

The Impact of Baby boomers on Financial markets: Evidence from asset allocation portfolio.

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1. Introduction

The financial markets are constantly evolving due to many important financial events, such as, the stock market crash in the 1980s and the financial crisis in 2008. Additionally, the structure and size of financial markets and financial institutions all vary across different countries, so it is not possible to apply the learnings from one country and implement these to solve financial market issues in another country. Globalization has made the world ever more interconnected and any event occurring in one country has an immediate spillover effect to the rest of the world. As a result, it is very important for researchers, investors, analysts, individuals and governments to understand what drives the financial markets and the extent to which different factors can change the course of the financial markets. Although there are many factors to consider when it comes to analyzing the financial markets, demographics has been one of the key factors up for debate in recent years. Especially the baby boomers who were born between 1945-1964 and the generation that represents a significant part of the population today. The baby boomers will also be the main demographic group we look at in the main analysis.

First it was the permanent income hypothesis by Friedman, which assumes that people save and consume according to their predicted permanent income level for their lifetime. Then came the life cycle theory, which was a follow up trying to improve on the issues that were pointed out in the theory of the permanent income hypothesis. Other theories were also developed to try to explain more effectively this link between age, consumption, saving and income. Such as, the Overlapping generation theory inspired by Irving Fisher in 1947, then further developed by a few others; Maurice, Paul and Peter and the Asset meltdown hypothesis. Although there has been evidence supporting these theories there are also some theories and research suggesting that an ageing population may not have an impact on the financial asset markets although the scale of the impact is still unknown despite the years of research.

Much research has looked at how the baby boomers have had an impact on assets markets in general. One example of this is that many researchers have linked the increase in the U.S. stock prices that occurred around the 1990s to the baby boomers to due to explanation that baby boomers would have been saving for retirement as they entered the age groups of 45 and above (Thenuwara, Siriwardana and Hoang, 2017). However, there hasn't been much research and analysis into the idea that maybe an ageing population may not have that much of an impact on prices but instead the impact will be on the structure of the individuals' asset portfolios. In this Dissertation we try to look at how, baby boomers may be having an impact on the financial asset markets across the G7 countries, if any at all.

First, we look at data from the US to analyze the trends in Earning, Income and Wealth from 1989 to 2013 at different age groups. The trends in this data can be used to understand the lifecycle theory and to determine how and to what extent it should be relied upon in the analysis to explain the impact of ageing on the financial markets.

Secondly, in similarity to many other studies we use data from the stock market and use the labor force participation rate from the US as a variable and try to discover a relationship, if any, between the two from 1943 to 2013. Through this, we may be able to prove that at a time period when the age structure was shifting, there was an impact on the stock markets and therefore be able to say that ageing was or was not influencing the stock markets in the past.

Finally, approaching the most important part of the analysis, after we have suggested that maybe ageing has had an impact on financial asset markets, we can now look at how ageing is having an impact on the structure of the asset markets instead. Most studies into such research has been conducted using data from the OECD countries. In the main analysis for this dissertation we will look at the G7 countries which are, Canada, France, Germany, Italy, Japan, UK and the US. A time-series analysis will look at how the US dollar value has increased over time for the financial assets, as well as, look at certain financial assets to analyze the changes in the portfolios of households over a certain period. The analysis will also consider cross sectional analysis, i.e. similar changes that would have occurred across countries in the same time period as a result of baby boomers.

The aim is to try to understand if age structure has had an impact on the structure of the financial asset portfolios of households in the different G7 countries and if so, to understand the extent of the impact. However, it is well known that demographics are only one part of the many factors that can have an impact on the asset markets. Therefore, it may also be worth considering other factors and reasons due to which these changes may have occurred and determine the importance of ageing on financial markets. Other reasons or factors can include but are not restricted to, differences in regulations, differences in risk taking culture, education, gender and wealth.

2. Literature Review

There have been several theories into how changing demographics might have an impact on asset markets, this literature review will now elaborate on some of the main ones also mentioned in the introduction. One of the first ones being the permanent income hypothesis (PIH), which explains how the link between age and financial decisions originated, producing a theoretical analysis linking age, consumption and income (Friedman, 1957). The PIH aimed to explain that individuals smooth out consumption over their lifetime based on the income they expect to receive over their lifetime. However, much research has pointed out the issues in terms of defining the terms income and consumption as well as, pointing out that this theory suggests individuals will spend all the income they earn over the lifetime. However, we know this to not necessarily be true as many old age individuals pass down their wealth to other family members. Therefore, overall although the PIH forms a basis for many other theories it is difficult to rely upon to draw definite conclusions about ageing and asset markets.

Developed after this was the Life cycle hypothesis (LCH), which aims to explain the links concerning income, consumption, savings and wealth at different life stages: people would save at the young ages to be able to finance themselves after retirement and to pay off debts (Modigliani and Bumberg 1954). However, there have been many debates as to the credibility of the theory, for example, the questions of whether we rundown assets as we grow old (Deaton, 2005). Both the permanent income and the life cycle hypothesis both explain consumption as being smoothed out over the lifetime of individuals, through the buying and selling of assets. However, the life cycle hypothesis best applies to understanding how the size and age of different age groups will have an impact on personal saving.

Another similar theory developed after this was the Overlapping generations model (OLG), which attempts to explain the way consumers behavior changes over different phases of life (Allais, 1947, Samuelson, 1958 and Diamond, 1965). The young prepare for retirement by investing in assets and as they age, i.e. by age 65 (which is the average retirement age across many countries) income is relatively less, therefore instead of saving and investing in financial assets, people start dissaving to finance consumption. The consumption after retirement, would require selling some financial assets individuals may have accumulated over their lifetime. The changing age structures and the change in the size of the population demanding and supplying these assets can have an impact on the asset prices.

The asset-meltdown hypothesis (AMH) suggests that as the baby boomer generation begins to enter the retirement stage, the other age groups will be relatively smaller. Therefore, as the baby boomer

generation begins to sell off assets to fund consumption after retirement, the changes in the age structure will put downward pressure on the demand and prices for assets. Bloom et al. (2011) tries to explain that the severity of the negative impacts of an ageing population on financial markets may not be as severe as we think it might be. In our analysis we will have a look at why or how reliable the AMH theory is and whether there is a possibility of an asset meltdown.

