portfolio, but at this stage it is the basic principle that is being investigated.

#### 3.1 The additional purpose of the cash balance

Someone who is retired has a very simple need, a fixed amount of money coming into their bank account reliably every month. However, company dividends are not paid like that. Company year ends are spread through the year, but they tend to be at the ends of the quarters with a preponderance of year-ends being in December.

Interim dividends tend to be less than final dividends, and tend to be paid slightly quicker, but many companies do not pay interim dividends at all.

For holders of a direct share portfolio this tends to mean that dividend income is concentrated in the April to June period with lower distributions from December to March with much lower distributions in January and February.

Where investment is via ETFs or funds, that tends to mean that the biggest dividend payment in the year is in June and the smallest in March. All markets seem to exhibit similar dividend seasonality, sometimes in more pronounced way, although in Emerging and Asian markets generally dividends appear to be paid a little later in the year.

The cash balance therefore acts as a buffer, topping up distributions when dividend receipts are low and holding them back when dividend receipts are seasonally high.

Under this design only 90% of the dividends are paid out anyway, so there is not a direct linkage between dividend receipts and income payments to the pensioner. The level of payments to the pensioner is therefore set at the beginning of the year and then reviewed annually in the light of actual dividend receipts over the previous year, with any excess dividend receipts being reinvested.

Cash, as well as providing a reserve in case dividends are cut, also acts as a buffer to deal with the seasonality of dividends. This has the effect that there is at least an element of judgement in deciding what the underlying cash position is and whether the fund does indeed have an underlying cash balance equal to one year's income, because seasonal factors affect the actual cash balance at any given time.



## Equity Income in Retirement

### 3.2 The Model in More Detail

The model which was back tested against the data was constructed as follows:

1. A cash balance equal to one year of the income being paid.
2. The balance in a tracker fund, tracking the equity index used in the Barclays Capital Gilt Equity Study (currently the All-Share index)

The following Rules apply

- 1) Payments are made to the portfolio's owner equal to 90% of the dividend receipts in the previous year subject to:
  - a) That payment being no less than that paid in the previous year AND
  - b) No increase in the payments until the cash balance, is at least equal to one year's payments.
- 2) Any excess income is reinvested, with preference given to reinstating the cash balance to a level equal to the next year's annual payment to the pensioner. In effect all excess income is kept as cash until the cash balance is replenished.

For these purposes expenses are ignored.

The model looks back from today and considers how much cash balances would have been depleted, had this portfolio existed at the time.

For example, following 2008 when the dividend index was 5974, the distribution for 2009 was set at 5376.6, but in 2009 the dividend index was only 5321, and in 2010 the index was 5331, so in both years the shortfall was made up from cash balances. The total depletion would have been by 1.88%. However, dividends increased again the following year and cash balances would have been replenished in 2011. Depletion would have taken 2 years and replenishment 1 year.

#### Tabulating the results for earlier periods

From Year	Maximum reduction in Cash Balance	Years to Minimum Cash Balance	Additional years to replenish cash
2008	1.88%	2	1
1997	23.34%	6	2
1930	40.28%	4	3
1929	85.19%	6	9
1912	88.08%	6	5
1911	97.34%	7	7
1909	103.50%	9	8
1907	188.75%	11	20+
1900	555+%	Possibly 50 years	Possibly not yet

Clearly cash balances cannot in practice fall by more than 100%, either the fund would have to borrow, or equity assets would have to be sold, which would further delay the recovery.

1900 was an incredible year with dividends reaching a level that that were not achieved again for almost 50 years. In reality an investor who took an income stream based on 1900 dividend payments would have eventually sold his whole portfolio and been wiped out.

## Equity Income in Retirement

However, the model does indicate that the portfolio structure could survive the depression after World War 1 but not World War 1 itself. There were even major problems before war broke out with cash reserves being completely depleted even before 1914 because of reductions in dividend payments in the early Edwardian era.

It is therefore worth considering a more conservative model.

### First more Conservative Model

This is essentially the same as before except with distributions being set at only 85% of the previous year's dividend income. The rules are otherwise as before.

The model that was back tested against the data is constructed as follows:

1. A cash balance equal to one year's income.
2. The balance in a tracker fund tracking the equity index used in the Barclays Capital Gilt Equity Study (currently the All-Share index)

The following Rules apply

- 1) Payments are made to the portfolio's owner equal to **85%** of the dividend receipts in the previous year subject to:
  - a) That payment being no less than that paid in the previous year AND
  - b) No increase in the payments until the cash balance is at least equal to one year's payments.
- 2) Any excess income is reinvested with preference given to reinstating the cash balance to be equal to the next year's annual payment. In effect all excess income is kept as cash until the cash balance is replenished to equal one year's payments.

Once again expenses are ignored

The results are somewhat different

The cash balance is never drawn upon until one gets back to 1930 and then it is only to the extent of 22.06%. That means that in order to encounter economic conditions requiring cash balances to be drawn upon, one must go back over 80 years.

However, 1929 was much worse and, in the 85% distribution model, cash balances were drawn down to the extent of 56.86 % after five years.

To put the model in a worse situation, one must go back to a 1907 start year, where after 13 years, according to the model, 129.26 % of cash balance would have been used up.

The only year worse than this was the base year 1900.

### Second more Conservative Model

This looks at the effect of basing the distribution on **90%** of dividend income but based **on the average of the last two years'** dividend receipts

The model basing distributions on an average of 2 years dividends is not appreciably better than basing distributions on just one year's dividends. In some cases, it is worse. It also changes the shape of the outcome somewhat. This is because in a period of falling dividends taking account of the average of the last two years dividends actually results in a higher distribution and so subsequent dividend reductions do even more damage to cash reserves. The model is somewhat simplistic and a more sophisticated one

## Equity Income in Retirement

might change the results a little, but the indications are that the effect of basing distributions on the average of 2 years dividend income is at best, mixed. This is a somewhat surprising result

### Comparing the Models' Total reductions in Cash

Year		90% of 1 yr. Div.	85% of 1 Yr. Div.	90% of 2 Yr. Av
2008		1.88%		1.95%
1997		23.34%		13.71%
1930		40.28%	22.06%	61.44%
1929		85.19%	56.86%	
1912		88.08%		96.83%
1911		97.34%		
1909		103.50%		
1907		188.75%	129.26%	175.78%

It should be noted that the model only identifies the worst impacts on cash reserves. Therefore, even if the impact on cash reserves is significant, it is not identified, if it was not as bad as occurred in a later year.

The indications are that even distributing just 90% of highest historic dividend income provides considerable stability, and deals with adverse economic conditions going back to before World War One. It is also notable that from 1920 to 1934 was a period of price deflation with prices falling by 47%.

### 3.3 The Results in Context

Mark Twain said that "History doesn't repeat itself, but it often rhymes" and this raises the question of what period in our economic history, does the present time rhyme with?

Recent equity market performance is certainly more reminiscent of the first half of the twentieth century rather than the last half. In that case are we rhyming with the Edwardian period or are we rhyming with the post First World War period?

This is a particularly relevant question to ask given that it was during the first half of the twentieth century that this model would have been under the most pressure.

The case for the Edwardian period was that during that time the economic powerhouse that was Victorian Britain was having its economic dominance in Europe challenged by the rising industrial power of a nascent Germany. America might have also been threatening British supremacy, were it not so isolationist. There are echoes today with the economic might of America being challenged by China.

At the time a technological revolution was taking place. The Model T Ford was first manufactured in 1908. Marconi transmitted his first message across the Atlantic by radio in 1901 and the Wright brothers first flew in 1903. Einstein published 3 ground breaking scientific papers in 1905, each of which were to lay the groundwork for scientific advance for the next century, in three different branches of science.

All these events were harbingers of things that would change the world. However, it was all rather nascent

The case for today's economic conditions rhyming with the post First World War period may be a little stronger. The Financial Crisis, at least in its economic effects, was similar to World War One and since then Central Banks have been focused on what they did wrong then and how they should act now. On the technological front war had done what war always does, and that is convert what were essentially scientific ideas and bring them into the world of engineering and practical useable products.

## Equity Income in Retirement

Possibly the strongest evidence to suggest that we are now in a period rhyming with the 1920's and 1930's is in the political realm. Politicians exploit/follow the wants and desires of ordinary people and people respond to how the economy feels to them. In 1922 Mussolini was elected in Italy. It was in 1924 that Britain had its first; all be it short lived; Labour government. The US Presidential election could possibly be seen in these terms as a fight between Donald Trump and Bernie Sanders. In Europe we are seeing the rise of extremist political parties. It all reflects political discontent, or is it economic discontent? In Britain we had the Brexit vote which may be symptomatic of the same thing.

Technologically we are well into a period where technology is replacing human jobs. Internet shopping is causing a shrinkage of retail business in the High Street. Less visible is the growing effect of robotics from manufacturing through logistics to agriculture. Self-driving cars may be convenient and mean that we no longer own cars, merely rent them as needed, but possibly more importantly, lorry drivers will become surplus to requirements, as will the industry that serves them. With advances in AI the professions might suffer the same fate.

Listening to commentators, there is much discussion of how extraordinarily long the equity bull market has lasted. The original "Long Bull Market" ended in 1929. However, on the positive side, everyone from the multimillionaire to the janitor participated in the original Long Bull Market whereas the current bull market is a contender for being the most unloved bull market in history.

Things change with time, but trends continue until they stop. What happened last year may be the best indicator we have of what is likely to happen next year, but we know that that can turn out to be very wrong. Once we move our investment time horizon out to 20 years or more, history would tend to indicate that all recent history tells us about, is an economic scenario that we know won't be repeated any time soon.

With that in mind the 1920s and 1930s may have more to teach us about our economic future than we may wish to accept.

Someone who has retired, has ceased earning, and the assets they have is all they have, and probably all they will ever have. Hopefully they have the assets to manage a bit of volatility, but for them, the issue is not about the sort of every day volatility we have seen over the last few years. The issue is about financial survivability and weathering the next Black Swan event.

That means looking at a long history of data because, by definition, Black Swan Events are rare, but they are not so rare that someone retiring might not reasonably expect to see another one in their lifetime. Unfortunately, every Black Swan event is different, so there can be no guarantees. It is even doubtful whether a century of data is sufficient to plan for such events, but we must make the best of what we have.

### 3.4 Conclusion for pensioners living off income alone

Basing distributions on 90% of dividend income is relatively safe. It may be even safer if the first-time dividend receipts in any one year are less than distributions, the pensioner cuts the following year's distribution by 5%.

If a pensioner living off income decided not to do that and if eventually there was a need to sell holdings such sales would almost certainly take place in an equity market that was well into the recovery phase and prices were well above their lows. The strategy would seem to make most Black Swan events survivable for a pensioner following it, while providing considerable stability in the meantime. The reinvestment of 10% of portfolio income would also tend to mean that dividend income would increase with time.

However, for a pensioner planning to deplete their capital over the period of their retirement, a more sophisticated approach is required. (see Sections 5 & 6)

## 4 Inflation or Paying the Rates Bill in Twenty Years' time

In reality the previous two Sections have very much addressed the wrong question. Can equity dividends provide a pensioner with a reliable income, in nominal terms? Essentially the answer is "Yes", but it is still the wrong question.

The real question is:

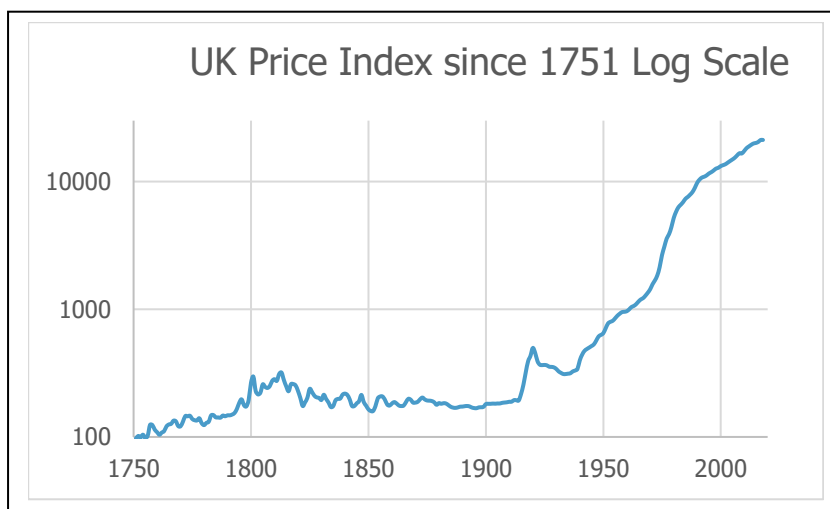
**In the unlikely event that I am still alive in fifty years' time, will I still be able to pay the utility bills?**

From the perspective of the current day, it seems clear that in fifty years' time utility bills will not be much the same as they are now or even double that. A best estimate is probably triple that, but in fact utility bills could well be quadruple or quintuple what they are now. The answer is largely unknowable. In the last 80 years the pound sterling has been a very poor store of value.

