

# EQUITIES AND INCOME IN AN AGEING WORLD

## Why Dividends Matter

### Introduction

In a world of falling bond yields and low inflation, the 'Search for Income' has become a popular phrase in capital markets over the last decade or so. This paper aims to look at some of the demand side factors which may be driving this appetite and what it might mean for investors over the long term. Demographics remain the great predictor of many of the social challenges we will face in our lifetimes so we can look towards life expectancy, retirement age and dependency ratios to help understand the scale of the issues we face.

Next, a careful assessment of long term historic returns from varying asset classes can at least offer a guide as to how different assets behave under different holding periods and economic conditions. Patrick Henry to the Virginia Convention in 1775 stated that 'I know no way of judging the future but by the past'.

We may feel that we are in an environment of unprecedented technological, demographic, social and political change and if so, why should the returns of the past be any guide? Yet the past has also been characterised by rapid technological change, periods of inflation and deflation, numerous financial crises and any number of wars, coups and revolutions. So what lessons can we take? And how should we invest to meet our investment objectives in the future?

### The challenges we face – longer retirement periods

#### A brief history of social security - how were retirement ages set?

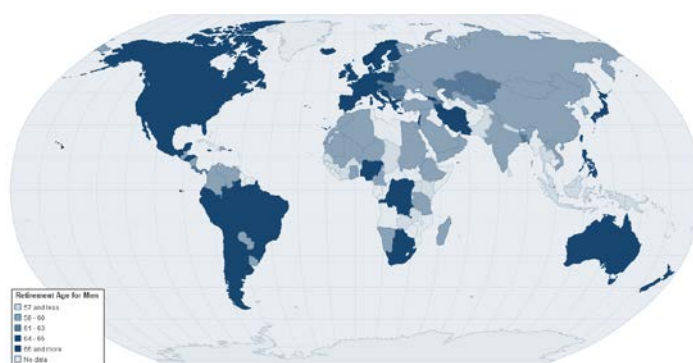
In 1889, Germany became the first nation in the world to adopt an old-age social insurance program. Otto von Bismarck, Germany's Chancellor designed the system and it was outlined in a letter to the German Parliament by Emperor William the First. William wrote, "those who are disabled from work by age or invalidity have a well-grounded claim to care from the state."<sup>1</sup> Initially, Bismarck's system set the retirement age at 70 (far above life expectancy) though it was reduced to 65 in 1916 (18 years after Bismarck's own death).

The US followed Germany's lead but not until 1935. At that point, when the US Committee on Economic Security were drawing up the legislation, they were split as to whether to choose the precedent set by Germany (65) or to adopt the older age of 70. State level pension-provision which pre-dated the Social Security Act of 1935 were split also –half of the States setting retirement age at 65 and half at 70. When the

Federal Railroad Retirement System in 1934 chose 65, that seemed to tip the balance and Franklin D. Roosevelt signed the decree which set retirement age at 65 in the US in 1935<sup>2</sup>. With Germany and the US leading the way, most other countries fell into line and 65 was accepted as a fairly standard universal retirement age.

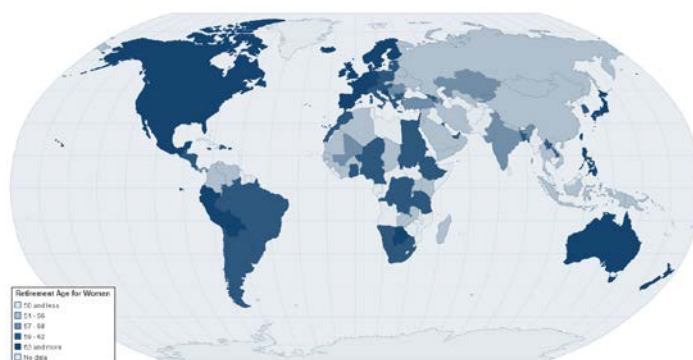
With retirement ages set in the early 20th Century, it may come as a surprise that global pensionable ages for men and women have barely changed since the days of Bismarck and Roosevelt. In fact in some cases, they have fallen. And all of this despite significant gains in life expectancy. Figure 1 below sets out retirement ages for men and women globally. The countries shaded dark having older retirement ages while those with lighter shading have younger pensionable age. We can see that these ages are still little changed with the majority of the population globally able to retire between the ages of 57 and 65 dependent on location and demographics of each country.