One study in support of the AMH found, that until about age 60, there is an increase in mean and median asset holdings, after which there is a visible decrease in the values of assets with age (Poterba, 2004). Poterba also takes note that when the population is ageing, it isn't only households decumulating, it is also the pension plans decumulating in order to pay out the benefits. On the contrary it is important to also consider that this explanation may not apply to future asset markets because of the move from a defined benefit pension (DBP) to a defined contribution pensions (DCP). Which means now the pressure is on the individuals themselves to save for retirement. The DCP are dependent on portfolio performance, therefore making the pensions riskier despite having more control over your own portfolio and money. Meanwhile, allowing individuals to decide on their investments into asset markets is putting the markets in a dangerous situation because the financial literacy for the older ages tends to decrease as they begin to retire (Annamaria and Mitchell, 2014). In support of this theory of financial literacy, another article demonstrates that the link between education and financial wealth and housing are positive and strong (OS Mitchel 1997).

Another study in support of the AMH, that looks at assets in detail uses surveyed data to look at how age affects the demand for assets with different levels of risk. Risky assets, such as, bonds and equities have a positive correlation with increasing age until individuals reach the age of retirement Yoo (1994).

Nevertheless, if we look in particularly at the US market, changes in the asset market as a result of the baby boomers could be offset in the future if other emerging economies become interested in US assets. Demonstrating how foreign ownerships has been growing in the past years and the more broadly the US stocks are held, the less of an impact a retiring population selling equities will have on asset prices (Andrews et al., 2015). This theory can also be applied to other countries that have an ageing population to this extent, where foreign ownership of assets in such countries can help reduce the effect of changing demographics on asset markets.

Furthermore, many studies simply look at the baby boomer's population when analyzing the impact of ageing on financial markets. Although it may be true that an ageing baby boomer population could have

a potential negative impact like the AMH suggests, it may be important to consider other generations that may be able to offset the dissaving by retirees. A study by JP Morgan Chase looks at the differences in the aggregate net worth by generation and found that the wealth of the greatest generation (1925-45) peaked by 2002 and remained well below the net wealth of baby boomers (1946-64) thereafter. In the case of the baby boomers, the net worth was continually increasing from the late 1980s until around 2007 when the value of the net worth peaked at about 10 trillion USD, double that of the greatest generation. Meanwhile the Gen X (1965-84) and millennials (1985-2004) put together outnumber the baby boomers at 56 million and 44 million household respectively. It is explained that one of the reasons that the Gen X and millennials have a low net worth compared to baby boomers is the fact that the younger individuals are not ready to save and invest at such an early stage of their life cycle (Mandel and Wu, 2015). In support of the life cycle theory of consumption and saving this suggests patterns to exist according to age. However, it slightly goes against the idea that the impact on financial markets will be as severe as the AMH suggests, since Gen X and the millennials combined may be able to reduce the impact of the baby boomers on asset markets.

On the other hand, it is also necessary to consider that age is not the only demographic element that can have an impact on asset markets. Dwyer et al. (2001) found evidence from mutual fund investors, that women take less risk than men in their investments, however, when investor knowledge was included in statistical calculations the differences in gender reduce. Gender however cannot be the only determining factor when it comes to analyzing the demand for financial assets because gender determined demand is also affected by many other factors. For example, risk attitude, differences in income, different marginal propensity to save and education levels (Barber and Odean, 2001 and Lott and Kenny, 1999). Upon analyzing 13 demographic factors in a study, it was found that age, gender, education levels and income levels are significant factors to explain the level of investment in equities (Guragai and Peabody, 2018). (Marinelli, Mazzoli and Palmucci, 2017) Demonstrates that despite controlling socio-demographic and economic variables (SDE), there is a gender factor still responsible for differences in investment behavior. However, through a regression analysis, this study also found no differences in the liquidity and the diversification of the portfolios, demonstrating that the quality of portfolios is not affected by the gender gap. Overall, upon looking at some studies the effect of gender seems to quite small on asset markets, so we will look at age as our main demographic element for the purpose of the main analysis.

There have been many studies that have looked at the general impact of ageing and demographics on asset markets and asset prices, however, there has been a lack of literature and research into how

changing demographics have an impact on the structure of asset markets as well as the general asset market. A study of data from 72 countries from the years 1960-2002, there has been some noticeable evidence that changing demographics may be having an impact on the financial market structure, while the overall size may not reduce of the financial sector (Davis, 2006). In support of this Poterba believes that not all assets follow the hump shaped life cycle pattern, also, due to the differences in liquidity, ageing might affect markets for these assets differently (Poterba and Samwick, 1997).

In terms of looking at individual assets separately, (Elod, 2010) looks at housing markets and has found some evidence that ageing will have a negative impact on the real house prices. However, it is necessary to consider that this study also found a positive impact on real house prices in certain countries, for example, UK and Italy. Therefore, it is necessary to consider that other non-demographic factors may also play a role in determining the asset prices. As well as to consider that an ageing baby boomer population may be affecting different countries' asset markets in different ways. This could be due to many reasons, such as, the structures being different to start with, different cultural impacts and differences in the proportions of the population that is retiring in different countries.

3. Main Analysis (10)

3.1 Analysis of data

This section investigates the analysis of three different types of statistical data sets and tries to link the results back to answering the main question of how baby boomers may be having an impact on asset market portfolios. The results found are also linked back to some studies that have found similar results. This first of the analysis looks at Income, Earnings and Wealth for the US and if the data supports the LCH. The second part explores stock markets and tries to explain a link between baby boomers and the S&P 500. The third section looks at asset market allocations and asset portfolios of households.

Analysing Income, Earnings and Wealth trends over the years to support the life cycle theory



Figure 1. (Source – U.S. Earnings, Income and Wealth – Data from SCF 1989-2013)

Earning is defined as the reward for labour, income as the earnings plus the income from assets plus transfers and wealth of all assets minus the debt. If we look at the data in these figures one thing in common over the years is that all earnings, income and wealth peak at a certain age group. Therefore, demonstrating some evidence in support of the life cycle theory, especially if we look at wealth, wealth always peaks around age 61-65 throughout the years which is also the average retirement age in many countries. Even though earnings and income peak at a much earlier age than when wealth does they all have a typical hump shape explained by the life cycle theory. Decumulation of wealth at the average

retirement age must demonstrate selling off assets in order to finance consumption when earnings and income are much lower. As a result, if there are huge changes in the supply or demand of financial assets, there would surely be some changes when looking at the overall financial asset markets. Another thing that is also noticeable is that over the years from 1989 to 2013, the decline in wealth after its peak is less steep every year. This could be explained by the idea of the psychological age being younger than the actual age of individuals (Choi, DiNitto and Kim, 2014). The slower decumulation of assets may suggest, that either the impact on asset markets will not be as dramatic as the asset meltdown hypothesis suggests due to the slower pace or may lead to a delay in the impact on the asset markets.