### 4.1 Inflation a Historical perspective

It is interesting to look at historic inflation because today inflation is seen as normal and even desirable and deflation is seen as extraordinary and to be avoided at all cost, at least according to generally accepted wisdom. However, over the very long term this has not been the case.

The University of Exeter references a calculator provided by the ONS going back to 1270 (<http://www.nationalarchives.gov.uk/currency-converter/>) but possibly that is too much data. There is also reference to the House of Commons Research Paper 99/20,23 FEBRUARY 1999 which goes back to 1750. However, the following chart is more up to date and is from data on the web site <http://inflation.iamkate.com/>.



What is clear is that inflation is largely a modern phenomenon. From 1750 until 1790 inflation averaged less than 1% per annum. However, from 1790 until 1813, largely the period of the Napoleonic wars, inflation averaged 3.4% per annum. This was followed by a period of deflation with prices falling quite rapidly.

The Victorian era saw periods of rising prices and periods of falling prices but over the longer-term prices were relatively stable and the pound was a good store of value.

High inflation did not return until the First World War. It was not until 1917 that prices returned to levels previously seen in 1813. In inflation terms, World War One was very much a replay of the Napoleonic

## Equity Income in Retirement

wars with high levels of inflation, followed by a period of severe deflation, although the numbers were bigger.

World War Two was different in that although it brought a period of high inflation, it was not followed by a period of severe deflation. Very largely inflation continued probably because of economic management and inflation is now seen as "A Good Thing" with central banks around the world targeting inflation at 2% per annum.

However, for the pensioner this "Ideal Inflation Rate" would mean that their utility bills in 20 years' time will be about 50% more than they are today, and so it is unclear that only maintaining income in nominal pound terms is all that desirable. Some kind of inflation protection is needed.

The historical record rather indicates that up until the last half of the 20<sup>th</sup> century, periods of inflation were broadly balanced by periods of deflation, except where there was a major shock to the economic system such as war.

The experience of the last eighty years has been different, with prices constantly rising, at various rates, but constantly rising. This seems to be a function either of coming off the gold standard in the 1920s and 30s and or post-war economic management.

It is not even clear that inflation is necessary for economic growth. There is little doubt that in Victorian times the British economy was growing at an incredible rate, but it is notable that inflation was virtually absent. Indeed from 1837 when Victoria ascended the throne until her death in 1901 prices fell by 8½%.

Inflation is not necessarily natural. However, today an inflation rate of 2% is targeted by many central banks around the world. If inflation is not natural and being imposed on the world economy that might be considered a potential source of economic instability.

The current situation is potentially an extreme case. The financial crisis was clearly a highly deflationary event. Central Banks have instituted a policy described as "Quantitative Easing" which in layman's terms means indirectly printing money. The government issues debt and then the Central Bank buys it back, with money it printed for the purpose.

In principle Quantitative Easing is highly inflationary but in practice inflation has been relatively low in recent years. There are clearly powerful deflationary pressures at work whether they be from the aftermath of the Financial Crisis or from the effects of technological advance is unclear, but they are definitely there.

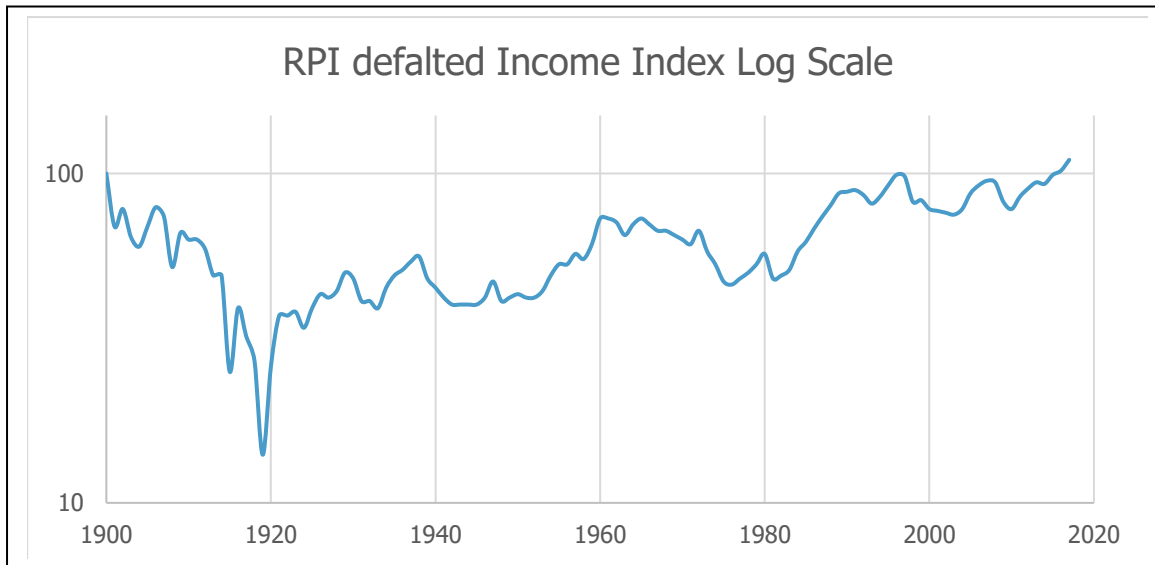
This would indicate that the apparent economic stability we see around us is a result of very powerful inflationary pressures currently being in balance with very powerful deflationary pressures. We could well be in the eye of an economic storm and the relatively calm waters we see around us could well be a very temporary phenomenon.

If a storm is coming in the form of a period of deflation, someone living off dividends might expect not to do too badly and might do reasonably well. That leaves the question of past performance of real equity dividends in periods of high inflation.

## Equity Income in Retirement

### 4.2 Equity Dividends and inflation

Taking the very long view real equity dividends only recovered to the levels seen in 1900, two years ago in 2016.



However, this is largely a result of the precipitous fall in equity dividends immediately before and during World War One and, in any event, the year 1900 appears to have been a very special year.

1. In the first quarter century real dividends fell precipitously.
2. In the second quarter century equity dividends remained broadly flat in real terms.
3. In the last half of the twentieth century equity dividends grew in real terms, although with considerable volatility and the overall effect was merely for dividends to recover in real terms to what they had been when the century began in 1900. (the index was 100 in 1900 and recovered to 99 in 1996)
4. Since 1990 dividends have been volatile and in real terms, have shown little overall growth.

Over the longer term the growth in dividends in real terms is negligible and only over the very long term is the real value of dividends broadly maintained. If the period up to and including World War 1, which was a period of major transition, is excluded, there is evidence of dividends growing in real terms, but any correlation is weak and much delayed.

Real dividend volatility has been greater than it was for nominal dividends and that has been due to changes in the rate of price inflation, rather than changes in the nominal amount of dividends. What is therefore clear from the above is that any inflation protection is only over the very, very long term. Inflation today may mean that dividends in ten- or twenty-years' time will be higher than they might have otherwise been, but in the short term, any inflation protection is at best imperfect.

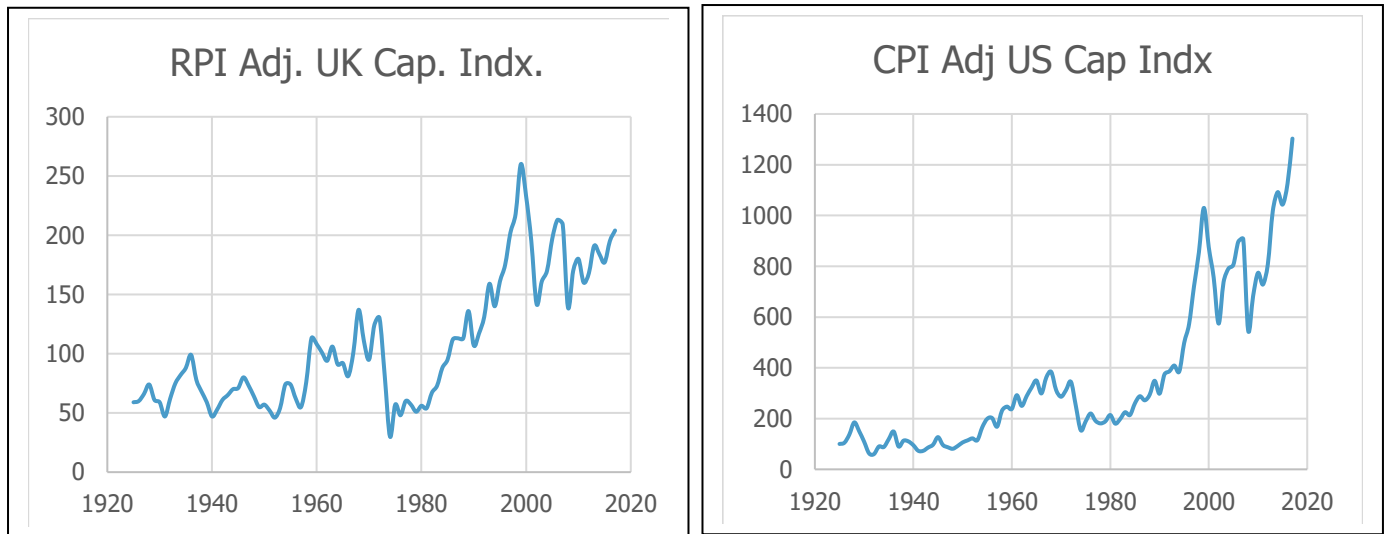
As far as an existing pensioner is concerned, one is reminded of another quote from John Maynard Keynes "*But this long run is a misleading guide to current affairs. In the long run we are all dead.*" However, this is still better than the nonexistent inflation protection provided by conventional bonds.

One interpretation of this is that, in the UK, there is considerable pressure on Boards to maintain dividends, in nominal terms at least. As a result, dividends tend to be maintained when conditions are adverse but when they turn favourable, boards are reluctant to increase dividends, because they feel an implied obligation to maintain them in the future under conditions that may make that difficult. It therefore takes time for them to be comfortable with increasing dividend payments.

## Equity Income in Retirement

### Inflation & Capital Growth

Given the issue with exchange rates it is probably better to deflate the prices by the CPI/RPI and maybe look at a conventional scale:



It appears that the US outperformed the UK by a margin, but a closer inspection reveals the following:

1. By 1980 the US index had doubled in real terms from its 1925 value, but the UK index was actually slightly below its 1925 value.
2. Between 1980 and 2000 the US index increased by a factor of five whereas the UK index increased by a factor of  $4\frac{1}{2}$ , so in that period performance was similar.
3. Since 2000 the US outperformance was restricted to the period since the Financial Crisis.

Human nature might attract one towards the faster growing market, but for a long-term investor it might be more sensible to avoid what may be an overvalued market.

Whereas the UK market markedly underperformed the US in the period up to 1980 this period also broadly aligns with the period it took the UK to repay its debts to the US following World War II.

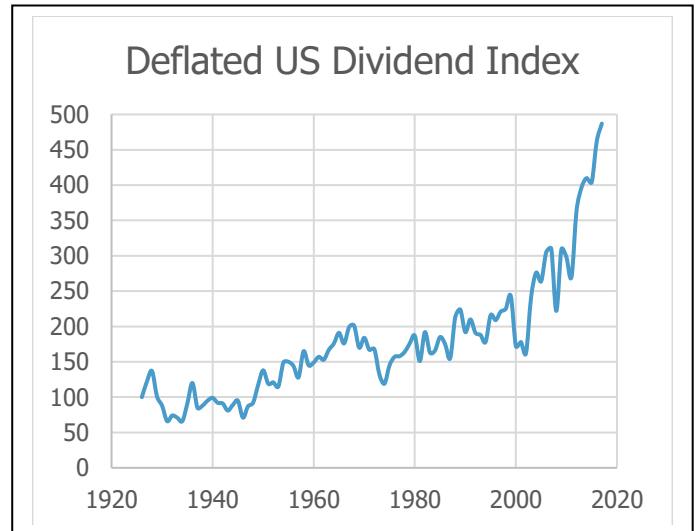
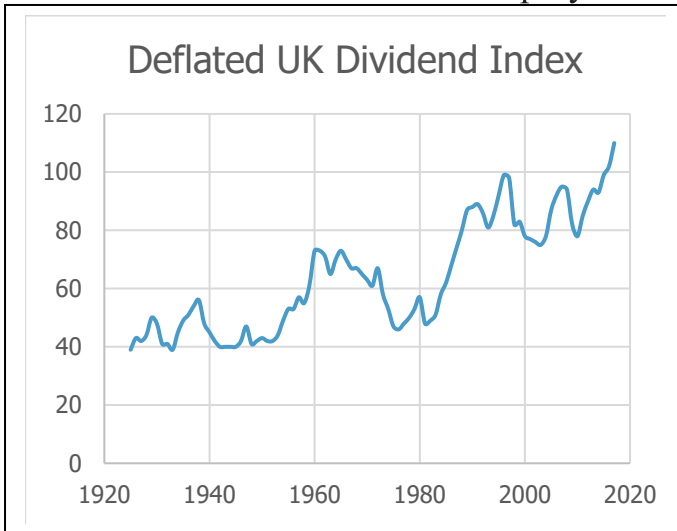
Whereas the US clearly won World War II and indeed World War I, whether in an economic sense the UK won either World War is debatable.