Figure 1a: Retirement Age for Men



Source: Chartsbin.com – retirement ages globally

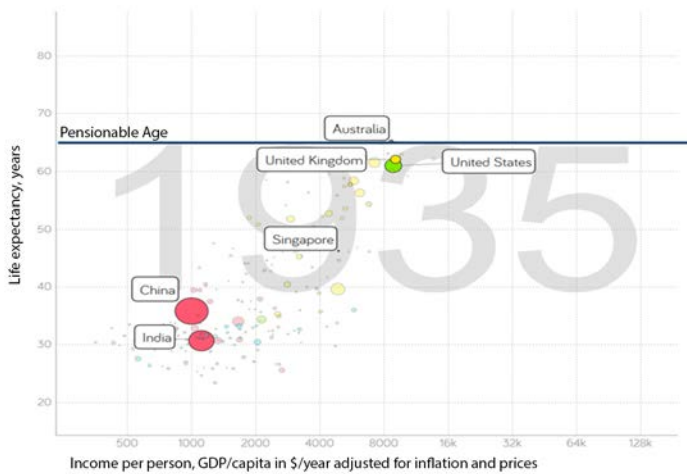
Figure 1b: Retirement Age for Women



Source: Chartsbin.com – retirement ages globally

If we begin to think about life expectancy when 65 was set as a retirement age in 1935, we can gain insight into what assumptions policy makers made at the time. Figure 2 below shows the world in 1935 when the US Social Security Act was passed. The chart plots Life Expectancy against real GDP per capita. The size of the bubble represents the number of people in that country in that year.

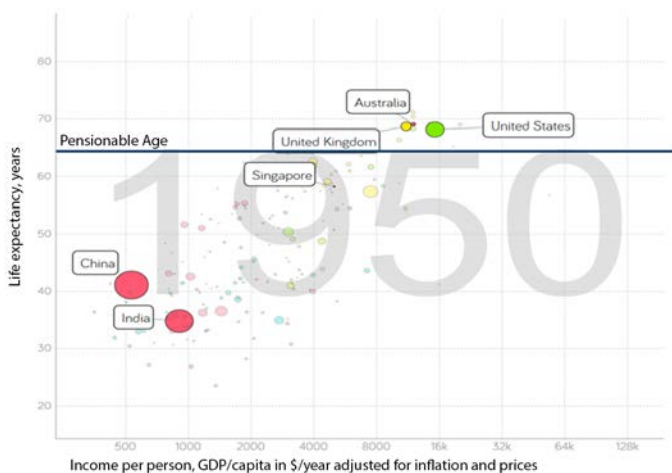
Figure 2: 1935, life expectancy, Real GDP per capita and population size



Source: Gapminder.org  
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We can see that in 1935, the actuarial cost of providing social security benefits to the world population was incredibly low as almost no one was expected to live long enough to enjoy any sort of retirement at all! After the Second World War the picture began to change but still relatively slowly as can be seen in the corresponding chart for 1950 in figure 3.

Figure 3: 1950, life expectancy, Real GDP per capita and population size

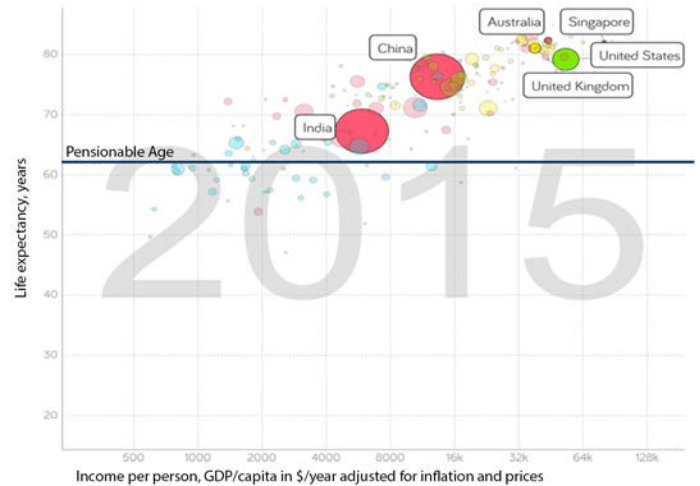


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With only a few countries having life expectancy beyond pensionable age (and even then only 5 years or so), the whole system still seemed fairly sensible with manageable costs in 1950.