Stock market analysis based on age structure changes.

We will begin our analysis by first having a look at how the changing age structure i.e. Baby boomers have had an impact on the stock markets in the past and if this will continue to be a trend in the future. (Bakshi and Chen, 1994) suggested the stock markets booms of the 1980s and 1990s may have been due to baby boomers entering their middle ages, which means they would have started to accumulate assets. (Davis and Liu, 2003) found some evidence of a general increase in the proportions of middle aged (ages 40-64) individuals resulting in a boost of the real asset prices and a resulting downwards pressure on bond yields. Liu and Speiegel (2011) also found a correlation between dependency ratios of the population and the US stock market, suggesting that demographic changes relating to the baby boomers are well known so far therefore may help us predict future trends in stock markets. We can look at some data of the S&P 500 and the CIV (labor force participation rate) to demonstrate these possible effects of ageing.

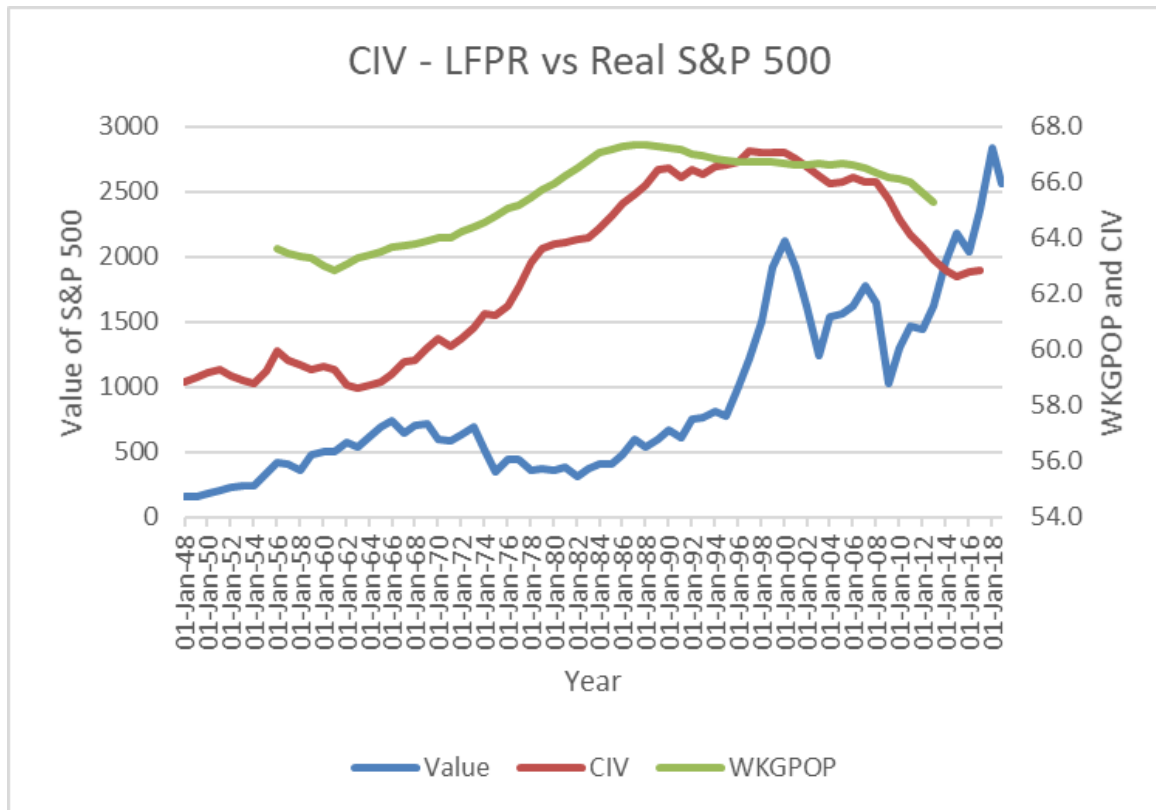


Figure 2. (Source – Macrotrends.net, 2019 and OECD Working age population Indicator)

In this analysis of the stock market, the main independent variable we are looking at is the baby boomer's generation which first began in 1946 after WWII and how these baby boomers have had an impact on the stock market in the past. Stock prices between 1948 to 1965 are on an upwards trend which shows households were possibly investing to provide for the largest generation of babies to be present at one time, which means higher demand for financial assets. Especially stocks due to the high returns despite the increased risk. Meanwhile house prices were instead on a slight decline from 1950s to 1965 (Mankiw, and Weil, 1989), (Bakshi and Chen (1994), thus demonstrating that age structure has an impact on what type of assets people are willing to invest in at any point in time.

For the period between 1965-1980 the baby boomers started to enter the workforce, shown by an increase in the CIV and the working age population in the G7 countries on average, this period also led to a decline in the S&P 500. This negative link between the S&P 500 and housing can potentially be explained by the fact that during this period, the population starts earning and spending the money on other investments like houses to prepare to build families. The S&P 500 continued the trend upwards a few

years later around the 1980s, this can be explained by the fact that people started saving in riskier assets a few years after they had been earning to provide for the future kids and to prepare for retirement.

According to the lifecycle theory, the baby boomers would have been at their peak of their saving years around the 1990s as the middle-aged population, driving up stock prices. This demonstrates some evidence towards the life-cycle theory of the consumption and savings model and the fact that ageing may have an impact on asset markets. However, it can also be considered that maybe baby boomers will continue to hold equities to finance their consumption due to better expected health care and as a result, longer life expectancy and leaving other assets to heirs (Potreba, 2001). This can be used to explain why the stock prices continued to rise after 2011 even though baby boomers first started approaching the average retirement age of 65 in 2011.

On the other hand, the delayed or lack of impact on the asset markets of the ageing baby boomers can be explained by the theory of psychological age, the results from a study suggested that around 70% of the age group 60-69 reported feeling younger than they were (Choi, DiNitto and Kim, 2014), which means delaying retirement, dissaving and selling of assets. From this analysis it is clearer to see that although age structure may have had an impact on the stock markets in the past, we cannot use these findings and apply it to future trends because individuals are also behaving differently as they grow older. This suggests there may be some sort of impact on the asset markets in the future, but it will be difficult to see whether the impact is likely to be more or less detrimental than most theories like the AMH suggest.