### An Indexed Income Comparison

With the greater stability of UK dividends in nominal terms the changes in inflation rates are the main driver of the volatility in "real dividends" in the UK.



## Equity Income in Retirement



In the UK dividend income in nominal terms has been relatively stable and although dividends might be cut, the experience in most of the 20<sup>th</sup> century was that they recovered relatively rapidly in nominal terms but when real dividends are being considered, the recovery is a much longer process.

It is notable that despite the fall in US dividend yields, dividends in the US have still grown in real terms. The main difference in volatility terms is that in the US, there has been considerably more short-term dividend volatility, which tends to obscure the fact that real dividends in the US also fell significantly in the 1970s and after 2000 following the Dot.com bubble

Taking the worst case, in the UK real dividends peaked in 1965 falling by 37% in 1976 and not recovering back to 1965 levels until 1987. By comparison real dividends in the US peaked three years later in 1968 falling by 41% in 1975 which was a bigger fall than experienced in the UK and US dividends took until 1988 to recover to their 1968 levels.

The trends are similar in both markets. In the charts, the big difference is that because nominal dividends fluctuate more in the US, the overall structure is clearer in the UK chart. For investors the difference is that a UK investor sees their dividend income as stable, and if inflation devalues those dividends, they just start to feel poorer than they used to over the years. By comparison a US investor sees their nominal dividends fluctuate and generally be unreliable. In the good times it means that the inflation protection offered by dividends is much clearer to a UK investor than it is to a US investor.

### 4.3 A pensioner's inflation problem

For the retired, inflation is a very real issue, in a way that it isn't for the working population in general and particularly not for the young working population. Earnings will generally keep pace with inflation and in addition the young might benefit from pay increases due to promotion.

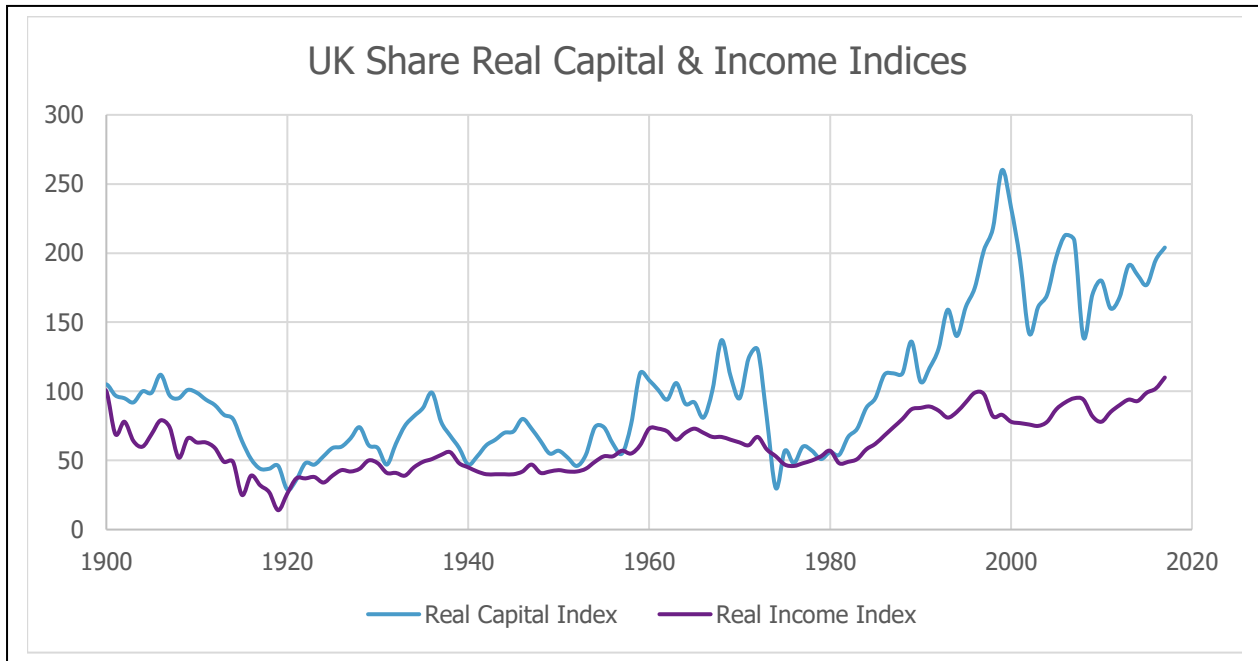
One tends to think of inflation meaning that a drink or meal out costs 5% or 10% more than it did last year, which tends to focus on it as a process, rather like breaking your arm. It hurts a lot at the time and it is a major inconvenience for a while, but eventually you recover and then things are much the same as they were before. For the retired inflation is more like an untreated brain tumour. The deterioration in their living standards is slow and some days are better than others, but the deterioration is inexorable. The problem might be treated, and the deterioration might stop, or in the case of inflation slow down, but the loss of purchasing power is permanent.

Someone retiring in 1971 with a level pension of £1,000 a year would not have been rich, but they would have been far from destitute. However, ten years later in 1981 that same person's pension would only buy what would have cost £267 ten years earlier. Although inflation then dropped and "only" averaged

## Equity Income in Retirement

5.7% in the following ten years, that would still mean that the purchasing power of that pension would have dropped to only £153 in 1971 terms.

It might be thought that the 1970s and 1980s were an aberration but the 1960s saw the purchasing power of money drop by a third and going back even further between 1910 and 1920 money lost more than 60% of its purchasing power.



In principle equity investment has historically provided inflation protection only over the long term.

Since 1900 equity prices have almost doubled but equity dividends have merely returned to their real value in 1900 which necessarily means that dividend yields have almost halved.

The period from 1900 until the end of the First World War was also a period of inflation, with nominal dividends falling by almost two thirds, real dividends fell by 86% to 14% of their value in 1900. Surprisingly, during the subsequent period which was not just a recession but a depression with prices actually falling, equity dividends still very largely maintained their nominal value and by 1938 had recovered in purchasing power terms to over half the value they were in 1900.

Subsequently equity dividends have, over the long term, kept pace with inflation. The level of real equity dividends is now only slightly more than it was in 1900, at least in real purchasing power terms or twice what it was in 1938. By comparison share prices are roughly double what they were in 1900, in real purchasing power terms.

Over shorter time periods the connection between inflation is a very loose one. In real terms equity dividends peaked in 1960 and were still at that level in 1965, whereafter they fell in real terms, falling eleven years later in 1976 at a level equivalent to 63% of the real level in 1965. Equity dividends did not actually recover the real value they achieved in 1965 until 1987, twenty-two years later.

Looking more recently still, in real terms, equity dividends peaked once again in 1996 and did not recover their purchasing power again until 2015, almost twenty years later, although the fall, peak to trough, was in this case only a little over 24%.

However, this period coincided with a change in the way equity dividends were taxed. Up until that time, as equity dividends were paid out of profits that had already suffered Corporation Tax, dividends were paid with a basic rate tax credit. Non-taxpayers could reclaim the tax credit. For an individual investor the

## Equity Income in Retirement

tax credit was added back to the dividend and then tax at the appropriate rate was applied. The taxpayer paid the difference between the tax due and the tax credit.

This had become a problem for the government, as repaying tax to pension funds was causing a major loss of revenue to the Treasury. At first the Conservative government cut the level of imputed tax and adjusted tax rates for personal investors accordingly. When the Labour government was elected one of Gordon Brown's first actions was abolish the imputed tax.

The net effect was to considerably reduce the tax efficiency of dividend payment versus earnings retentions and this may have reduced the rate of subsequent dividend growth.

However, the old system did not completely disappear. For personal investors special rates of tax applied to dividend income and, in practice, the net effect for personal investors was that the old tax credit still existed except that the tax calculations became more complicated and no tax refund was available.

It should be noted that from the tax year 2016-17 the old system completely disappeared, and tax was levied on dividend income, even for basic rate taxpayers. Whether this serves to reduce dividend growth in the future remains to be seen.

Beneficial ownership of UK shares in 2016 was

Rest of world	54.0%
Insurance Companies	4.9%
Pension funds & Charities	4.0%
Public Sector	1.8%
Financial Institutions & Banks	10.2%
Unit Trusts & Investment Trusts	11.7%
Private Individuals	12.3%
Private non -financial institutions	1.1%

Source <https://www.ons.gov.uk/economy/investmentpensionsandtrusts/bulletins/ownershipofukquotedshares/2016>

In 1997 pension funds owned 30% of UK equities rather than the current 3%, and so in the mid-1990s they were very important investors, and the cost to the Exchequer of the Tax refunds was significant.

The significance of the changes to the taxation of the dividend income of private individuals is difficult to assess given that much personal investment will be through tax-free ISAs and will not be affected but personal investment through Unit trusts clearly will be. However, whereas large pension funds could clearly influence Board decisions, it is much less clear that private investors have similar influence unless such investors are part of the company management.

Although it would be fair to say that over the long-term equity dividends do keep pace with inflation, in the short to medium term the relationship is less apparent. What they tend to do is maintain their nominal value when inflation is high and then slowly recover in real terms in periods of low inflation.

Someone aged 65, living off dividend income, can reasonably expect the income they receive in 20 years when they are 85 to have broadly the same purchasing power as it does today. However, in the interim, the real purchasing power of that income could fall by a quarter or even a third. This compares with LPI protection in most company pensions, which may provide better short-term inflation protection but worse long-term inflation protection if inflation rates rise significantly

## Equity Income in Retirement

On the other hand, if inflation remains modest over the period the pensioners' dividend income might well grow in real terms. As some scheme pensions provide fixed pension increases on parts of a member's pension, this could happen with a scheme pension as well, but overall it probably won't.

Relying on dividend income in retirement therefore provides a reasonably secure, but not absolutely secure, level of income in nominal terms, where it is likely than any shortfall can be dealt with by introducing margins into the process.

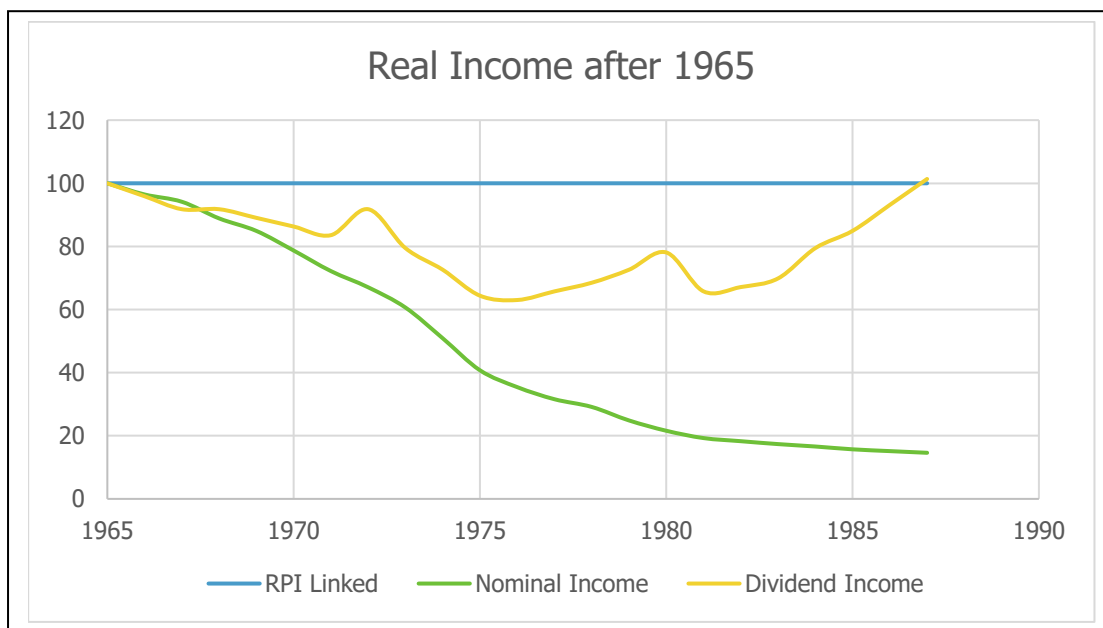
### 4.4 How Much inflation protection have equity dividends provided in the past?

The severe decline in dividend payments after 1900 is clearly of concern but following that, from 1930 onwards, there appears to have been a pattern, in the UK at least.

Real dividends peak and then fall, taking about 20 years to recover to previous levels. There then follows about a decade of dividends continuing to rise in real terms before reaching another peak and the start of a new cycle.