Rolling the clock forward to today, the picture looks very different. With so many people expected to live well beyond retirement, sometimes for 20 years or more, the demands on our savings and social security systems have become enormous and far beyond the terms upon which they were originally drawn up.

Figure 4: 2015, life expectancy, Real GDP per capita and population size

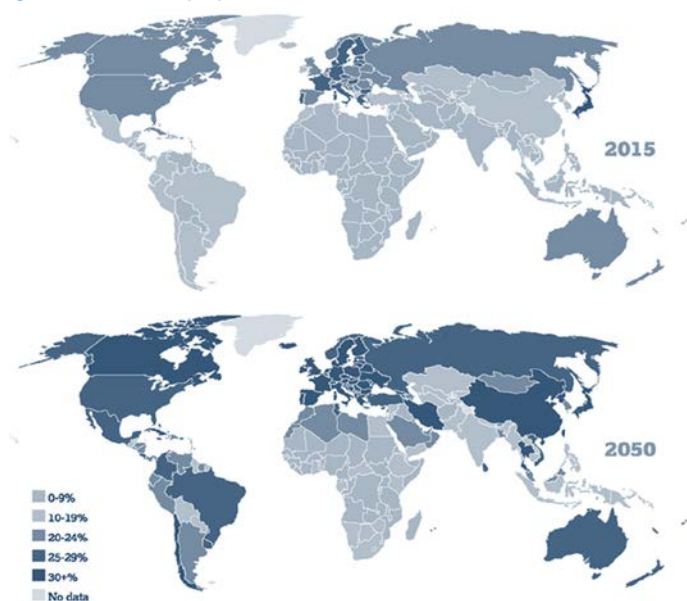


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The fact is, as people become wealthier they live longer and the last 65 years have seen dramatic increases in life expectancy around the world. This places greater pressure on our savings as retirement periods lengthen and our holding periods for investments extend into the future. Raising retirement ages is clearly politically unpopular (particularly since the elderly make up a large part of the electorate), but it would appear that as time goes by, retirement ages are likely to rise.

The burden on existing taxpayers for the care of the elderly and general state level funding as society ages becomes even greater as we look into the future. By 2050, 22% of the world's population will be over 60 up from just 11% in 2000. This will place significant pressure on government finances and the savings people need to retain standards of living into their twilight years.

Figure 5: Percent population over 60 – 2015 and 2050



Source: WHO, Global Age Watch Index 2015

It may not be all bad news. The pressure on traditional state level pension and social security systems has been obvious for some time now. As a result, private saving for retirement has become much more widespread than in the past as the Social Security Agency finds that 61% of all workers and 80% of married couples are at least saving in a retirement plan<sup>3</sup>. There is also the suggestion that as we age we spend less although it's not clear if this is simply due to declining incomes or an intrinsic desire to save late in life.

With long retirement periods and a growing elderly population, the demands on people's savings seem fairly evident. Also, the productivity needed to deliver growth and prosperity from a smaller proportion of the population who work, most likely implies that disruptive technological and competitive change will be a constant. These are important considerations when we begin to think about our investment objectives and how we go about achieving them over the very long holding periods that we should have.

## Savings – What should investors do?

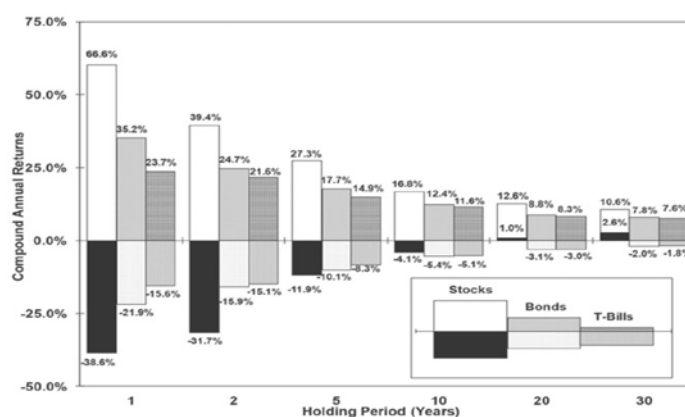
### The verdict of history versus the hyperbole of financial news outlets.