Financial assets by value

Over the 21 years of data the financial assets held by households have been constantly increasing for the G7 countries. These assets form an important part of wealth for many individuals and form an important revenue source. Especially for the population approaching retirement at a time when the world is moving from state pensions to private pension, whose main source of income will come from financial assets and other savings, funds and transfers. From the Figure 3. we can see that from about 380,000 USD/capita in 1996 the total has risen to 1,002,838 USD/capita in 2017. From the proportions for each country we can see that the value in USD/Capita of the financial assets held by each country has been increasing in the G7 countries. Even past 2011 when the first of the baby boomers began to enter the retirement age of 65 the upwards trend was strong. Another interesting trend is that though US has always had the higher value, GBR and JPN have been fluctuating around 2nd highest value for years until Canada overtook GBR in 2013 and finally overtook JPN to have the 2nd highest value of financial assets in USD/Capita. Therefore,

from this, we can see that for these G7 countries the value of financial assets has been continuously increasing, so we cannot make any assumptions about ageing having a negative impact on the financial value or the demand for assets.

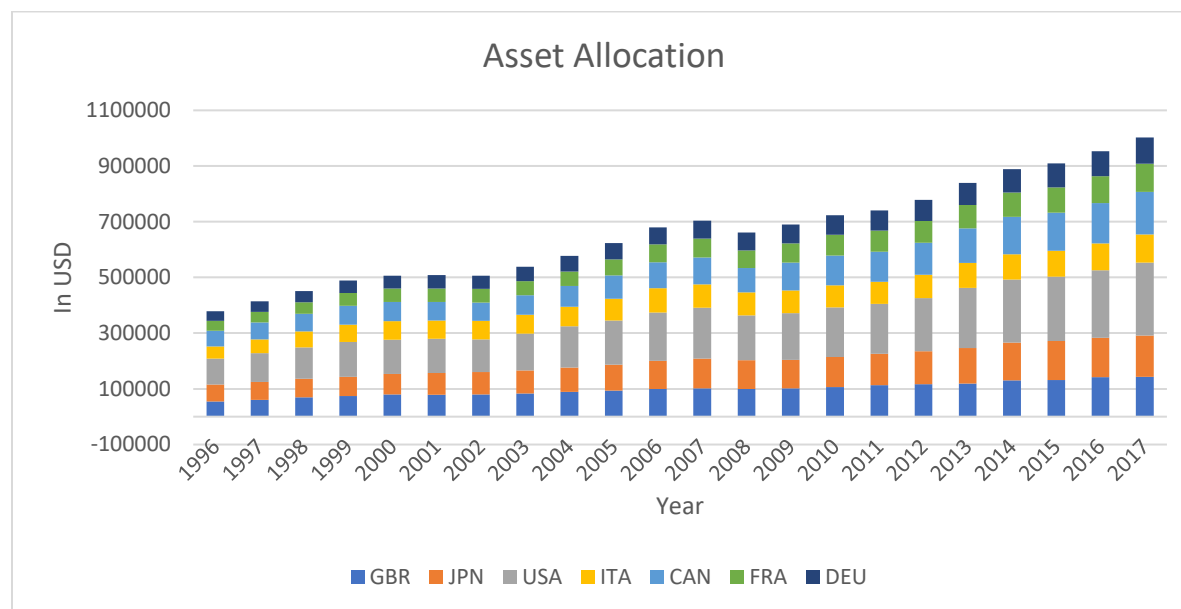
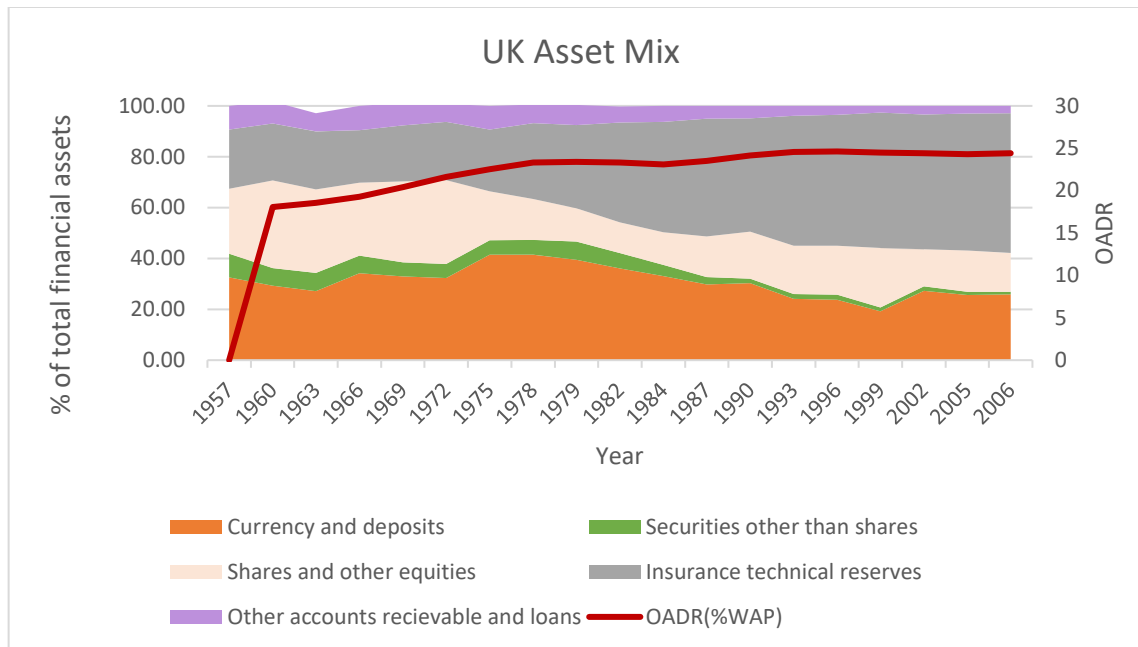


Figure 3. (Source – OECD Financial Assets Indicator)

Financial assets by Structure – Looking at UK between 1957-1960s

Although, the overall financial value of the assets held by households can be said to be increasing over the years, changing times have surely had an impact on the structure of the portfolio of the households financial Net Worth. Figure 4. demonstrates the differences in wealth allocation over time in detail. There have been many important developments taking place in the past 50 years in the mix of assets that the household sector holds. As we can see in Figure 4. UK households had a relatively well-diversified portfolio in terms of the % of the total financial assets held by the households in the 1950s, even though “currency deposits” and “shares and other equities” had a bigger chunk of the portfolio at 32.56% and 25.58% relatively. This changed over the years as the demographics changed and the structure in 2006 is different in comparison to the structure in 1957.