Real dividends peaked in 1965 and again in 1996 and it is worth looking at how pensioners dependent for their income on equity dividends, a level annuity or an index-linked annuity, would have fared and how their purchasing power would have been affected.

Following 1965 their purchasing power would have behaved thus

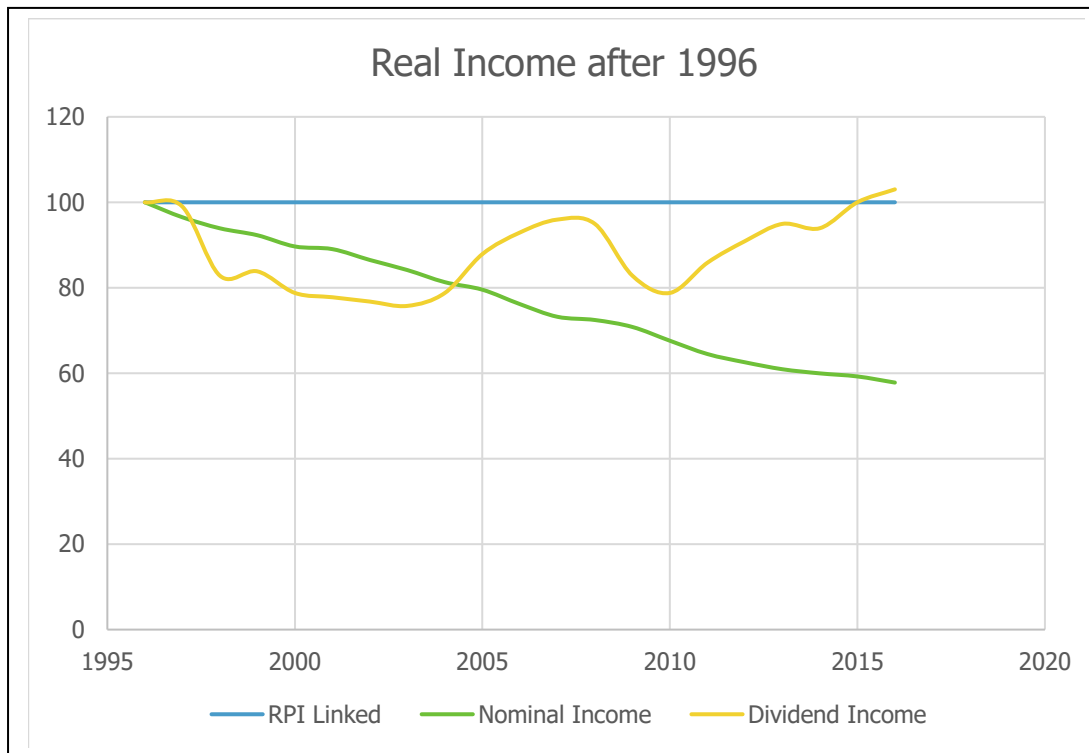


After 1965 dividends fell by 37% in real terms bottoming out in 1975. Following that equity dividends rose but fell again to bottom out again in 1981 at a level 34% below their 1965 value. Following 1981 real dividends rose rapidly to regain their 1965 value in 1987.

After 1987 equity dividends had a decade of virtually continuous real growth until peaking again in 1996.

Following the peak in 1996 the pattern was similar:

## Equity Income in Retirement



As noted above, changes in taxation may have had an influence on the fall in the real value of dividends after 1996 but over both periods a pensioner's purchasing power would have been protected had an index-linked annuity been available. If they were dependent on equity dividends for income the purchasing power of their income would have fallen by 37% following the peak in 1965. After 1996 the fall would have been slightly less than 25% and both falls would have been financially very painful but hopefully bearable, particularly as real income did eventually recover.

By comparison a pensioner dependent on bond income or a level annuity would have seen the purchasing power of their income fall continuously throughout the twenty-year period after 1965 until after twenty years ever £100 of purchasing power they had at the start of the period would only be less than £15 of purchasing power at the end. Following 1996 a pensioner dependent on a level annuity for income would have seen the real purchasing power of £100 of income fall by about £40 to slightly less than £60 by the end of the 20 years.

In the decade following 1986 dividends grew in real terms. Real dividends previously peaked in 1938 not recovering again until 1957 which was also followed by a period of rising dividends in real terms until the peak in 1965. Real dividends only recovered their 1996 levels in 2015 but, so far at least, they do appear to have grown in real terms since then.

The pattern is less clear cut in the US. In the US real dividends peaked in 1928 falling by 51% and recovering in 1954. They peaked again in 1968 falling by 41% before recovering in 1988. There is therefore a similar long-term pattern to real dividends in the US too. However, there was in addition another more minor pattern of rising and falling real dividend payments within those periods.

Subsequent to that, in the US dividends rose again in 1989 but then fell by just over 20% by 1994 recovered by 1998 rose in 1999 then fell almost 30% the next year recovering in 2004, peaked again in 2006 fell almost 30% in 2007 recovering in 2012. Overall it was a period of sharp falls followed by quicker recoveries. It was also in this period that US equity dividend yields fell relative to those in the UK.

Currently we are just about to leave the EU, the effect of which is unknown but generally expected to be highly disruptive. If there is some sort of transition deal, it is likely that the full effect of our exit from the

## Equity Income in Retirement

EU will be felt at around the same time as real dividends are likely to peak, if previous cycles are to be repeated.

The indications from the past is that equity dividends do provide a degree of protection from the effect of inflation but protection that is very imperfect. However currently the yield on the All-Share Index is 3.9%, the yield on 15-year gilts is 1.7% and the yield on Index Linked Gilts is -1.5% in real terms.

If equity dividends fell by 50%, the yield would still be higher than is currently available from conventional Gilts, making equities a better option for the retired than is currently suggested by generally accepted wisdom, particularly as they seem to have provided at least some protection from inflation in the past.

In practice, if maintaining purchasing power is the objective, given that exchange rates are a major influence on long term inflation rates, a more international approach to equity investment is probably prudent. Short term exchange rate risk is much less important than long term inflation protection. As the UK stock market is heavily weighted towards a limited number of sectors and the UK economy is likely to be heavily influenced by the adjustments that will be required following Brexit, international investment offers significant diversification benefits.

## 5 The Life Expectancy Issue

If it is necessary to spend capital in order to fund an income level in retirement, it gets more complicated.

There are two issues addressed in the following sections:

1. One needs to know how long one is going to live, or at least for the purposes of financial planning, one needs a strategy for dealing with the uncertainty about how long one is personally going to live.
2. Given that in the UK at least, equity dividends seem to be considerably less volatile than equity prices, how might it be possible to use this to enable a pensioner to wind down their portfolio in a controlled manner?

### 5.1 How long will I live for?

One can look at a mortality table and come up with a probability distribution for when someone might die, but for a single individual who will be alive one day and be dead the next, a probability distribution is of little practical use.

However, the context in which the question is asked is very specific. It is how long does one need to make one's money last? In practice what is needed is a plan to deal with the longevity risk.

The answer is ultimately to insure the risk by purchasing an annuity and more specifically an inflation linked annuity. Even in extreme old age inflation remains a risk. The problem is that to invest in an annuity, is to invest in bonds and bond returns are historically low. It is therefore a question of timing.

Before a pensioner buys an annuity, dying early is not a financial risk for the retiree's heirs and indeed, if the retiree is living off their existing assets, the earlier they die the better off their children will be, financially at least. Dying early is not a financial risk for the retiree either, because in that case they are most unlikely to run out of money to live on. The financial risk for the retiree and their heirs, is that they will live for decades longer than they have made provision for.

Annuities might be poor investments because bond yields are currently so low, but investment returns become less important in setting annuity rates, the shorter the life expectancy of the annuitant.

The view of the author is that a pensioner ought to plan to buy an Index-Linked annuity when their life expectancy is about seven years. Broadly speaking, for healthy lives, this equates to about age 85 for men or two years later for women. From the perspective of someone retiring today, they should probably add a couple of years onto those figures to allow for future mortality improvements.

With a 7-year life expectancy, the average term of the liability the insurer is taking on is 3 to 4 years. It is probably fair to assume that when someone retiring now reaches that age, the redemption yields on Index-Linked Gilts will be somewhere between  $-1\frac{1}{2}\%$  and  $+3\frac{1}{2}\%$  resulting in annuity rates equal to or a little less than the life expectancy plus or minus 10%.

For a retiree with an actuarial life expectancy of 7 years the financial risk is that in fact they live for 20 years or more. It probably won't happen, but it is financial disasters that probably won't happen but which might happen, that ought to be insured against. Annuity purchase is to insure against the risk of living a particularly long life and inflation could make the protection it provides useless unless the annuity is itself index-linked.

## Equity Income in Retirement

In practice some retirees will not reach the age where they might intend to purchase an annuity, in which case the remaining fund will go to their family on their death. Some of those retirees that do reach that age might be seriously ill, in which case they might decide not to buy an annuity when the time comes. The point is to have a plan at retirement for dealing with the longevity risk. The plan can be modified later in the light of changes in the personal circumstances of the pensioner.

Unisex annuity rates present a problem because annuity rates do not necessarily reflect the particular risk being underwritten. In practice they may or may not apply because someone at that advanced age is likely to have medical issues and it is therefore more than likely that actual annuity quotations will be specifically underwritten.

However, it is still perfectly possible for individual retirees to be remarkably healthy in quite advanced old age. There is wide variation in the states of health of retirees. A seventy-year-old can be a very old man whereas another 85-year-old can still be relatively young. The key here is purchasing an annuity when life expectancy falls to about seven years, no matter whether it is because of age or health issues.

For an individual this means at least considering annuity purchase before age 85. Where the retiree is one half of a married couple, it becomes more complicated. For one thing, there are two lives to consider and for another the last survivor expectation is longer than the life expectancy of either one of them, not simply the life expectancy of the youngest.

When dealing with individual lives, it is entirely reasonable to take a generic approach and assume annuity purchase at age 85 maybe age 88, but that is for planning purposes for someone who is healthy and considerably younger, but considering their long-term future. In other words, for someone making long term plans, rather than someone likely to purchase an annuity imminently.

However, as time goes on and the retiree gets older a generic approach is no longer appropriate and a more hands on approach is called for. At age 80 annuity purchase should be considered. Maybe the retiree is in a poorer state of health than their contemporaries. If so, what kinds of enhanced annuity rates are available? If they seem a lot healthier than their contemporaries maybe they should find out whether enhanced rates are available anyway or more realistically maybe they should contemplate delaying annuity purchase beyond the age originally envisaged and reducing expenditure to make provision for that.

There are medical conditions which make death fairly certain within a limited time horizon but frequently it is just a matter of the general state of their health; and the cumulative effect of a number of more minor medical conditions which individually are not necessarily immediately life threatening, but which can collectively prove fatal.

For the retiree's heirs, annuity purchase is a risk. If their parent dies soon after purchasing the annuity, the estate is effectively depleted by the cost of the annuity. On the other hand, if the retiree is in fact long lived, annuity purchase actually helps preserve the estate. It may even enable some timely Inheritance Tax planning.

There is risk either way, both for the retiree and their heirs. Partial or phased annuitisation is an option for some pensioners. There are fixed costs involved in annuity purchase and so partial annuitisation is more of an option, the greater the amount of the funds involved. However, the smaller the fund involved the more exposed the pensioner is to financial risk and so the greater the need not to risk delaying annuitisation any longer than necessary.

On general principles, it seems obvious that the healthier the pensioner is the more sensible it is for them to annuitise, because it is the healthier pensioner who would benefit most from annuitisation. Although this seems obvious, insurers are likely to offer less generous annuity rates to the healthy and so the risk is reflected in the price charged for the annuity.



## Equity Income in Retirement

Therefore, on this model annuitisation becomes more attractive the poorer the pensioner's health whether that be by virtue of specific health issues or simply by virtue of age. As long as there is the potential for greater than expected longevity, and the annuity rate offered adequately reflects their individual life expectancy, the pensioner should consider insuring against living longer than expected by purchasing an annuity.

For a pensioner an index linked annuity is in principle the perfect solution but in practice value for money will always be the key issue. Given the current level of bond yields such an option only becomes viable once life expectancy is limited, because it is only then that mortality has much more effect on the annuity rate charged than does the yield on the underlying bond portfolio held by the insurer.

In the context of the plan, doing this gives a useable life expectancy for someone planning their retirement finances, all be it one that is five or more years longer than their actuarial life expectancy.

### 5.2 Annuity Purchase Rule of Thumb

This approach leads to a useful rule of thumb for annuity purchase generally. If £100,000 buys an index-linked annuity of more than £14,000 then the individual should see annuitisation as the default option. If the annuity is appreciably less, maybe they should wait until they are bit older. Essentially this applies whether the annuity rate is the result the annuitant's age or state of health.

It even applies where the annuity is on a joint life basis. It is a matter of where to strike the trade-off between longevity insurance and investment return.

In practice depending on the individual's circumstances they may wish to only partially annuitise when the time comes.