The excitable pundits on financial news channels constantly aim to capture our attention with the latest sensational story about company XYZ who 'beat' earnings by X% and 'raised guidance' by Y with the stock trading up by Z% 'after hours'. These stories get the adrenaline going for some and are obviously important signals in their own right. Far from sparking interest though, it can cause the eyes to glaze over as each story blends into the next and we listen to the most exciting thing that happened since well, the day before yesterday. Does this coverage really help investors keep their long term investment objectives in perspective? More often than not, these short-term movements in individual prices are more important to the value of employee stock options than they are to whether or not you or I are going to have enough

money to see us through our retirement if we are fortunate enough to get that far.

It's not great TV to compare the long term holding period returns between asset classes like stocks, bonds and T-Bills over similar time frames (10, 20 or 30 years) to the holding periods needed for savers to build up that all important nest egg. Yet this is exactly what Professor of Finance at the Wharton School, University of Pennsylvania Jeremy Siegel does in his book 'Stocks for the Long Run' (McGraw Hill, 2014). The study looks at the best and worst real returns in stocks, bonds and bills going back more than 200 years in the US for various holding periods (1, 2, 3, 5, 10, 20 and 30 years<sup>4</sup>). The results are shown in Figure 6 below.

Figure 6: Highest and Lowest real returns on stocks, Bonds and Bills over 1-, 2-, 5-, 10-, 20- and 30- Year holding periods 1802 – 2012



Source: Prof. J Siegel, "Stocks For the Long run". McGraw Hill (2014) p94

A glance at the chart shows why equities are the domain of the financial news channels. The range between the best and worst returns over one and two year periods is much wider than those for bonds or bills. It is this volatility that creates the excitement but also may get in the way of the true long term merits of equities as an asset class in their own right. When one looks to the longer term (i.e. more in line with investors' true expected holding period), the risks in equities in real terms are far lower. Indeed, the worst 30 year holding period return for equities since 1802 is actually a positive 2.6% in real terms while the best at 10.6% per annum is still well ahead of bills and bonds. Even on time periods of 5, 10 and 20 years, the empirical evidence from history suggests equities offer a more favourable trade-off between risk and reward.

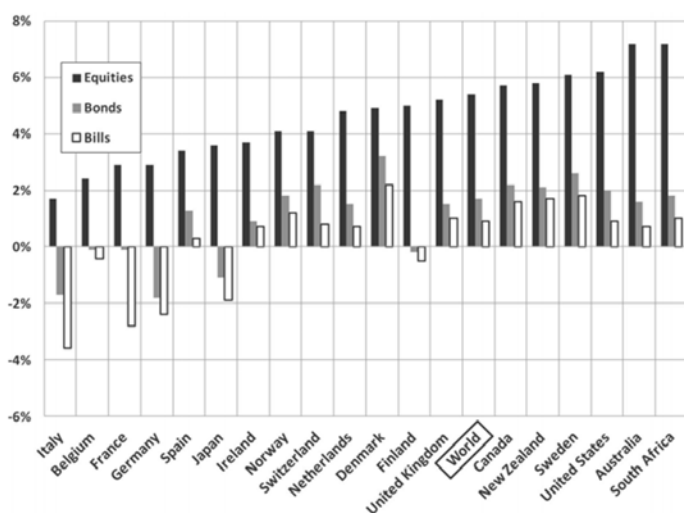
Is history a relevant guide for our future path however? The list of challenges we face today seems endless. Whether it is from disruptive technologies (artificial intelligence, autonomous vehicles, electric vehicles, machine learning, big data, algorithms predicting our every move, robotics, virtual reality, augmented reality, the internet of things and cloud computing to name a few); political upheaval (a maverick in the White House, the threat of EU collapse, an unstable Middle East and a shifting balance of economic and political power in Asia [also globally one could argue], high budget deficits in the West); social problems (an ageing society, income inequality, youth unemployment, mass migration), how can we reliably use history as a guide?

As a historian, I would argue that at times of maximum uncertainty, history remains one of the best guides we have – perhaps not for the detail, but at least for the bigger picture. The 200 year period under observation above included the Industrial Revolution and related mass urbanisation (similar to that seen in parts of Asia over the past 50 years); two major World Wars and any number of regional conflicts; bouts of hyperinflation and outright deflation; countless financial crises; the invention of the motor car, the TV, mobile phone, internet and dramatic advances in healthcare and life expectancy. Yet equities have still delivered positive real returns over all 20 and 30 year holding periods over the last 200 plus years. Regardless of the short-term headlines on financial news channels, why would investors choose any other asset class if their time horizons are genuinely a 20 or 30 year time period over which they need to save?