Figure

4. (Source - Sbano, 2008 – data from CSO, OECD Working age population Indicator, ONS)

Most noticeable changes were happening around the beginning of 1970's which is when the baby boomers would have been around 25 years old. Firstly, there was a reduction in "shares and other equities" as a part of the UK household asset mix from 33% in 1972 to 19% in 1975.

Secondly, another trend seemed to be a fall in safe assets as a share of the asset mix. Demonstrated by the mid-1970s were also the peak for "currency and deposits" as a share of the household asset mix at about 41.46% after-which they were on a decrease until they stabilized at about 20-25% of total financial assets to-date.

Finally, the most significant trend of the 1970's was that the "insurance and technical reserves" began to increase in share as a part of the asset mix to become the largest component of the asset mix from 23% in 1957 to 55% by 2006. This upwards trend reflects the growth of life insurance policies and private pensions funds as the baby boomers started approaching the ages of 25 and above, maybe due to starting to build families can explain the rise in insurance policies.

Another substantial change was in "securities other than shares" which was quite a significant decrease, although it was a relatively small proportion of the asset mix, from 9.3% in 1957 it fell to less than 1%. Overall, there was a reduction in all components, investigated, as a part of the household asset mix, except for Insurance and technical reserves. By the end of the 70s baby boomers would be around age 25 and probably start having children and so the increase in insurance and technical reserves can be explained

by the fact that parents wanted to take out insurance policies for themselves and their children. This form of investment can also be considered a beginning of savings or investment as the parents age.

So far, we have only looked at how age structure has impacted the financial portfolios of UK households in the past. To continue, we take countries as our independent variable rather than years, i.e. perform a cross sectional analysis across countries between 1995 and 2006. The general structure of the financial asset market portfolios based on the data collected by the OECD greatly varies across the G7 countries. The analysis will consist of the financial assets pension funds, currency deposits, shares and other equities, mutual fund shares, securities and other shares and life insurance reserves. The analysis will be structured based on looking at each financial asset individually and looking at how much of the financial portfolios in each country consists of this asset.

Pension funds are a pool of assets individuals can invest in through contributions for the sole purpose of financing retirement. Currency and deposits pay a fixed rate for a fixed term; therefore, they are considered a low-risk investment, very similar to a savings account. However, one important thing to keep in mind is that the investor knows the length for which they want to invest, as there are early withdrawal fees, and this may lead to possibly making a loss from the investment. Shares and other equities are financial assets that demonstrate the property rights on corporations or quasi-corporations; a representation of the share of profits the owner is entitled to or the shares of net assets if there is a need for liquidation. This form of investment can provide uncertain returns, due to the volatility of the nature of returns, therefore being the riskier form of investment.

Mutual fund shares represent an “equity stake” in a pool of a variety of underlying assets that has been created to invest the funds in a diversified portfolio, i.e. investors trying to invest in a less risky way. The most attractive quality of holding shares in mutual funds is the liquidity, meaning the shares are redeemable at any time. This method of investment also involves a sense of trust and presumably a belief that the company is more knowledgeable to be able to create and invest effectively and efficiently in a portfolio of bonds or stocks. They form an essential part of the retirement plans that involve some risk and higher returns. Securities other than shares includes components such as T bills, bonds, certificates of deposit, commercial paper, debentures and other similar instruments. Life insurance reserves are funds held as life insurance and other policies that are considered as assets for those who holds them i.e. the households.

Pension Funds

If we look at the Pension funds, they are a larger proportion of financial assets for the UK and US whereas for other countries the proportion is significantly lower. However even between US and UK, UK has the higher financial asset proportion of investment in pension funds at about 45% compared to 26% for the US in 2017. In Germany pension funds were about 13% while in Italy and Japan they were around 5-8% of total financial assets.

Currency Deposits

Japan, France, Germany and Italy seem to have the higher proportions of currency deposits as a proportion of their portfolios, with the highest being Japan at 50% while UK and Canada hover around 20% and the US below 20%.

Shares of other equities

If we look at the SHOTHEQTY as a percentage of the total financial assets between countries we can see that it is increasing in Canada, France, Italy, decreasing in Germany and UK, with fluctuations in Japan, hovering around 5-10% and slight fluctuations in the US hovering around 30% of the total financial assets. The most interesting thing to note that it is a larger part of the total financial assets held by households in the US than in any other country in the G7 group.

Mutual Funds shares

If we look at the trends in the proportion of mutual fund shares as a percentage of the total financial assets, Canada is at about 19% (the highest) and still increasing and it is on the rise in Japan as a percentage of the total financial assets. In Germany, Italy and the US there are similarities between the percentages of total financial investments in the mutual fund's shares hovering around 10%, meanwhile in the UK and Japan this fluctuates below 5% although there has been a slight increase over the years. While in France there has been a decrease from 12% in 1995 to 5% in 2017.

Securities other than shares

There is similarity between most other countries where there are steep declines in SECOTSHS between the time scale of 1995 to 2017, from 7% to 2% in Canada, 6.4% to about 1% in France, 8.5% to about 2.5% in Germany, 22.5% to 6.9% in Italy, 6.5% to 1.65% in Japan, hovering between 5 and 10% for the US and below 0.5% for the UK. With the highest drop being in Italy.

Another thing to notice across the G7 countries is that for most of them SECOTSH is the smallest proportion as a % of the total financial assets except for Italy and the US.

Life Insurance reserves

The life insurance reserves as a % of the total financial assets (net worth of the households) also varies between the different G7 countries. From 18% to 35% in France, 13% to 16% in Germany, 3% to 16% in Italy, hovered around 17% in Japan, stabilising around 10% in UK and around 5% in the US.

The most interesting thing to notice is that the 2 countries with a constantly increasing OADR(%WAP), Italy and Japan, seem to have more fluctuations in the structures of their total financial assets holding relative to the other 5 countries that had a stable OADR(%WAP) for a few years. To further prove this point, if we look at the data for 10 years from 1995 in Germany, the fluctuations in the total asset holdings are consistent with an increasing OADR(%WAP). As a result of this findings, although this is hardly enough evidence to prove that ageing may be having an impact on the asset markets, there is a possibility that an ageing population is certainly a component towards explaining the changes in the structure of the asset markets over time.