### 5.3 Investment implications for someone retiring now.

For planning purposes that would essentially mean that a single person retiring now would be looking to purchase an annuity by the time they are 88 or 89. Where a married couple are involved, allowing for future mortality improvements, this may mean annuity purchase might be delayed until they are in their early 90s, if they both remain in good health.

For someone retiring now that would mean planning to invest in a share portfolio and then switching to an annuity by around age 88 for a single person or 93 for a couple.

For a retiree the two great risks are longevity and inflation as both threaten living standards in later life and it is a risk that needs to be insured against by purchasing an index-linked annuity. The problem is that with yields on index-linked gilts at current levels such annuities are expensive at anything other than advanced ages, where the effective term of the insurers matching investments are short enough for the low investment returns to have little impact.

For any existing pensioner, it would be wise to obtain some annuity quotations in the event of a serious deterioration in their state of health or in any event from age 80 onwards. Whether they should in fact take up any of those quotations depends on their personal circumstances at the time. The important thing is to ask the question and plan accordingly.

## 6 The Problem with Equities.

The major problem with equities, as an investment in retirement, is generally thought to be the price volatility but if the focus is on income and dividend yields, that is not necessarily an insurmountable issue, particularly in an environment where equity yields greatly exceed gilt yields.

However, the major issue for someone who needs to eat into capital to support their standard of living in retirement is that, in effect, equities are like irredeemable bonds. Although the dividend yield/coupon is better than for bonds, equities have no maturity date and so to realise capital, equities have to be sold at some point in the future, when prices are uncertain.

What is needed is an equity like instrument with a limited life to better match the structure of the "liabilities". No one lives forever.

However, given the premise of this paper that equity dividends are generally more stable than equity prices, there is, or at least has been in the past, a solution in the form of Split Capital Investment Trusts.

### 6.1 Split Capital Investment Trusts

Fundamentally split capital investment trusts slice and dice the risks and rewards of equity investment. They do this by having a limited life, and more than one class of share with each class of share carrying very different entitlements.

#### Splitting the Capital Risk

This is the normal structure today. There are two classes of share

1. Zero Coupon Preference Shares have a fixed capital entitlement on the windup date of the Investment Trust. This is normally expressed as an immediate amount growing annually at a fixed rate. This caters for the possibility that the trust is wound up earlier than originally intended
2. Ordinary Shares are entitled to the income and the remaining capital on windup.

In this model the risk associated with the Zero-Coupon Preference shares is fundamentally relatively small. However, if the investment trust borrows money, then the Zero-Coupon Preference shares have an entitlement only after the entitlements of other creditors are met. The more money the trust borrows the more exposed the holders of the Zeros become to fluctuations in market values. Towards the end of the 1990s a number of Investment Trusts were created which borrowed very heavily. When the market crash came in 2000-2 many of these Investment Trusts had to be wound up and holders of the Zeros got nothing. In effect the risk that had been engineered out, was engineered back in.

As many private investors had bought these Zero-Coupon Preference shares in the belief that they were low risk, this turned into a scandal and split capital investment trusts got a bad name.

#### Splitting the Income risk.

It would in principle be possible to have two share classes of a different type

1. Annuity shares entitled to an income that was fixed or which grew at a specified rate with a nominal capital entitlement at windup. (one penny or less)
2. Ordinary shares entitled to the balance of the income plus virtually all the capital at windup

If the annuity shares had entitlement to a fixed dividend and a non-trivial capital sum at windup they would effectively be preference shares.

## Equity Income in Retirement

### Splitting Income from Capital

Under this mode there would be Income Shares and Capital Shares.

1. The income shares would be entitled to all the income from the trust with a nominal entitlement at windup, say 0.1 pence per share.
2. The Capital shares would be entitled to the rest of the capital of the trust at windup.

### A Recent Example

Sometimes there were more than two share classes. For example, in 2017 the MG High Income Investment trust wound up. It was launched in 1997 and so it had a twenty-year life. It had three share classes.

1. The Zero-Coupon Preference shares entitled to 122.83224 pence on wind up, which was paid in full.
2. The Income shares were entitled to all the income from the trust and 70p on wind up. They actually got only 57.8p but immediately before windup the yield was well into double figures
3. The Capital shares were entitled to the excess capital on windup but in fact they got nothing.

This trust was issued after a bull market that had lasted almost uninterrupted in the UK for 20 years (see chart). Unfortunately for holders of the Capital Shares, in the next 20 years there were to be two major market crashes, in 2000-02 and 2007-9 with equity prices growing very little in the period. As a result, holders of Capital shares got nothing at windup and the capital payment for Income shares was reduced

## 6.2 A Split Capital Design

However, a split capital investment trust with a twenty-year life invested in a tracker portfolio would suit the pensioner market well.

1. Income Shares entitled to all the income with only a nominal entitlement at windup.
2. Capital Shares would then be entitled to virtually all the capital at windup.

The Income Shares would pretty well suit those who are retiring and those recently retired. With a 20-year life these shares would provide an income up until retirees reached an age when annuity purchase might be appropriate.

For them there would be no market risk, as such, because they would never need to sell their shares. The structure of the income shares would provide them with a way to deplete capital in a controlled manner.

The Capital Shares would have built in capital growth, even if the All-Share Index did not rise from current levels. Over the next 20 years holders of Capital Shares would get all the growth in the index and a big discount. Such a share class would be potentially attractive to high rate tax-payers, not in need of income. For them there would be no income tax liability and only a Capital Gains Tax liability on windup.

Theoretical pricing (discounting at the All-Share Index Yield) assuming 3% issue cost and an annual management charge of 0.5% (split equally between capital and income would produce issue prices of 50.25p for Capital Shares and 49.75pence per income shares.

Effectively the capital shares would be entitled to 97p invested in the index less a quarter percent per annum, equivalent to 92.27p as adjusted by the index change over the period, for a price of 50.25p. The income shares would get an income in year 1 of 3.4p, representing a yield on the issue price of 6.8%.

Such shares would offer a way to achieve controlled divestment over the life of the investment trust without any exposure to market volatility and even if dividends did fall temporarily the underlying share portfolio, which is the source of future dividend income, would remain intact

## Equity Income in Retirement

### 7 Portfolio Construction

The same principles would apply as before. The pensioner would take only 90% of the income generated by the fund and one year's income would be kept in cash or near cash. With the intention to purchase an annuity when the Split Capital Trust winds up, the retiree needs to have capital of seven years' distributions at the end of the period. Given that one year's distributions is held in cash and the reinvestment of the excess income (10% of income) would mean that the cash balance would grow with the income being generated. That leaves 6 years income to be invested in a tracker fund with the rest in Investment Trust Income shares.

This would result in a £100,000 fund being invested as follows:

Investment	Value £	Yield	Income
Income Shares	£65,000.00	6.8%	£4,420.00
Tracker fund	£30,000.00	3.6%	£1,080.00
Cash	£5,000.00	1%	£50.00
			£5,550.00

Given that only 90% of the dividend income is paid out to the pensioner, that means that they would receive an income of £4,995, which is at least comparable with a single life level annuity for a 65-year-old.

Subsequently the income distributed to the pensioner is the greater of either the maximum amount distributed in any previous year or 90% of the income received in the previous year, subject to any cash balance previously used to supplement income payments, being replenished from income.

Although the reason why only 90% of the dividend income is being distributed is to act as a buffer should dividends be cut in the future, if dividends are not cut that means that 1/2% of the fund is being reinvested each year. That would mean that in principle the income generated by the portfolio would increase by 1/2% a year because of this annual reinvestment of income, even without any dividend growth.

However, as the income shares get closer to the windup date of the trust, they will depreciate in price until at the end of the period, they are worth virtually nothing. They will therefore represent an ever-decreasing proportion of the portfolio, and so each year's reinvestment will be invested increasingly into the tracker and less and less into the Income Shares.

Assuming that dividends do not increase and that share pricing remains the same, except for allowing for the depreciation of the Income Shares, the tracker fund will receive an ever-increasing proportion of the reinvestment. Allowing for this would mean that the tracker plus the cash will in fact represent 7.4 times the annual income at the time, even though the income will have grown because of the reinvestment.

However, this is an extremely idealised situation.

1. In reality dividend income will fall in some years and the reinvestment will be reduced because of that.
2. If dividends fall sufficiently cash reserves will be depleted and then any reinvestment that occurs because of subsequent increases in dividends will need to be reinvested into cash, in preference to the other assets, in order to restore the cash buffer.
3. In practice the managers of the split capital investment trust may wish to hold back on distributing part of the dividend income in some years in order for them to maintain future dividends in the face of any decline in dividend receipts. In the long run it can be argued that this only slightly distorts the outcome because eventually income reserves will still be paid out to holders of the Income Shares. However, if

## Equity Income in Retirement

they do that the income available to the pensioner will be reduced for a time and the price of the income shares will be increased resulting in them taking more of the reinvested cash than is assumed.

4. If dividends in fact increase in the early years, the price of the income shares may actually rise temporarily, thereby increasing the proportion of the reinvested income, invested in Income Shares.

All sorts of factors could affect the proportion of the reinvested dividends which goes into Income Shares. However, the process does provide an extra margin of security for the pensioner, that the capital available when the investment trust eventually winds up will be sufficient to buy the envisaged annuity, even if the extent of that margin is extremely uncertain.

### 7.1 Identifying the risks and dealing with them

There is certainly a risk that dividends could be cut substantially and for an extended period, which would ultimately reduce the ability of the fund to provide the required income, but the portfolio design is such that the implicit margins are substantial. Dividends would have to fall by more than 10% before the dividend stream would be insufficient to maintain the pensioner's income. Even then the cash balance of one year's income could be drawn upon to top up the dividend stream, in order to maintain the pensioners income year by year.

Although one can never say never, it would take quite unusual market conditions for the nominal amount of the pensioner's income to be threatened during the life of the investment trust.

The main risk is to the pensioner's ability to purchase an annuity at the end of that period in the event of a market crash immediately before annuity purchase.

It is assumed that one seventh of the cost of the annuity will be met from the cash balance with the rest being met from the sale of tracker fund units at the time.

From the pensioner's point of view a perfect storm would be created by a period of falling dividends, sufficient to wipe out the cash balances followed by a collapse in the equity market of 75% (as in the crash of 1973-4) This would result in the money available for annuity purchase and therefore their subsequent income being only 21% of the level it was before annuity purchase. This would be a disaster to be avoided at all costs.

However, this scenario is more than a little alarmist, because equity prices are forward looking and so theoretically a price collapse should proceed, rather than follow a fall in dividend payments. It also assumes a collapse in equity prices, seen only once in more than a century. However, it is notable that examining periods when dividends fell in real terms, real dividends peaked ahead of real equity prices which continued to rise even after real dividends had fallen. This was mainly an inflation effect because nominal dividends held up quite well, but it is still a potential risk.

A more realistic worst-case scenario would be a fall of 50% in equity prices. After all equity prices have exhibited falls of this magnitude in 1921, 1931, 1974, 2002 and 2009. Generally, such precipitous equity market falls have been soon followed by significant recoveries. However, it is the nature of these events that, at the time, the recovery was as unforeseeable as the initial crash. In any event complete recovery to previous levels has generally been a long drawn out process.

Although this paper assumes split capital investment trusts with a life which suits the pensioner, this would mean a life of over twenty years which realistically is rather a long time. A similar effect could be achieved by investing a smaller proportion of the fund in the income shares of investment trusts with a shorter life of say ten years and then when that investment trust winds up selling tracker units and reinvesting in the income shares of a new investment trust to the extent necessary to maintain the income level. However, a split capital investment trust with a longer life would lock in current dividend yields.

## Equity Income in Retirement

This would create the possibility of eventually having a portfolio of such shares with windup dates straddling the expected date of annuity purchase and leaving open the possibility of phasing the annuity purchases.

This would maintain the principle of living off dividends rather than capital, controlling the divestment process and therefore the exposure to stock market volatility.

### 7.2 Suggestions for a pensioner using this plan

Certainly, much greater security can be achieved if only 85% of the previous year's dividends is distributed as income. Doing so considerably reduces the risk that cash balances will need to be reduced. (See model in Section 3).

It must be born in mind that if distributions are cut from 90% of dividend income to 85% of dividend income then more money is reinvested, which will over time feed through to a faster growth in dividend receipts and therefore distributions. It will also increase the size of the fund eventually available for annuity purchase.

Failing that, cutting back distributions by 5% if actual dividend receipts fall below distributions for the first time, would still give some extra protection in case dividends remain depressed, even if income payments were not reduced any further in response to further decreases in dividend receipts.

This becomes more important the closer the split capital investment trust is to its wind-up date because then the closer the pensioner is to annuity purchase. Were assets to be depleted seriously that would reduce the size of the annuity the pensioner could purchase, putting at risk their standard of living for the rest of their life.

Using the above strategy distributing 90% of dividend income initial income from an investment of £100,000 would produce an income of £4995.00, dropping to £4,717.50 with distributions of 85% of dividends.

