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Policies for increasing  
long-term saving of the  
self-employed:  
additional results



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An annex by Tim Pike and Silene Capparotto to the PPI report Policies for increasing the long-term saving of the self-employed

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## **Policies for increasing long-term saving of the self-employed: additional results**

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## Introduction

### Background

This is an annex to the PPI report *Policies for increasing long-term saving of the self-employed*.<sup>1</sup> It details additional results that emerged from the analysis of the self-employed population.

This annex does not provide a commentary or context to these results, which is contained in the main report. This annex details findings that relate to significant areas within the main report that have been highlighted as areas of particular interest to stakeholders. These are:

- The cluster analysis of the self-employed population within the Wealth and Assets Survey (WAS) dataset<sup>2</sup>
- The analysis of the number of self-employed people who would meet the criteria for automatic enrolment
  - Aged from 22 to State Pension age (SPa)
  - Earning at least £10,000 per year

The main report aimed to improve the evidence base for policy discussion of the self-employed and pension saving. This was particularly relevant to the 2017 Automatic Enrolment Review announced on 12<sup>th</sup> December 2016 which this report informed, providing evidence to the review's initial question:<sup>3</sup>

*How can self-employed people be encouraged and enabled to save more for later life/ for retirement?*

<sup>1</sup> PPI (2017)

<sup>2</sup> ONS (2016)

<sup>3</sup> GOV.UK (2017)

### **The quantitative analysis approach**

This paper details additional analysis performed in the course of the work including investigation of three key datasets:

**Wealth and Assets Survey (WAS) - wave 4, 2012/2014<sup>4</sup>**

*(The most accurate dataset including data upon accumulated wealth)*

**Labour Force Survey (LFS) - to Q1 2017<sup>5</sup>**

*(Most up to date dataset, at the time of the analysis)*

**Family Resource Survey (FRS) - 2015/2016<sup>6</sup>**

*(Most recent dataset with reported income of the self-employed)*

Different expectations of retirement income and savings beliefs were analysed by performing cluster analysis on the self-employed around key characteristics including savings, income and housing tenure.

The annex includes details upon the aggregate savings levels across the self-employed population and the saving gap that has developed between them and their employed peers, in particular in relation to an adequate retirement income.

<sup>4</sup> ONS (2016)

<sup>5</sup> ONS (2017)

<sup>6</sup> DWP, NatCen, ONS (2017)

## Chapter one: the clustering of the self-employed population

This Chapter details the clustering analysis performed upon the Wealth and Assets Survey (WAS), Wave 4, dataset. This was used to understand the evolving self-employed labour market to describe who they are, what they look like and what their attitudes are. By grouping them around key characteristics, a more detailed understanding of their situation and needs can be developed.

To reflect the varying stages of both career trajectory and long-term savings accumulation over a working lifetime, the self-employed have been broken down by generation prior to performing the clustering.

### The clustering process

#### **An overview of cluster analysis**

The cluster analysis or clustering is the task of grouping a set of objects in such a way that objects in the same group (called a cluster) are more similar to each other than to those in other groups. It is a main task of exploratory data mining, and a common technique for statistical data analysis, used in many field.

Cluster analysis itself is not one specific algorithm, but the general task to be solved. It can be achieved by various algorithms that differ significantly in their notion of what constitutes a cluster and how to efficiently find them. In this report, this has been performed by the TwoStep cluster analysis using SPSS.

#### **The clustering algorithm employed**

The TwoStep Cluster Analysis procedure is an exploratory tool designed to reveal natural groupings (or clusters) within a dataset that would otherwise not be apparent. The algorithm employed by this procedure has several desirable features that differentiate it from traditional clustering techniques:<sup>7</sup>

- **Handling of categorical and continuous variables** - by assuming variables to be independent, a joint multinomial-normal distribution can be placed on categorical and continuous variables.
- **Automatic selection of number of clusters** - by comparing the values of a model-choice criterion across different clustering solutions, the procedure can automatically determine the optimal number of clusters.
- **Scalability** - by constructing a cluster features (CF) tree that summarizes the records, the TwoStep algorithm allows you to analyse large data files.