3.2 Theoretical explanations for cross-country differences in asset allocation Portfolio

This section tries to explain why there are differences in the asset mix structure across countries. This can be done by explaining the differences in regulation and taxes across countries. As well as how the differences in culture have an impact on the structure of the asset markets. Finally, we try to link all these different factors and how they may or may not link to ageing.

1. Differences in pension funds between UK and US and other countries

A report by the OECD found that UK state pensions were the lowest among the developed countries at around 29% compared to an average of 63% for the OECD countries (OECD, 2017). This can be a possible explanation for why Pension funds are such a large part of the UK household's financial asset mix. Approaching retirement in 2011, individuals wanted to be prepared to be able to finance themselves and have money for consumption of goods and services like healthcare. Although mandatory pensions in the UK began in 2012 for employees there hasn't been much of an increase in the pension funds as proportion of the portfolio. Possible demonstrating the lack of or delayed impact even if regulations are implemented on asset markets maybe due to the theory of the psychological age mentioned above.

2. Why is CURDEP the highest in Japan

The ratio of safe assets such as currency and deposits, is much higher in Japan at 50% in 2016, while investments in riskier assets are much lower as a part of the Japanese household's portfolio. One reason for this is that the stock market profits aren't as attractive and are unstable (Yahoo, 2019), therefore, by investing in safer more liquid assets, individuals are being precautionary. Another reason for this difference compared to other countries such as the US is that the Japanese tax system is a disadvantage to investment in riskier assets (Nakagawa and Shimizu, 2000). Although these reasons form a part of the explanation as to why Japan's household invest safely, it also makes sense that as the ageing population is rising, they prefer a more liquid and safe investment to finance themselves at old age. Japan has the highest OADR among the G7 countries. We could suggest a link between old age and investment in low risk assets, however it cannot be for certain as other factors may be at play.

3. Why is SHOTHEQTY the highest in the US

Some qualities that make stocks more attractive than for example real estate are, higher rates of return, increased liquidity and the potential tax benefits from dividend tax rates being lower than income tax rates. Liquidity and higher returns could be some explanations as to why shares and other equities are a higher percentage of the US household's financial asset mix, in order to be able to save up more for retirement as well as be able to withdraw easily. Especially since the US stock market is the best performing stock market to invest in and receive high returns.

4. Why are the mutual funds highest in Canada?

At one time mutual funds used to be the best way for investors build and manage a well-diversified, liquid, long-term investments portfolio. However, there have been many more new investment opportunities being made available over the years, for example, one of the newest ones being Cryptocurrency. One explanation for the lack of change in the Canadian portfolio, could be explained through human behaviour which reflects a fear of change and comfort in consistency as the population ages. An additional reason why Canadians may continue to hold MFSH may be because it would be costly for them to make a switch to another investment opportunity due to a sales charge. It is believed that mutual funds will continue to increase as a part of the portfolio as baby boomers continue to have confidence in mutual funds to fund their retirement (POLLARA, 2016).

5. Explain the drop in SECOTSH in Italy

Low interest rates in past years (Bloomberg, 2018) may have been the reason for the move away from securities other than shares to other investments that can provide higher returns. While this is also part of the reason, it is also worth considering that maybe this led the retirees to change their investment portfolios to ensure that they would have enough money to get them through retirement than depend heavily on a fixed income that may be lower than required as inflation increases.

4. Conclusion

This dissertation looks at some main theories to begin with and literature reviews to explore the link between demographic factors, particularly age, and asset markets. Some of the main theories considered in this analysis include, the PMH, LCT and the AMH, which were some of the main theories that investigated how baby boomers might have an impact on the asset markets. The articles used in the literature review and the data used for analysis consider a range of time periods as well as a small range of countries (G7). While the results from the main analysis do demonstrate a potential link between an ageing population and asset markets, it may also be worth considering that other factors may also be having an impact on asset allocation portfolios.

The first data set with Income, Earnings and Wealth against age range found a hump shaped graph as the LCT suggests therefore supporting the theory somewhat. The second set of data looked at stock markets and the labour force participation rate and found there to be a link between the two and an opposing trend developing over time. The third data set found that despite an ageing population across the G7 countries, the asset allocations continue to increase year after year. The fourth data set focuses on the asset mix of the UK from 1957-2006 and there seemed to have been major changes in the asset mix at certain years, especially around the 1970s. The final piece of analysis of the G7 countries, found that although there may not be a year on year change in the household asset portfolios some changes do occur especially when considering the changes in terms of the OADR. Although, overall there may other factors that could also be having an impact on the financial markets, further demonstrating the changes due to ageing.

A lot of research so far has generally produced analysis on how ageing is potentially having an impact on stock markets and housing markets within the country. Results in this are have also consistently been mixed in terms of the extent to which, for example, the baby boomers will impact asset markets. One possible research direction could be looking into how the impacts of baby boomers could be reduced if

foreign stock ownerships became more attractive. Furthermore, not many studies investigate how the changing age structure could be impacting the financial asset markets in terms of structure and not only price of assets. For example, as the world population age structure heads towards baby boomers entering retiring, it could as a result have an impact on certain assets that are part of the household portfolio now. Finally, while behavioural finance increases in popularity, it may also be worth looking into the idea that individuals are feeling younger than they actually are and how this type of behaviour from baby boomers and other generations may have an impact on financial asset markets.

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6. Figures 5-11

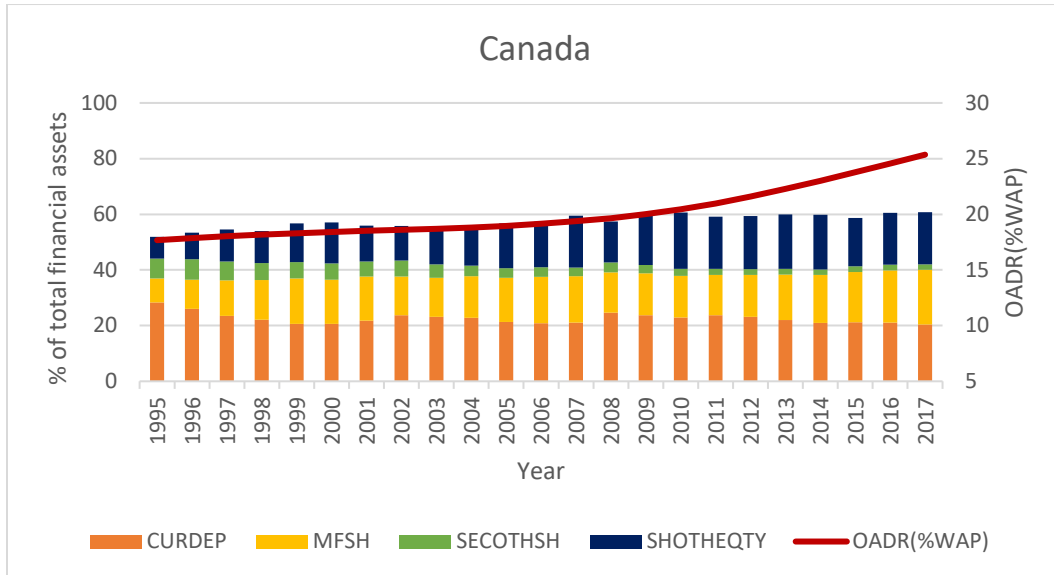


Figure 5. (Source – OECD Financial Assets Indicator, Working age population Indicator)