To put this in context according to FT Money currently the best annuity rate for a 65-year-old provides a level income of £5700 whereas the best annuity rate for a 60-year-old provides an income of £4,950.

If the annuity were index linked the annuity for a healthy 65 would be about £3,400 per annum. With this strategy therefore the income of £4,995 would be significantly greater, and dividends would have to fall in real terms by 32% in order for the income to fall below that of an index linked annuity. Equity dividends did fall by more than this in the twenty years to 1976 but that fall was only by 37% and entirely due to high inflation. Before that one must go back to 1933 to see a greater drop in the real value of equity dividends over a 20-year period.

A healthy 60-year-old would want a split capital investment trust with a longer life than 20 years which would probably reduce their dividend income and so the comparison with an age 60 annuity is probably not fair. However, the plan would work equally well for a younger pensioner if they invested in shorter term split capital trust income shares and reinvested in new ones over time as existing investment trusts reached the end of their life.

No matter how old the pensioner, reliance on dividend income gives some inflation protection, not as good as an index-linked annuity but some protection is better than the no protection offered by a level annuity. It does that without too much of a cost in terms of a reduction in immediate income. If the pensioner dies before they reach the point where they ought to be buying an annuity the remaining fund would be there to provide for their family

## Equity Income in Retirement

The major disadvantage of this approach is the need for it to be, at least periodically, actively managed when investment trusts reach their wind-up date and during the transition to annuity purchase.

## 8 The Underlying Investments

The actuarial approach to risk control is not to avoid risk, but to diversify risk. This might even involve seeking out risk, as long as it is uncorrelated risk, and to control portfolio risk by limiting portfolio exposure to any individual risk.

It is difficult to find uncorrelated risks in equity investment. One only has to watch the opening of the US markets and then watch the European equity markets change direction to follow whatever direction the US market has taken, be it up or down. The Asian markets, when they open, generally follow the direction of the US markets. Even the Chinese markets, that used to be fairly inward looking, are now much more aware of what happened in the USA on the previous day.

However, this at best reflects perceptions of economic reality, and not economic reality itself and much of it is about short-term sentiment. International economies might be linked but the links are not quite as strong as the links between international investors. Different economies are in practice at different stages in the economic cycle, and all of them are affected by factors local to themselves.

At the moment the prime example of that is the UK itself. From an investor's point of view, whether Brexit is a good or a bad thing is a matter for debate. What is certain is that it has created major economic uncertainty for the UK which will take years to resolve and which is likely to cause wild swings in sentiment.

By focusing on dividends rather than market prices, the intention is to avoid the noise and rely on company boards deciding to declare dividends, based on how their business did last year and how they expect their business to perform next year, based on actual experience and actual order books. This should not only help stabilise the results but also provide diversification based on actual local economic differences, rather than global sentiment.

The principles of the approach outlined in this paper were illustrated by assuming an investment in the UK Stock market, which by implication meant an investment in the All-Share Index. This is based on the fact that historically UK dividends have exhibited greater stability than UK market values.

It is when these two facts are brought together with how the All-Share index is currently constituted that questions arise. The majority of the All Share Index is made up of the FTSE 100 companies. This has a significantly higher yield than the FTSE 250 and also a higher yield than the All-Share Index.

For the FTSE 100 index about a fifth of the income is provided by the two oil companies (BP & Shell), about a tenth is produced by the bank HSBC, and the two tobacco companies Imperial and BAT make up almost another tenth of the dividend income.

For an investor seeking to diversify their income risk, this does not look good.

There are other significant contributors as well, but this still means that future dividends are highly dependent on 5 companies operating in three industries and two of those industries have significant threats to their long-term future. Although in capital terms there might be some questions about the amount of diversification provided by the All Share Index, it is clear that in terms of dividend income the index is highly concentrated and offers little in the way of diversification.

The situation could certainly be improved if the underlying portfolio did not follow the market capitalisation weighting in the index, but there would still be an over-dependence on a small number of companies and industries to provide future dividends. Diversification of risk must be a fundamental



## Equity Income in Retirement

principle of any prudent investment strategy and in income terms the UK stock market does not provide it.

Good yields and diversification are available by investing overseas.

Although on a world scale, equity yields in the UK are particularly high, some foreign markets trade at comparable or higher yields. Last year Shares magazine identified ten markets offering a higher yield than the UK. These were Slovenia, Australia, New Zealand, Russia, Czech Republic, UAE, Finland, Taiwan, Estonia, and Norway.

One may have reservations about some of the countries on the list, considering the heavy weighting of natural resources in the UK. One may also have governance issues in some of them. However, once one starts investing in equities, one is dealing in risk and instead of looking for low risk, one is looking for uncorrelated risk and in that context many of these countries have a lot to offer.

With Australia, one might be worried about the over dependence on mineral resources, but the author is reasonably confident that his grandchildren will want to eat real food and the demand for that particular commodity is only likely to rise, making New Zealand an ideal candidate. Taiwan has its political risk, but it is a technology led economy. Closer to home Finland and the two countries in the Eastern Europe offer other risks and very different economies.

If one is choosing individual equities one can avoid sectors one wishes to avoid and still benefit from the high dividend pay-out culture in that particular country. One can even go beyond that particular list of countries and look for high yielding shares elsewhere as well. It is certainly possible to achieve a similar yield to that available on the All-Share Index while avoiding over dependence on the oil and tobacco industries.

There are however problems for a UK investor looking to get exposure to these foreign stock markets or indeed foreign property. One problem is that there are no country specific ETFs for many of these markets and with regional ETFs these particular countries may represent only a small part of the ETF's assets. New Zealand is a case in point. It is part of the Asia Pacific developed markets region, but it is dwarfed by Australia and Hong Kong as a proportion of the portfolio.

There are ETFs which focus on dividends and sometimes also on dividend quality, which have a high exposure to some of these markets.

Generally speaking, if you stick to UK ETFs you can get some approximation to an ideally diversified international exposure, but in many ways direct equity investment is better.

Another problem for an investor looking to diversify is that a significant number of specialist ETFs only come in accumulation shares with no distributing share class. In principle it is just about possible to use the reportable income figures to estimate the amount of income in the fund, but such figures are frequently much delayed and even then, only provide a rough approximation of how much of the money in the ETF portfolio represents last year's income. All this adds to the complications involved in trying to live off income rather than capital.

For a personal investor with a well-diversified portfolio, individual holdings, even ETF holdings will be small and so selling a number of ETF units equal to the estimated income from the last year is going to involve a transaction with a very low monetary value and dealing costs will substantially reduce the net amount realised.

If an investor wants to invest in a single country ETF or an ETF with a very specialist mandate not available in the UK, the US ETF market offers a much better selection of specialist mandates and country specific funds. However, it needs to be born in mind that for UK regulatory purposes these are unregulated collective investment funds and will not have reporting status with HMRC and hence any

## Equity Income in Retirement

gains will be subject to income tax. For all sorts of reasons these therefore need to be held in a pension fund.

### 8.1 Currency risk

For a bond investor seeking a stable income from every individual investment, there is certainly currency risk. It can even be argued that there is in fact a geared currency risk. If the foreign currency is under pressure the relevant central bank may decide to raise interest rates, in order to defend the currency. If that happens not only will the currency fall but if interest rates rise, the price of the bond invested in, will also fall in local currency terms. For a sterling investor, the drop in the currency and the drop in the bond price are additive, at least as far as capital values are concerned. However as long as there isn't a default by the bond issuer, a drop in market values will not affect the income stream and only the exchange rate change will have an effect on coupon payments and on capital values when the bond matures.

Certainly, for bond investment currency hedging has definite benefits.

For an equity investor the argument is more nuanced. From the perspective of the company invested in, a fall in the local currency makes the pricing of any products it exports more competitive and potentially more profitable. Even for a company selling only into their local market, a drop in the local currency makes imports less competitive and makes import substitution a more attractive proposition. Although it very much depends on the particular situation causing the fall in the value of the currency, in general one would expect that most of the time a fall in the value of the currency would be positively correlated with a rise in the stock market price of the equity. An investor might therefore lose on currency and gain on the share price or visa versa.

There are a number of reasons not to hedge: -

1. Hedging costs money. To the extent a third party is taking on risk, they are expecting a margin of safety as well as a profit margin. To the extent that the party on the other side of the trade has an equal and opposite risk that they are trying to hedge there are still trading costs. By hedging you may be achieving short term stability, but it is at the cost of some investment return.
2. Hedging works better in the short term than in the long term. If you are an airline you can hedge next year's fuel purchases and if you own a share you can hedge next year's dividends. Hedging dividends for the next 20 years is a different matter entirely.
3. For many companies it can be unclear exactly what currency you should hedge? Where the company is a multinational with operations in every country in the world such as Unilever or Nestle, what exactly should you be hedging against? Longer term, dividends will reflect overall profitability globally with various subsidiaries manufacturing in one foreign country and exporting to another foreign country. Untangling the currency exposures is likely to be just too complex and probably not worth doing. The only real currency exposure is that Unilever might wish to maintain its dividend from year to year in Sterling or Euro terms and Nestle might want to not cut its dividend in Swiss Francs, but that is only short term. Over the long term the particular currency in which the accounts are produced is just a unit of account.
4. If the purpose of holding an international portfolio is diversification, currency risk will itself be largely diversified away because the portfolio is exposed to multiple currencies. However, such investments are all subject to fluctuations in the value of one currency and that currency is the pound Sterling. An international portfolio will do well if Sterling is weak and not so well if Sterling is strong. However, from a UK pensioner's point of view their cost of living is likely to go up more when sterling is weak than when sterling is strong and so, to an extent, currency risk is usefully correlated with the pensioner's personal inflation risk.

## Equity Income in Retirement

5. Finally, a share portfolio invests in risky securities. It seeks to contain risk, not by avoiding risk but by diversifying it away and the more uncorrelated risks that can be added to the mix the more successful that strategy is likely to be. In that context currency risk is just another relatively uncorrelated risk that can be added to the mix to try and stabilise the overall outcome.
6. For an investor interested in the income, dividends are paid throughout the year, which naturally provides a smoothing mechanism as the income is spread over time.

Views on currency hedging vary, but certainly, when it comes to equity investment, there are arguments to the effect that hedging currency may over the longer term actually increase risk.

### Exchange Rate and Inflation Risk

It is notable that the period with the biggest decline in real dividends in recent years which began in 1965, with dividends bottoming out in 1976, included Harold Wilson's infamous "Pound in your Pocket" speech in 1967 when he announced the devaluation of the pound from £1 = \$2.80 to £1 = \$2.40.

At the beginning of 1975 the Pound was still worth around that, and was indeed marginally stronger, but by the end of October 1976 it was worth \$1.60 having lost a third of its value. The pound then recovered to the \$2.40 level in 1980, only to more than halve in value falling to less than \$1.10 in March 1985 before recovering sharply. Overall, during the period, the pound declined from \$2.80 in 1965 to \$1.80 by the end of 1987.

During the period the pound bottomed out in 1976 and 1985 and real dividends bottomed out also in 1976 and later in 1981 when the pound was just at the start of its slide from \$2.40 to \$1.10. During the year the pound fell from \$2.40 to \$1.90

In the second period of real dividend decline, the pound was worth \$1.60 at the end of 1997 and ended 2015 at the \$1.50 level having risen to \$2.10 in 2007 with interim peaks at \$2.40 both before and after that point in 2001-2 and 2009, 2009 also corresponded to the low point of real dividends in the UK. This would appear to exacerbate the problem, but in the US nominal dividends rose 40% from their depressed levels of 2008 while in the UK nominal dividends fell 10%.

During the 1965 to 1987 period, international investment and the exposure to foreign income would have provided considerable protection to a UK investor's real income. In the period 1996 to 2015 the answer is less clear cut. In both periods it is entirely possible that exchange rate changes may have added some short-term volatility to real dividend income but that would be absorbed within the smoothing mechanism described earlier in this paper.

However, overall, it would seem that exposure to foreign exchange rates and foreign economic cycles should help stabilise real dividends if these long cycles of the past with a decade of declining real dividends followed by a recovery that is at first faltering and then rapid are to be repeated in the future.

## 8.2 Withholding Tax

In fact, the greatest practical impediment to diversifying the income stream through overseas investment is withholding tax.

Many of the world's governments require companies registered there to deduct tax from dividends paid to overseas investors at a standard rate (frequently 30%, but some countries do not deduct withholding tax). However, those tax authorities negotiate how the tax on such dividends should be apportioned between them and the investors' local tax authorities. They therefore negotiate double tax treaties with foreign tax authorities which modify the tax rate for investors from those countries.

## Equity Income in Retirement

Reclaiming excess withholding tax can be very easy to do or so difficult as to be effectively impossible.

For US and Canadian companies, the amount of tax taken from British investors is reduced to 15% if the relevant form has been completed. However, elsewhere the investor has to fill in a form every year to reclaim the excess withholding tax.