The distance measure used to determine how the similarity between two clusters is computed is the log-likelihood. The likelihood measure places a probability distribution on the variables. Continuous variables are assumed to be normally distributed, while categorical variables are assumed to be multinomial. All variables are assumed to be independent.

<sup>7</sup> IBM Knowledge Center

### Number of Clusters

This algorithm automatically determines the "best" number of clusters, using the criterion specified in the clustering criterion group. The clustering criterion is an automatic clustering algorithm which determines the number of clusters. For this cluster analysis, the Bayesian Information Criterion (BIC) has been used.

The clustering is a subjective analysis and there is no "right" answer, but more reasonable ones in relation to specific criteria. There has been various iterations through combinations to improve the clustering and refine the significance of the variables.

### The clustering results

#### Overview of trends

The population has been segmented by generation and gender prior to clustering. The evolution between generations has guided the clusters, particularly in relation to housing tenure.

Younger people are more likely to rent the place where they live (37% of Millennials), whereas a few years later they are able to pay a mortgage (68% of Generation X), and at older ages they own a property (56% of Baby Boomers and 78% of Silent Generation).

#### Box 1.1: Key trends from the self-employed clustering<sup>8</sup>

##### Millennials

- They don't believe they are saving enough;
- The married are more likely to expect support from their spouse;
- Lower wealth clusters expect to be more reliant on the State;
- Low levels of pension saving, where it exists, is dominated by occupational pensions;
- Those who are single and classified as owners may still live with their parents and the property in question belongs to them.

##### Generation X

- Those with higher wealth levels, married, owners of their property and part-time workers typically don't expect to rely on private pension income;
- Those with property expect it to generate income;
- Only small segments have pension wealth.

##### Baby Boomers

- Part-time workers typically have more pension wealth than their full-time counterparts and may rely on their partner;
- Pension wealth dominated in the wealthiest groups;
- Those with mortgages are more likely to expect their property to form a larger part of their retirement income.

<sup>8</sup> PPI analysis of WAS wave 4 (2012/2014)

### Detailed results: Millennials

The Millennial generation has been clustered into four (men) and five (women) groups. The number of men represented within the clusters is greater with a large number of Millennials entering self-employment, often into construction industries.<sup>9</sup> The key metrics used in the clustering process have resulted in groups of have and have nots which exposes their differing attitudes to retirement income and current saving [Tables 1.1a-c].

**Table 1.1a: Millennial clustering, core variables**

Cluster analysis	Cluster	Millennials, male				Millennials, female				
		Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
	<b>People in the cluster</b>	194,000	82,000	67,000	161,000	59,000	23,000	47,000	71,000	42,000
	<b>Housing costs</b>	<i>Paying a mortgage</i>	<i>Own it</i>	<i>Paying a mortgage</i>	<i>Rent and other</i>	<i>Paying a mortgage</i>	<i>Own it</i>	<i>Paying a mortgage</i>	<i>Rent and other</i>	<i>Rent and other</i>
	<b>Single or married</b>	<i>Single</i>	<i>Single</i>	<i>Single</i>	<i>Single</i>	<i>Married</i>	<i>Single</i>	<i>Single</i>	<i>Single</i>	<i>Married</i>
	<b>Full-time or part-time</b>	<i>Full-time</i>	<i>Full-time</i>	<i>Part-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Part-time</i>	<i>Full-time</i>	<i>Part-time</i>
	<b>Currently contributing to a private pension</b>	No	No	No	No	No	No	No	No	No
	<b>Property wealth</b>	£84,000	£275,000	£80,000	£0	£60,000	£225,000	£59,000	£0	£0
	<b>Pension value</b>	£19,700	£531,300	£11,200	£0	£6,500	£73,000	£7,600	£3,200	£0
	<b>Other wealth</b>	£44,900	£132,000	£34,400	£29,100	£47,500	£56,700	£29,200	£17,100	£20,000
<b>Median Wealth</b>	<b>Total property wealth</b>	£84,000	£275,000	£80,000	£0	£60,000	£225,000	£59,000	£0	£0
	<b>Total household pension value</b>	£19,700	£531,300	£11,200	£0	£6,500	£73,000	£7,600	£3,200	£0
	<b>Household net financial wealth</b>	£5,200	£62,900	£1,100	£700	£900	£6,700	£1,100	£100	£100
	<b>Total physical wealth</b>	£40,500	£52,500	£31,100	£28,500	£48,000	£50,000	£39,700	£17,000	£29,000
	<b>Total household wealth</b>	£165,900	£866,300	£181,700	£36,100	£144,500	£728,300	£136,800	£32,100	£51,900
<b>Hours worked per week</b>	<b>0 - 10 hours</b>			23%		16%	8%	7%	7%	13%
	<b>11 - 30 hours</b>	6%	3%	63%	8%	30%	24%	57%	41%	63%
	<b>31 - 40 hours</b>	45%	33%		46%	24%	56%	18%	41%	7%
	<b>40+ hours</b>	50%	64%	14%	46%	30%	11%	17%	11%	16%
<b>Years in self-employment</b>	<b>0 - 5 years</b>	55%	94%	93%	74%	88%	82%	92%	90%	87%
	<b>6 - 10 years</b>	36%	6%		13%	10%	18%	8%	5%	13%
	<b>10+ years</b>	10%		7%	13%	2%			5%	
<b>Highest qualification</b>	<b>Degree-level or above</b>	19%	33%	12%	20%	54%	52%	40%	28%	41%
	<b>Another qualification</b>	81%	67%	88%	80%	46%	48%	60%	72%	59%