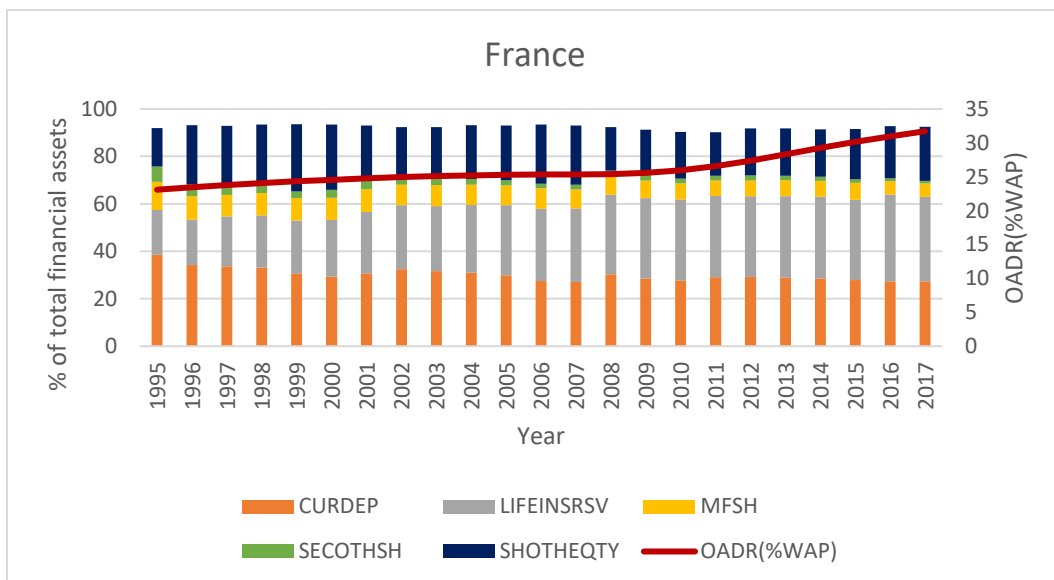


Figure 6. (Source – OECD Financial Assets Indicator, Working age population Indicator)

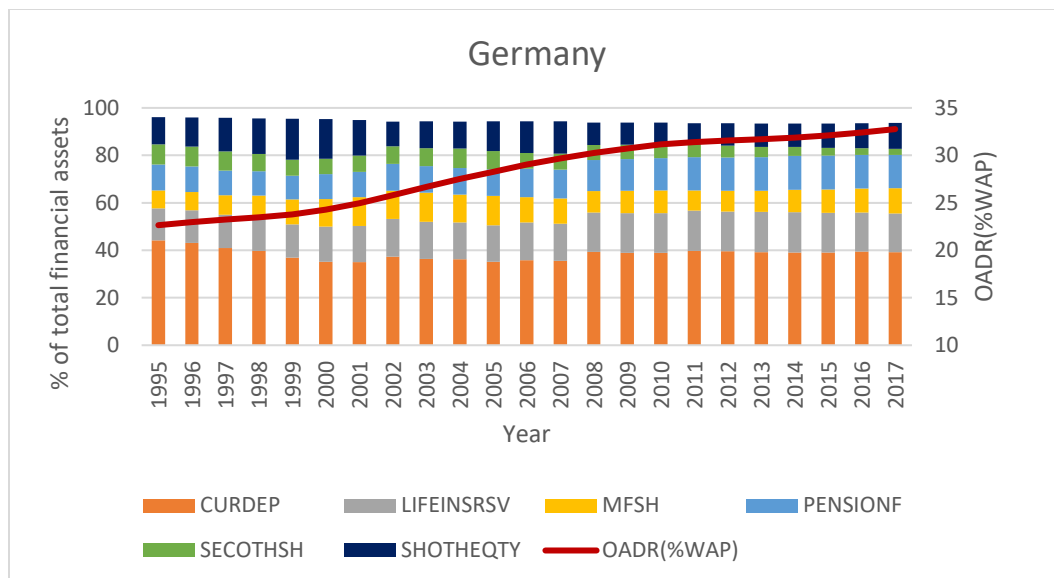


Figure 7. (Source – OECD Financial Assets Indicator, Working age population Indicator)

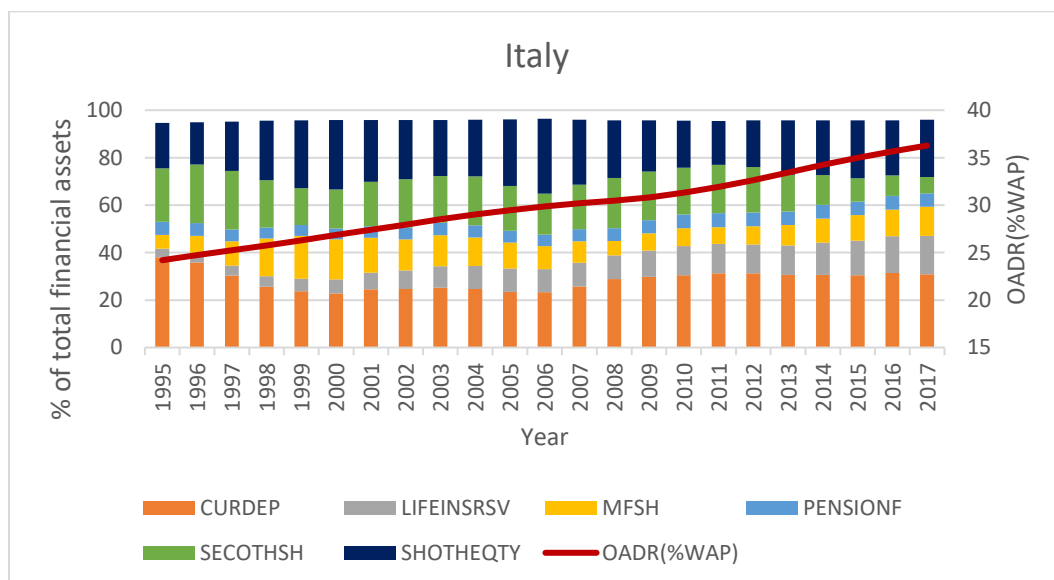


Figure 8. (Source – OECD Financial Assets Indicator, Working age population Indicator)