If loss aversion is a concern from an investment in equities, we should always view this in the context of our holding periods. For example Professor Siegel points out that “an investment made at the peak of the market in 1929 was back in the money after 15 years and since World War 2, the recovery period for stocks has been even better. Even including the recent financial crisis, the longest it has ever taken an investor to recover an original investment in the stock market was the 5 year 8 month period from August 2000 through April 2006”<sup>5</sup>.

The study offers some interesting insights around the suitability of equities as a long term store of value. But the data so far is focused entirely on US returns. How do other countries fare? Do varying economic outcomes at the single country level have a significant effect on returns between asset classes? Professor Siegel presents data for individual countries in Figure 7 below.

Figure 7: International Real returns on stocks, bonds and bills 1900 - 2012<sup>6</sup>



Source: Prof. J Siegel, “Stocks For the Long run”. McGraw Hill (2014) p89

We can see from the table that individual country returns do vary. Stocks however, have delivered better real returns than the other two primary asset classes across the board. Also, the above average performance of the ‘World’ would suggest there may be benefits of some geographic diversification.

So far, we have explored the scale of the savings needs our generation and those that immediately follow have. Our holding periods for the investments we make matter and ours may be longer than we think. It is important to retain that perspective. We can also assume that to avoid excessive pressure on state budget deficits as the working population falls as a percentage of the whole, productivity (and likely the retirement age) must increase suggesting change will be a constant. Yet change has also been a constant over the last 200 years and looking at the returns from equities over the holding periods most relevant to those with the greatest savings challenge in the future, this asset class has come closest to delivering the real returns we require. The chutzpah on financial news channels may give equities a bad press over short time periods but Siegel’s careful analysis of historic returns suggests his book “Stocks for the Long Run” is aptly named.

## Why do dividends matter?

As life expectancy has risen and holding periods for investments have become longer, it’s natural that in our advancing years we have a tendency to seek income such that we can at least afford a lifestyle somewhere close to that which we enjoyed when we were working. The demand for income in this sense doesn’t appear like it will go away any time soon. However, this isn’t the only reason investors should value the humble dividend. A number of academic studies point towards enhanced returns and lower volatility from dividend paying stocks relative to their non-paying counterparts.

Siegel again breaks down the historic returns on stocks into their component parts. Namely dividends, dividend growth, earnings growth and capital gains for various periods between 1871 and 2012<sup>7</sup>.

## Dividends, Earnings and Payout Data for Various Historical Periods

Summary	Reported EPS Growth	Dividend Growth	Dividend Yield	Capital Gains	Stock Returns	Payout Ratio	NIPA Profits
1871-2012	1.77%	1.35%	4.40%	1.99%	6.48%	61.30%	
1871-1945	0.69%	0.77%	5.26%	1.03%	6.61%	71.80%	
1946-2012	2.97%	1.99%	3.43%	3.07%	6.35%	49.60%	4.08%
1929-2012	1.85%	1.20%	3.85%	2.09%	5.69%	55.60%	3.22%

Source: Prof. J. Siegel, “Stocks for the Long Run”. (McGraw Hill, 2014) p145

The data shows that dividends over the whole period have been by far the most important source of returns for investors. Even after the Second World War as tax changes and a desire to reinvest from retained cash flow caused companies to reduce their payout ratios, dividends still accounted for the majority of the total return achieved during that period.

If dividends make up the majority of the long term returns on stocks, it’s worth also considering other academic evidence that suggests high dividend portfolios can actually deliver higher returns with lower volatility than portfolios with other dividend characteristics. Conover, Jensen and Simpson published their piece ‘What difference do dividends make?’ in the Financial Analysts Journal in November 2016. They present the statistics in figure 8 below.