<sup>9</sup> PPI (2017)

**Table 1.1b: Millennial clustering, retirement saving attitudes**

Cluster		Millennials, male				Millennials, female				
		Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Safest way to save for retirement	Pension scheme	23%	29%	11%	9%	43%	19%	35%	55%	30%
	Property	55%	47%	48%	61%	32%	24%	45%	24%	29%
	Financial saving	17%	14%	41%	23%	21%	38%	18%	14%	28%
	Other (includes does not know)	5%	10%		8%	4%	19%	2%	7%	14%
Which will make the most of your money	Pension scheme	13%	34%	2%	1%	35%	31%	21%	23%	21%
	Property	68%	54%	65%	72%	38%	35%	37%	52%	38%
	Financial saving	14%	2%	34%	17%	18%	15%	42%	23%	21%
	Other (includes does not know)	3%	10%		9%	5%	19%	5%		27%
Expected sources of retirement income	State Pension	69%	28%	69%	66%	77%	50%	72%	69%	51%
	Private pension	25%	31%	46%	21%	35%	4%	39%	35%	23%
	Savings	52%	30%	47%	32%	59%	27%	39%	20%	40%
	From main residence	14%	2%	17%	18%	33%	16%	36%	13%	4%
	From another property	26%	10%	0%	21%	27%		14%	12%	4%
	From business	10%	22%	14%	12%	15%		25%	11%	5%
	From family / partner etc.	22%	29%	17%	10%	42%	27%	45%	22%	41%
Other (includes work, benefits, other savings)	16%	43%	41%	36%	22%	46%	18%	42%	29%	
Largest part of income during retirement	State Pension	10%	3%	6%	29%	12%		8%	38%	32%
	Private pension	22%	39%	9%	12%	11%		4%	22%	
	Savings	26%	1%	21%	16%	10%		15%	7%	10%
	From main residence	3%		20%	12%	16%	61%	13%	6%	6%
	From another property	13%	15%		11%	19%		3%	13%	4%
	From business	7%	22%		5%	3%		25%	5%	
	From family / partner etc.	12%	20%	27%	3%	27%	39%	32%	9%	31%
Other (includes work, benefits, other savings)	6%		18%	13%	3%				16%	
Saving enough for retirement	Yes	15%	8%		6%	12%		1%	6%	
	No	73%	88%	82%	75%	88%	81%	85%	90%	100%
	Don't know	12%	5%	18%	20%	0%	19%	14%	4%	0%