The rate of withholding tax initially taken depends on where the company is resident. The eventual rate of withholding tax depends on the terms of the double tax treaty between the tax authority of the country the company is resident in and the country of residence of the investor. The rate can also be dependent on whether the investor is itself taxable in its home jurisdiction.

Note that the relevant country of residence for a fund is where it is registered. For many funds and ETFs, the funds are domiciled in Ireland or Luxembourg. The funds themselves are generally tax free. This means that for the purposes of the treaty, the investor is tax-free.

Where the company's shares are held by a private individual, they can reclaim any excess withholding tax from the country deducting it by completing the relevant form (at least in principle). Any remaining withholding tax can then be offset against any UK tax liability they may have in respect of those dividends.

However, where the shares are held through a fund, because the fund itself is tax-free, that fund cannot give the ultimate investor a tax credit for any withholding tax deducted. Most funds are internally tax-free whether they be ETFs, Unit trusts, OIECs or Investment Trusts.

Where the investment is through a SIPP the investor does not actually own the shares, the SIPP does. This adds a whole new level of complication to the process of reclaiming excess withholding tax.

This has the perverse effect that it may actually be more tax efficient to hold some shares directly, as by doing that any withholding tax may be offset against a personal tax liability. However, there is still the additional administrative burden of making the withholding tax reclaim.

Where the share is owned via a fund the rate of withholding tax depends on the terms of the treaty between the tax authorities in the country of residence of the fund and the country of residence of the company paying the dividend. This may not be the same as the country where the shares are traded. Many companies traded in Hong Kong may be resident in China or they may be registered elsewhere.

Some countries do not levy any withholding tax, but many do. For UK investors, particularly those seeking income the net dividend after deduction of all taxes is what matters, rather than the headline yield.

Other issues can arise with specific kinds of security. For example, much of the oil and gas infrastructure in the US is operated by MLPs (Master Limited Partnerships) and these are traded on the stock exchange in the same way as shares, but as far as the US tax authorities are concerned they are a partnership interest. Dividends are therefore that partner's share of the profits arising from a business they personally are carrying out in the United States. This is tax efficient for US investors. However, for foreign holders, the dividends are profits from a business carried out personally by the owner of the "shares". In the absence of a completed full US tax return by a holder of the shares, tax is deducted at the maximum marginal income tax rate in the US (39.6%). It is noted that the only ETFs tracking US MLPs use synthetic rather than physical replication and this may well have tax benefits.

## Equity Income in Retirement

### The Example of the effect of withholding tax on a selection of Vanguard funds

Their funds are global and cover broad regions. While some are UK domiciled most are Irish domiciled.

#### Vanguards UK Domiciled Funds

<b>UK Funds</b>	<b>Percentage of Dividends taken by Withholding tax</b>
Vanguard Europe ex UK	5.29%
Developed World ex UK	10.58%
Global All Cap Index	10.03%
UK Equity Income Index Fund	0.54%
Global Emerging Markets Index Fund	9.81%
US Equity Index Fund	13.63%

It is to be noted that the figure for the UK equity Income Index fund is non-zero. Withholding tax is collected where the company is registered, not where the shares are traded

#### Vanguard also has funds Domiciled in Ireland

<b>Irish Funds</b>	<b>Percentage of Dividends taken by Withholding tax</b>
Emerging Markets Stock Index Fund	11.24%
European Stock Index Fund	7.59%
Eurozone Stock Index Fund	7.99%
Global Stock Index Fund	18.53%
Pacific ex-Japan	2.01%
SRI Global Stock Fund	18.58%
US Discoveries Fund	27.17%
US Fundamental Value	20.95%
US Opportunities Fund	25.32%
Japan Stock Index Fund	14.97%

The rate of withholding tax suffered by the various US funds is surprisingly high but again the US does have some securities with particularly high rates of tax deducted and many companies whose shares are traded in the US are not registered there.

## Equity Income in Retirement

Vanguard also has Irish Domiciled ETFs

<b>ETFs (Ireland)</b>	<b>Percentage of Dividends taken by Withholding tax</b>
Vanguard FTSE All-World UCITS ETF	11.78%
Vanguard FTSE All-World High Dividend Yield UCITS ETF	10.71%
Vanguard FTSE Developed Asia Pacific ex Japan UCITS ETF	3.61%
Vanguard FTSE Developed Europe UCITS ETF	7.47%
Vanguard FTSE Developed Europe ex UK UCITS ETF	10.18%
Vanguard FTSE Developed World UCITS ETF	11.98%
Vanguard FTSE Emerging Markets UCITS ETF	10.38%
Vanguard FTSE Japan UCITS ETF	14.92%
Vanguard FTSE North America UCITS ETF	16.11%
Vanguard S&P 500 UCITS ETF	14.79%

The rate of withholding tax suffered by the FTSE Developed Europe ETF of 10.18% should be compared with the rate suffered by the Vanguard Europe ex UK fund of 5.29%. The makeup of the funds is similar, but it is the domiciles of the funds that is different.

### 8.3 The Implications of Withholding Tax for Investment Strategy

#### America

In normal circumstances a UK investor looking for international diversification would look first to the US, because information is easily available, dealing is cheap and easy, and possibly overwhelmingly because there is a sense of familiarity. Finally, the USA represents over half the world equity market capitalisation

However, for an income investor, yields are relatively low and dividends, at least in terms of the overall market, are unreliable. The high rate of withholding tax adds the final element to the equation, with a high proportion of what dividends are paid, going to the US government.

For an income investor therefore the USA is, if anything, to be avoided. Whereas the USA offers a lot of diversification opportunities, it is probably more tax efficient to look elsewhere.

#### Europe

When it comes to withholding tax, the EU might hardly exist, and so an investor has to deal with the fact that there are 50 countries in Europe (with 28 in the EU) all of which have different tax regimes and different double tax treaties. Not only do headline rates differ but when it comes to reclaiming overpaid withholding tax, some countries make the process easy whereas others make it difficult.

From an income investor's perspective, Europe is not a homogeneous region. It is notable that for someone investing through an ETF, Switzerland which has a number of world class established companies paying reliable dividends and trading on a reasonable yield, the situation is particularly difficult. UBS has a Luxemburg registered Switzerland ETF where the underlying portfolio yields 3% but the ETF yields less than 2% because of withholding tax and expenses.

There are good places in Europe to invest, but an income investor needs to be very selective, and frequently the smaller less well covered markets, are the most attractive. There is something to be said

## Equity Income in Retirement

for direct equity investment in Europe rather than investing through a broad fund because that way the investor can choose which markets he or she is invested in.

Even income funds do not necessarily consider withholding tax when managing their portfolios.

### Japan

Japan has any number of factors playing against it as an investment destination for income investors. The rate of withholding tax is high, many companies quoted in Japan, only really provide financial information in the Japanese language which is likely to deter many UK investors. Finally yields are low. There might be a lot to be said for investing in Japan. There are certainly numerous investment opportunities there, but for an UK investor interested in income, Germany or even the USA might be better places to seek alternative investments in similar industries despite the fact that neither country is particularly tax-favoured.

Japan highlights the sort of trade-offs an investor has to make between the fundamental attractions of the investment, the availability of information, administrative simplicity and tax efficiency.

### Pacific Ex-Japan

The Vanguard's Pacific ex-Japan funds have a particularly low rate of withholding tax deducted from dividends. The yield on the fund is over 4% which is better than a UK tracker fund. It is therefore useful to consider the countries it is invested in. The fund is invested 57% in Australia, 30% in Hong Kong, 11% in Singapore and 1.5% in New Zealand.

It is a region that offers everything from natural resources, through technology and even food.

One might have issues with the apportionment of the fund. However, the companies quoted on these exchanges all publish their reports in English and the internet means that they are available.

### Emerging Markets

In the MSCI classification this includes some of the most technologically advanced countries in the world like South Korea and Taiwan, but it also includes much of South America and the index is also about to include Pakistan and a very small part of the Chinese market.

It is an area that offers a well-diversified income stream and can offer a quite reasonable yield. However, it is difficult to access, not very homogeneous and the approach is distorted by the investor's focus on income. However, there are Investment Trusts with a similar focus. One such trust was only paying an average withholding tax rate of 6.4%. This is considerably less than Vanguard pays but the Vanguard funds are Market Cap weighted and have no particular income focus.

It is worth noting that the approach outlined in this paper is not to avoid risky investments but to reduce portfolio risk through diversifying risk, and emerging markets do offer both a reasonable yield and diversification of risk.

### Frontier Markets

Individually Frontier markets are extremely risky places to invest. However, the risks are largely local to the particular market. Financial information is limited, even for investors specializing in the area. However, the relatively low level of exposure of many of these economies to global trade, as well as the very local nature of the economies, does mean that such an investment offers considerable diversification benefits. Once again, even for institutional investors access to such markets is best achieved through an Investment Trust.

Given the paucity of data about the companies and the questionable governance standards, there is considerable reassurance provided by investing in companies paying a dividend and so some investment

## Equity Income in Retirement

trusts specializing in the area do offer a reasonable yield. In short, the cost in terms of yield are not that high, but the diversification benefits are considerable.

Given these withholding tax issues it is not surprising that some ETF operators are now starting to offer versions of the underlying funds that are transparent for tax purposes, in order to allow institutional investors to take full advantage of the double taxation arrangements that they themselves are entitled to, rather having to invest through a fund domiciled in some offshore location and therefore lose those benefits.

At a more practical level, although the old Inland Revenue did publish a list of double tax treaties with rates of withholding tax, this publication appears to have now disappeared from the HMRC web site. This is yet another thing that is making it difficult for income seeking investors.

### 8.4 Other Asset classes

#### Property

Further diversification can be achieved by increasing the weighting of property in the portfolio. For an investor seeking a stable income, property has other attractions as well. Most property is let on leases where the rent is fixed for a number of years. This means that even if market rents fall, that will not be reflected in the income received until the leases come up for renewal. This delay feature would make a considerable contribution to stabilising income. In some cases, if market rents did fall, renewals negotiated soon after the fall might still result in rental income rising, if recent falls in market rents were not as great as the increase in market rents that had occurred immediately following the last rent review.

Getting diversified exposure is the key to getting a stable income stream, and so in property too, there are benefits to having international exposure, but that also brings in the withholding tax issue.

When it comes to property investment, if anything the situation is even worse. There are numerous funds investing in property of various types in the UK but the selection of funds investing in a truly international property portfolio is very limited and there is not necessarily an income focus.

Given that the investment objective is to invest in a portfolio on day one and then do nothing for the next 20 years, except collect dividends, that strategy tends to lean the portfolio towards REIT rather than fund investment. A fund needs to keep a cash buffer in order to meet possible redemptions and so they are never fully invested.

Closed end funds can be fully invested because from the managers point of view, there never will be any unexpected redemptions. The main disadvantage of REIT investment is that the shares may trade at a discount or premium to net asset value, potentially resulting in the share price being even more volatile than the value of the underlying assets. This is a feature of the REIT market that is exacerbated by the fact that REITs can borrow and so the investor's exposure to the underlying property market can be well over 100%.

Discount levels tend to reflect the popularity of the investment class. If property prices are rising asset values rise and discounts narrow. If property prices fall, asset values fall, and discounts widen.

In a falling market such investments can be very dangerous for an investor concerned with capital preservation. Prices can be falling because property prices are falling, which is exacerbated by the fact that the REIT has borrowed money to invest in yet more property, which is further exacerbated by the widening of the discount.

However, from the perspective of an investor intending to buy the shares and then sit there doing nothing but collect the rents on the underlying properties through future dividend payments, fluctuations in



## Equity Income in Retirement

market values are of limited significance. On the other hand, being able to buy that future rental stream at a discount may be quite attractive; even if when the security is eventually sold the shares stand at an even bigger discount to asset value.

However, there are now additional REIT issues. Those outside the EU could be classed as unregulated collective investment schemes. Following the new regulations, there is a question about whether EU REITS need to prepare PRIIPS compatible information documents which many do not publish. This may in practice limit availability to private investors.

However, the Asia Pacific region does offer several companies operating in this sector with wider geographical exposure and good yields. One just needs to be aware that there are issues.

### Infrastructure

Other asset classes might be added to the mix such as infrastructure. Indeed, infrastructure investment is almost ideal.

A lot of infrastructure projects are funded on the Build, Operate, Transfer model. Under this model the private sector funds the project and continues to own it and collect rent or tolls or whatever and at the end of an initial period of 20 or 25 years, ownership reverts to the government. This pretty well perfectly aligns with a retiree's investment time horizon. Live off dividends for the next 20 or 25 years and then annuitise to insure against the longevity risk.

However, these are big ticket items and there is no way a private individual can participate. There are Investment Trusts which do, but in practice such Investment Trusts frequently raise new money and invest in new projects. The effect of this is to invest in assets that intrinsically have a limited life and create from them a security that could in principle last forever. This is unfortunate because, although most individuals don't know how exactly long they are going to live, they do know that there are limits to how long that will be, and the limited life of a security would, in principle, make it more attractive.