Figure 8: Returns by level of dividend (3 year rolling holding periods, 1962 to 2014)<sup>8</sup>

	Dividend Yield Portfolio			
	No	Low	High	Extreme
<i>Investment performance</i>				
Mean monthly return	0.765%	0.797%	0.897%	0.850%
t-Statistic		0.20	0.64	0.36
Dividend yield	0.012%	0.159%	0.366%	0.526%
Standard deviation	7.035%	4.746%	4.014%	4.950%
F-statistic		2.20**	3.07**	2.02**
Average Sharpe ratio	0.13	0.16	0.21	0.18
t-Statistic		1.08	1.90	1.10

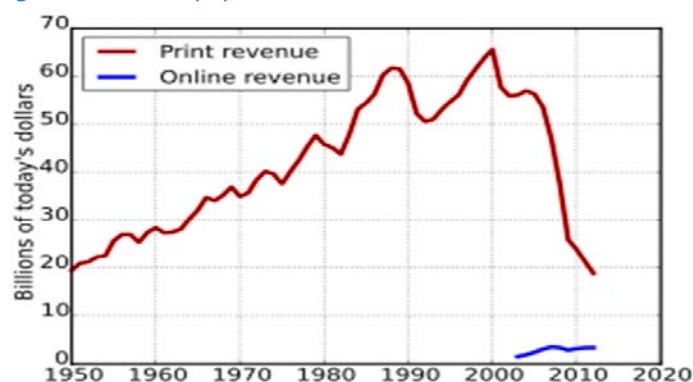
Source: Conover, Jensen and Simpson. "What difference do dividends make?" Financial Analysts Journal November/December 2016

The results show that a high dividend yield portfolio (4.4% annual yield) delivered higher average monthly returns over 3 year time periods with a lower standard deviation than equity portfolios with low, no and extreme (6.3%) dividend yields. Broadly consistent with the findings of Siegel, it is also interesting to note that dividends also accounted for a significant proportion of the overall return.

## Dividend Signalling – Beware of Fake News

It seems fairly clear that dividends matter. They hold the key to the long term real returns historically earned by equities and, for the savings challenges facing us today, dividends may yet have a significant role to play. However, as we can see from chart 8 above, not all dividend strategies are created equal. Extreme dividends can often be a signal of financial stress where the capital requirements for a company or industry have changed. This can increase volatility and reduce returns. For example, the newspaper industry changed dramatically in the early 2000s as its audience moved on-line. The stocks had very good cash flow, strong and stable earnings historically and above average returns on assets. However, the attractive dividend yields which presented themselves proved unsustainable as the competitive pressures intensified. The resultant industry collapse can be seen in Figure 9 below.

Figure 9: US Newspaper Ad revenue in real terms from 1950<sup>9</sup>



Source: The Newspaper Association of America

## Conclusion

The ageing world presents significant savings and productivity challenges to this and subsequent generations of investors and workers. Change will no doubt remain a constant, as it has been throughout the last two centuries in particular. On balance, equities should represent a good investment when viewed in real terms against the long term time horizons we need to consider – despite their higher levels of volatility in the short-term. Further, historic evidence from achieved returns suggests the humble dividend still has a significant role to play.

The newspaper industry example however, suggests a careful approach is required to ensure the long term prospects and competitive dynamics of the companies and industries we invest in are taken into account. We should take a view on the level of income and cash flow, the sustainability of the returns and the valuation attached to the dividend paying companies we invest in. If our long term objectives in real terms are to be met, it is vital that the cash flow streams which back our dividends are sustainable into the future.

- <sup>1</sup> US Government – Social Security Agency / History, [www.ssa.gov/history](http://www.ssa.gov/history)
- <sup>2</sup> US Government – Social Security Agency, [www.ssa.gov/history](http://www.ssa.gov/history)
- <sup>3</sup> <https://www.ssa.gov/policy/docs/ssb/v75n2/v75n2p41.html>
- <sup>4</sup> Prof. J Siegel, "Stocks For the Long run". McGraw Hill (2014) p94
- <sup>5</sup> Prof J Siegel Stocks for the Long Run (McGraw Hill, 2014) p8
- <sup>6</sup> Prof J Siegel Stocks for the Long Run (McGraw Hill, 2014) p89
- <sup>7</sup> Prof Jeremy J. Siegel, "Stocks for the Long Run," (McGraw Hill, 2014) p145
- <sup>8</sup> "What difference do dividends make?" Conover, Jensen and Simpson. Financial Analysts Journal November/December 2016 <http://www.cfapubs.org/doi/pdf/10.2469/faj.v72.n6.1>
- <sup>9</sup> The Newspaper Association of America – published data

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