Table 1.1c: Millennial clustering, motives for current savings

Cluster		Millennials, male				Millennials, female				
		Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Reason for saving	For unexpected expenditures or rainy day	47%	53%	62%	65%	74%	21%	69%	26%	58%
	For other family members (including for gifts or inheritance)	9%		20%		14%		23%		
	To provide a regular income over the next 12 months	4%			5%			6%	2%	16%
	To provide income for retirement	10%			4%	6%		11%		
	To cover a planned expense in the future	46%	39%		7%	40%		18%	9%	20%
	For a deposit to buy property	6%	28%	5%	25%	10%		20%	43%	18%
	For holidays or other leisure recreation	36%	30%	29%	32%	66%	79%	44%	30%	68%
	To see my money grow or good interest rates or speculation	10%	24%			14%		18%	2%	17%
	Do not, spend all of income	5%	19%	17%	14%	24%			2%	11%
Other	11%			17%			12%	10%	11%	
Reason for not saving	Want to pay off debts first	23%	11%	4%	39%		3%	26%	15%	14%
	Have not thought about it	14%	37%	3%	12%	1%	13%	4%	13%	24%
	Do not need to save	4%						3%		
	Too late to start saving									
	Would lose out on benefits			4%						
	Have an offset mortgage									
	Cannot afford to	57%	63%	100%	52%	99%	62%	91%	78%	74%
	Intended to, but debts too high	8%					22%	16%	9%	
	Other	6%	19%		4%					11%
Do not know	4%									

- The segments with access to the greatest wealth (cluster 2, men and women) are less likely to believe that property is either the safest way or makes the most of their money when saving for retirement. They are less likely to list the State Pension as a potential source of retirement income, potentially demonstrating a greater independence.
- The segments of men with the least accumulated wealth (cluster 4) do not believe in pensions and tend to be prevented from saving by not having the money available. While many expect their income in retirement to largely come from the State, a higher proportion than any other cluster expect to take the largest part of their income from property.
- Women tend to hold a higher level of qualification than men and are more likely to believe in pensions than men.
- Gender roles are becoming apparent for women, including married women working reduced hours who are expecting to receive retirement income support from a spouse or partner (cluster 5).

**Detailed results: Generation X**

Generation X has been clustered into seven (men) and six (women) groups. The greater number of clusters reflects the greater variation within the generation. This stems from the more complex histories individuals have to get to their current state. Key metrics used in the clustering process have resulted in groups of have and have nots which exposes their differing attitudes to retirement income and current saving [Tables 1.2a-c].

**Table 1.2a: Generation X clustering, core variables**

		Generation X, male							Generation X, female					
Cluster analysis	Cluster	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6
		People in the cluster	135,000	14,000	116,000	104,000	297,000	113,000	178,000	117,000	63,000	58,000	81,000	58,000
	Housing costs	<i>Paying a mortgage</i>	<i>Paying a mortgage</i>	<i>Paying a mortgage</i>	<i>Own it</i>	<i>Paying a mortgage</i>	<i>Paying a mortgage</i>	<i>Rent and other</i>	<i>Rent and other</i>	<i>Paying a mortgage</i>	<i>Paying a mortgage</i>	<i>Paying a mortgage</i>	<i>Own it</i>	<i>Paying a mortgage</i>
	Single or married	<i>Married</i>	<i>Single</i>	<i>Married</i>	<i>Married</i>	<i>Married</i>	<i>Single</i>	<i>Single</i>	<i>Single</i>	<i>Married</i>	<i>Single</i>	<i>Married</i>	<i>Married</i>	<i>Married</i>
	Full-time or part-time	<i>Full-time</i>	<i>Full-time</i>	<i>Part-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Part-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Part-time</i>	<i>Part-time</i>
	Currently contributing to a private pension	Yes	No	No	No	No	No	No	No	Yes	No	No	No	No
	Property wealth	£120,000	£570,000	£48,000	£250,000	£100,000	£76,000	£0	£0	£160,000	£60,000	£131,000	£390,000	£203,000
	Pension value	£45,900	£230,000	£14,100	£71,300	£34,800	£11,800	£700	£1,700	£103,500	£33,000	£82,600	£132,200	£73,800
	Other wealth	£76,500	£353,900	£35,200	£100,500	£60,600	£38,200	£21,200	£38,100	£83,700	£45,400	£61,200	£120,000	£94,900
Median Wealth	Total property wealth	£120,000	£570,000	£48,000	£250,000	£100,000	£76,000	£0	£0	£160,000	£60,000	£131,000	£390,000	£203,000
	Total household pension value	£45,900	£230,000	£14,100	£71,300	£34,800	£11,800	£700	£1,700	£103,500	£33,000	£82,600	£132,200	£73,800
	Household net financial wealth	£7,200	£35,500	£500	£55,000	£3,200	£1,000	£100	£1,000	£16,900	£5,000	£3,400	£45,100	£16,500
	Total physical wealth	£52,000	£132,800	£37,000	£50,000	£52,000	£38,000	£18,000	£27,100	£66,700	£44,500	£55,500	£57,600	£68,100
	Total household wealth	£292,700	£1,823,400	£156,900	£541,300	£227,100	£150,100	£28,800	£46,900	£415,100	£150,100	£350,500	£728,000	£406,600
Hours worked per week	0 - 10 hours		13%	24%	1%	1%	1%		19%	13%	8%		13%	45%
	11 - 30 hours	5%	12%	74%	13%	5%	7%	17%	42%	25%	45%	17%	41%	51%
	31 - 40 hours	31%	37%		44%	38%	50%	33%	19%	32%	27%	45%	15%	
	40+ hours	64%	38%	3%	43%	57%	42%	51%	20%	29%	21%	38%	31%	4%
Years in self-employment	0 - 5 years	44%	28%	60%	35%	59%	55%	55%	73%	33%	58%	60%	18%	63%
	6 - 10 years	2%	41%	22%	24%	20%	17%	26%	21%	21%	20%	30%	18%	8%
	10+ years	54%	31%	17%	41%	22%	28%	18%	6%	46%	22%	10%	63%	29%
Highest qualification	Degree-level or above	21%	42%	33%	36%	35%	22%	26%	41%	40%	28%	41%	58%	50%
	Another qualification	79%	58%	67%	64%	65%	78%	74%	59%	60%	72%	59%	42%	50%