Once again there is potential benefit from international exposure, particularly as there is considerable regulatory risk with such investments.

However, although growth potential might be limited for this type of investment, many infrastructure investments offer a good yield with a level of visibility for future income streams that is excellent. In addition, much of that future income stream is inflation linked.

### Reinsurance Bonds

These bonds offer extremely high yields but at the cost of extreme volatility. They take the final level of risk in catastrophe reinsurance. There are funds that specialize in this particular market, generally Investment Trusts because the closed end structure facilitates the kind of commitment required in this market, but it is in the nature of this market that risks are quite concentrated.

Although the risks are high, they relate solely to the risk of natural disaster and are therefore independent of what happens in the investment market. This lack of correlation is what makes a small investment in this area of interest to the income investor.

Indeed, this asset class illustrates the approach to investment taken in this paper. The investment offers uncorrelated risk and high returns and therefore an investment ought to be made in it. The investment is extremely high risk and therefore the size of the investment in it should be small.

## 8.5 Investment Summary

For an income investor the investment world looks quite different from the way it does for an investor looking at total return.

## Equity Income in Retirement

Collectives serve this market relatively poorly and because of the effect of withholding tax, collectives are not necessarily tax efficient. However, collectives do take away a lot of the administrative burden. Although the fact that they are tax free may mean that excess withholding tax cannot be offset, if the investor is a personal pension fund, the extra tax loss may be small and arise because the domicile of the collective is different from the domicile of the pension fund. However, some collectives do not have a distributing share class.

For an income investor there are good reasons to invest part of the portfolio abroad but withholding tax adds considerably to the complications that have to be addressed in doing so. This not only makes choice of investment more difficult, it also adds to the subsequent administrative burden.

For a private investor dealing costs are a factor particularly, if the need to diversify means that the absolute size of some of the holdings is going to be small, but being aware of the issues helps in portfolio construction.

## Equity Income in Retirement

# 9 An Institutional Solution

So far, this paper has viewed the investment problem from the perspective of a retiree who is personally managing their investment portfolio, whether that portfolio be inside a SIPP or outside it.

However, one must take a holistic approach of an investor's needs. A SIPP may not be the right solution for some people. For many people a SIPP may only be a part of the solution.

The observations in this paper would apply equally to a situation where the retiree was seeking to take income from an ISA or personal investments. Such an investor might therefore eventually have to buy a Purchased Life Annuity rather than a pension annuity.

What is clear is that such an investor will encounter major problems whether that be in the form of the uncertainty over how long they will in fact live, investment selection or the fraught issue of withholding tax.

### 9.1 The Pensions Context

However, they can all largely be addressed through collectivisation particularly in a pension fund context.

1. An insurer who collectivises the mortality risk by issuing annuities has reasonable certainty over future cash flows and can invest accordingly.
2. Institutions collectivise the investment selection process providing the expertise in investment selection while spreading the costs of that between individual investors.
3. When it comes to reclaiming withholding tax, institutional holdings tend to be large and reclaims only have to be made once for each holding, whereas if individual investors were doing it personally each person would have to make a separate application. In addition, withholding tax and double tax treaties are an extremely complex and abstruse area in which private investors cannot be expected to have the necessary expertise.

Even for private investors this paper envisages the creation of a form of split capital investment trust that does not currently exist (although it has existed in the past). The Investment Trust Industry could do something about this, if they believed that there would be a demand for such products.

The potential demand for such a product is not necessarily obvious, as most private investors in the equity market are seeking capital growth (or at least believe that they are seeking capital growth) and would therefore see no benefit to investing in a fund which ultimately guaranteed them a capital loss. However, for an insurer issuing an annuity product, particularly one based on an underlying portfolio of equities, such a product would have obvious attractions.

Given all the problems a private investor would have to face, and the margins and inefficiencies involved in creating an appropriate equity portfolio, it is surprising that such a portfolio even comes close to working. It still comes close to being competitive with annuity purchase for someone who is on the point of retirement because of the historically low level of interest rates

If a With Profit annuity could be issued based on such an investment philosophy most of the inefficiencies and many of the margins could be eliminated, considerably increasing the retirement income of the annuitants and making such annuities attractive to a wider range of pensioners.

It would however require a rethink on the part of the actuarial profession. So far annuities have necessarily involved investment in an underlying bond portfolio as having such liabilities while investing in

## Equity Income in Retirement

an underlying equity portfolio has been seen as being too risky. However, this paper seeks to question that assumption or at least to turn that assumption into a question.

It also leads to the question of how such a product might be designed in order to share the risks and benefits of such an investment philosophy between annuitant and insurer.

There may indeed be regulatory issues as well, that need to be considered. The Financial Conduct Authority is at least open to new ideas. However, the Financial Conduct Authority would be far from being the only regulator involved.

A with profit pensions annuity with an underlying portfolio of split Capital Investment Trust Income shares would on the face of it offer considerable potential. For an insurer with an annuity portfolio, mortality becomes reasonably predictable and therefore the cash flow profile would be largely known. It would therefore be possible to match that cash flow profile to a suitable portfolio of such shares, were those shares to actually exist. This would eliminate the need for a retiree to switch from a share portfolio to an RPI linked annuity, thereby eliminating the risk of adverse market movements at the point of switchover.

Assuming that the Investment trusts were UK domiciled, there would be no mismatch for withholding tax purposes as both the investment trust and the insurer's Pension Business fund would be UK tax-free investors.

There is nothing fundamentally wrong with annuities. They are in many ways the ideal investment for the retired. The underlying problem is that the underlying investments; gilts and Bonds, currently offer such poor returns. Maybe we should consider how to reinvent the annuity.

The danger in such circumstances is that such Investment Trusts do not exist because there are no With profit pension annuity funds looking to purchase them, and there are no With Profit pension annuity funds because there are no suitable Split Capital Investment Trust Income Shares available to purchase. As things stand, one is not possible without the other, maybe.

## 9.2 Outside Pensions

### ETF Providers

There are two fairly simple things ETF providers could do. The first is issue more ETFs that pay dividends rather than accumulate them. The second is create Income focused ETFs based on indices that are withholding tax aware rather than basing the index on headline yields. After all, the attractions of investing Nestle may be obvious if the yield is 3% but if the Swiss government takes almost a third of that and the investor only gets a 2% yield, those attractions become somewhat less compelling.

### Investment Trusts

Split capital Investment Trusts with an income/annuity share class as described in this paper, would be very helpful to many retired investors but first such investment trusts need to exist and then investors need to be educated about how such shares might be used in practice.

It is appreciated that such education faces difficulty. Intellectually most people accept their own mortality, but emotionally the idea is something of a taboo and so there might in fact be an implicit, if irrational, assumption of personal immortality.

Clearly the kind of Split Capital Investment Trusts envisaged in the paper would be relevant in a personal pension context and may even be potentially attractive to pension funds. They would even be potentially attractive to private individuals, if only they understood what those attractions were.

It must be observed that many insurers are also fund managers of existing investment trusts and so some cooperation between insurers and Investment Trust managers is not beyond the realms of possibility.

# Equity Income in Retirement

## Life Assurance Products

Clearly if a pension annuity could be issued on such a basis a Purchased Life Annuity could in principle be issued on the same basis. However, this would certainly create other issues and in any event, the market is small.

The Withholding Tax problem has the interesting implication that there may be attractions to holding some foreign equities through a fund that is taxable, as such a fund could collect excess withholding tax and offset the remaining withholding tax against its own tax liabilities. If the ultimate investor could then get credited with the tax paid by the fund, as with a Life Assurance Bond, that might be the most tax efficient way of for an investor to collect foreign dividends.

There may even be circumstances where such a bond could be used as an alternative to the income shares of a split capital investment trust, although unless the bond invested in such a split capital investment trust it would still be subject the price volatility of shares rather than dividends.

However, if it did that, the investment trust would still act as a barrier between it and the offsetting of withholding tax against the insurer's own tax liability. If the insurance company could internally split the dividends and capital growth from an internally held share portfolio that would solve the problem, but then there would be the problem that there would be no independent pricing mechanism for the different classes of units.

## Conclusion

Even for a private individual with an extremely inefficient portfolio structure the numbers just about make sense.

For the retired, longevity risk, tax efficiency and investment risk all have to be considered. Insurers can deal with the longevity risk; fund managers can deal with the investment risk. Both can deal with the tax efficiency issue, but there is considerable scope for an integrated approach.

Many fund managers seem to have limited appreciation of the Withholding Tax issue and rarely integrate it into their equity selection process. Unit Trust groups rarely promote their products as providing a growing and sustainable income and prefer to focus on total returns but, in practice for the retired, a sustainable real income is what really matters.

Providing the retired with a sustainable income in retirement is an important issue and from an investment perspective, equity dividends can potentially form a part of a solution to that problem. There are tax and regulatory issues that a private investor has to face in converting that investment approach into real spendable income for the rest of their lives.

With any investment strategy, diversification of income is an important objective and this can best be provided through international investment but that raises all the complications of withholding tax. Holding such investments in a taxable fund such as a life office bond may be the most tax-efficient solution for many investors.

What is clear is that there are major problems for a private investor seeking to manage a portfolio in retirement. The financial services industry can solve or at least ameliorate many of those problems but those very problems also present opportunities. Individual investors can in principle do almost everything institutional investors can do but the institutions have the scale and expertise that makes doing those things feasible and economic to do.

That creates a situation which enables institutions to add value for private investors.

## 10 Summary

Investment is either a hobby, an expression of greed or it is an attempt to meet some future liability.

In general, private investors come at the investment problem from either the hobby or the greed perspective. In so far as they take a more serious view their attitude might best be described as "Putting something by for a rainy day". In relation to share investment the question is will shares provide a better return than they are currently getting on their Building Society account. This is in effect the standard against which share investment is measured even by the financial services industry.

Ordinary people are simply not used to thinking of an investment as an asset to meet some future liability. As a result, they do not necessarily formulate in their own mind what future liability an investment is intended to meet. Even if they have got that far, they have probably not got to the stage where they are asking themselves whether that particular investment is appropriate to that particular liability.

However, from the very early days of the actuarial profession, our work has been all about trying to quantify future liabilities and so our approach to investment has always been liability driven. If there is a source of uncertainty about the actual amount of some future liability and we can find an investment whose return is positively correlated with that source of uncertainty, that is the one we go for.

Pensioners like any other investor need to formulate their financial needs in terms of a question and then find an investment that provides the best answer to that question.

The question addressed in this paper is:

"In the unlikely event that I survive for the next 50 years will I still be able to pay the electricity bill?"

What does that tell us about an appropriate investment?

1. It is not about Capital, it is about Income.
2. Capital growth and Total Return may be relevant, but those two issues must be seen in the context of income provision. They are therefore important but ultimately incidental.
3. It is a Real rather than a Nominal Liability

If the average electricity bill is now £500 a year it will cost a lot more in fifty years' time. Since 1900 inflation has averaged a little under 4% per annum and so in fifty years' time an average electricity bill could be more like £4,500. The error involved in any such estimate must necessarily be enormous, but the cost is likely to be orders of magnitude greater than it is today.

Given current economic conditions the whole issue of investment for the retired needs to be revisited and reassessed.

For the retired investment is primarily about providing a level of income. Currently equities provide higher yields than can be obtained from a bond portfolio unless the investor is prepared to take equity like risk. The trouble with equity type risk for a Bond Investor is that for bond investors the very best outcome is that they get what was promised and the worst outcome is some kind of default. That means that for bond investors although there is downside risk, there is no upside potential.

## Equity Income in Retirement

For the retired the risk is that their income will fluctuate. Market price volatility is only relevant to the extent that the investor has to realise investments in order to provide the required level of income. The risk that matters is therefore income risk not capital risk.

For the retired the other main risk is the inflation risk. This risk can be addressed by investing directly in Index Linked Gilts or indirectly investing in them through annuity purchase. However, the cost of doing so is a substantial cut in the level of immediate income. Equity investment provides an imperfect solution to this particular risk, but it does at least ameliorate the problem without a significant cost in terms of immediate income.

For the retired there is a disconnect between the perception of risk which is focused on the short term and nominal capital and nominal returns whereas in reality it is the long term and real income and real inflation adjusted returns that really matter. This creates the perception that investments which protect nominal values such as corporate bonds are safe whereas investments such as equities which do not are perceived as risky. In fact, the historical evidence suggests that for the retired it is the corporate bonds that are risky, and the equities which are relatively safe.

## References

- Capital, Barclays. n.d. "Barclays Capital Equity Gilt Study 2018."  
House of Commons. 23 February 1999. "House of Commons Research Paper 99/20."  
<http://inflation.iamkate.com>. n.d. "historic Inflation."  
Marsh, Elroy Dimson and Paul. 2002. *Triumph of the Optimists: 101 Years of Global Investment Returns*.  
Princeton University Press.