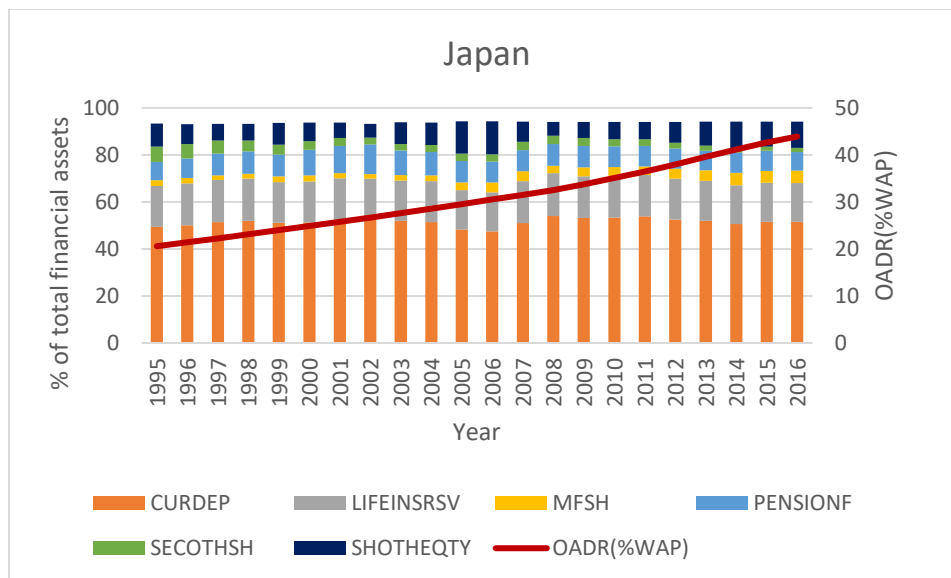


Figure 9. (Source – OECD Financial Assets Indicator, Working age population Indicator)

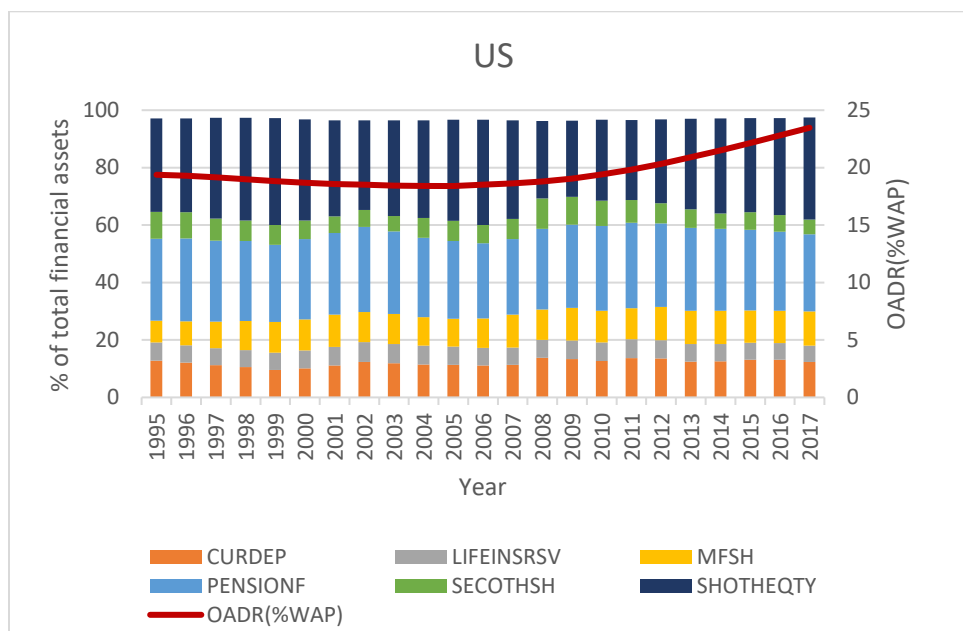


Figure 10. (Source – OECD Financial Assets Indicator, Working age population Indicator)

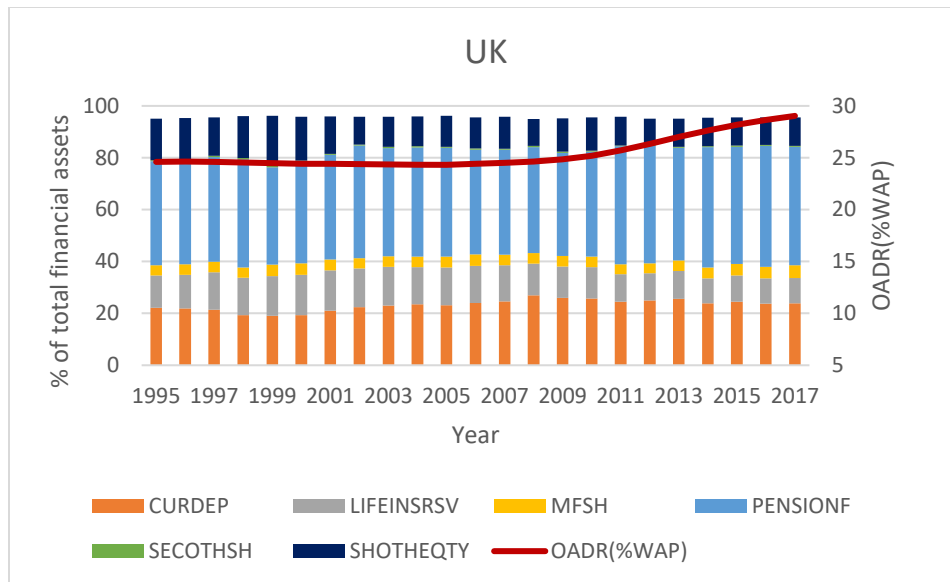


Figure 11. (Source – OECD Financial Assets Indicator, Working age population Indicator)