Table 1.2b: Generation X clustering, retirement saving attitudes

Cluster		Generation X, male							Generation X, female					
		Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6
Safest way to save for retirement	Pension scheme	43%	38%	26%	31%	26%	12%	23%	26%	40%	16%	24%	21%	28%
	Property	44%	35%	48%	40%	54%	60%	36%	35%	32%	47%	38%	39%	47%
	Financial saving	11%	22%	15%	23%	15%	21%	28%	32%	21%	35%	35%	39%	14%
	Other (includes does not know)	2%	6%	10%	5%	4%	6%	13%	7%	7%	2%	4%	2%	10%
Which will make the most of your money	Pension scheme	29%	38%	29%	26%	13%	9%	10%	15%	31%	14%	15%	10%	18%
	Property	56%	33%	47%	41%	68%	59%	57%	52%	39%	59%	47%	52%	61%
	Financial saving	14%	29%	11%	25%	14%	22%	22%	24%	25%	25%	30%	36%	16%
	Other (includes does not know)	2%		14%	8%	4%	10%	11%	9%	5%	2%	8%	2%	5%
Expected sources of retirement income	State Pension	92%	84%	68%	83%	75%	73%	75%	76%	86%	79%	89%	63%	78%
	Private pension	90%	86%	30%	41%	39%	33%	27%	33%	89%	33%	34%	49%	50%
	Savings	42%	75%	26%	51%	36%	30%	26%	30%	52%	22%	31%	48%	54%
	From main residence	26%	57%	28%	39%	36%	18%	7%	10%	29%	35%	34%	45%	45%
	From another property	16%	22%	10%	20%	17%	27%	5%	6%	21%	17%	9%	19%	15%
	From business	20%	35%	10%	17%	20%	30%	19%	14%	30%	10%	32%	13%	20%
	From family / partner etc.	33%	7%	22%	27%	23%	16%	25%	31%	38%	26%	32%	44%	56%
Other (includes work, benefits, other savings)	24%	13%	44%	35%	32%	13%	41%	31%	33%	34%	15%	20%	19%	
Largest part of income during retirement	State Pension	19%		30%	24%	17%	27%	24%	40%	17%	18%	14%	5%	9%
	Private pension	36%	36%	16%	20%	14%	14%	15%	14%	31%	1%	15%	14%	23%
	Savings	9%	38%	9%	18%	15%	8%	13%	9%	8%	8%	11%	11%	14%
	From main residence	15%		19%	9%	18%	5%	1%	5%	7%	16%	15%	9%	15%
	From another property	7%	14%	5%	6%	12%	26%	8%	5%	9%	15%	6%	7%	9%
	From business	2%		5%	5%	11%	8%	8%	3%	9%	11%	17%	11%	4%
	From family / partner etc.	7%		1%	13%	10%	8%	13%	15%	12%	6%	15%	39%	25%
Other (includes work, benefits, other savings)	4%	13%	15%	5%	2%	4%	18%	9%	7%	25%	6%	5%	2%	
Saving enough for retirement	Yes	30%	44%	12%	25%	14%	27%	4%	3%	26%	13%	12%	15%	19%
	No	62%	47%	80%	69%	79%	72%	86%	94%	58%	85%	80%	80%	78%
	Don't know	8%	9%	8%	6%	7%	2%	10%	2%	16%	2%	9%	5%	4%

**Table 1.2c: Generation X clustering, motives for current savings**

Cluster		Generation X, male							Generation X, female					
		Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6
Reason for saving	For unexpected expenditures or rainy day	62%	55%	52%	81%	53%	74%	34%	62%	72%	65%	73%	63%	57%
	For other family members (including for gifts or inheritance)	5%	5%	13%	14%	15%	17%	12%	9%	25%	10%	15%	18%	24%
	To provide a regular income over the next 12 months	7%		3%	11%	10%	17%		21%	8%		17%	12%	11%
	To provide income for retirement	21%	77%	7%	42%	23%	21%	4%	28%	25%	23%	5%	23%	17%
	To cover a planned expense in the future	22%	33%	26%	34%	42%	17%	24%	17%	39%	18%	21%	48%	34%
	For a deposit to buy property	11%		25%	5%	15%	10%	14%	10%	12%	14%	5%	0%	9%
	For holidays or other leisure recreation	57%	33%	25%	29%	54%	34%	58%	30%	64%	23%	48%	54%	50%
	To see my money grow or good interest rates or speculation	4%	5%	6%	28%	6%	22%	3%	10%	15%	4%	5%	8%	4%
	Do not, spend all of income	6%	5%	3%	18%	8%	6%	23%	7%	2%	4%	5%	6%	2%
Other	2%	28%	13%	2%	6%		10%	18%	1%	8%	11%		2%	
Reason for not saving	Want to pay off debts first	36%	8%	5%	22%	29%	22%	21%	18%	18%	32%	28%		16%
	Have not thought about it	9%		2%	2%	4%	7%	3%	7%	7%		7%		8%
	Do not need to save	4%	32%		1%	2%	3%	1%	2%			10%		7%
	Too late to start saving				13%		3%							
	Would lose out on benefits			3%				1%						
	Have an offset mortgage					3%				4%		2%		1%
	Cannot afford to	48%	60%	86%	78%	75%	66%	74%	71%	72%	87%	63%	82%	61%
	Intended to, but debts too high	14%		5%	11%	8%	3%	15%	2%	15%	4%	12%		
	Other	21%	11%	5%	2%	7%	15%	11%	5%	14%	7%	7%	18%	22%
Do not know			2%					7%						

- The wealthiest men (cluster 2) are more likely to rely upon financial savings alongside pensions in retirement. However, this does not represent a large number of the self-employed population.
- The largest cluster of men (cluster 5) have been self-employed for less time than average (59% have been self-employed for no more than five years).
- Women, particularly married women in more affluent clusters, are more likely to depend upon a spouse for retirement income.
- Clusters of women working part-time tend to be wealthier. This implies that working part-time is more likely to be available as a matter of choice without financial pressure.

### Detailed results: Baby Boomers

Baby Boomers has been clustered into seven (men) and nine (women) groups. The greater number of clusters reflects the greater variation within the generation. [Tables 1.3a-c].

**Table 1.3a: Baby Boomer clustering, core variables**

Cluster analysis	Cluster	Baby Boomers, male							Baby Boomers, female								
		Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 8	Cluster 9
	<b>People in the cluster</b>	234,000	32,000	196,000	251,000	193,000	238,000	200,000	86,000	43,000	67,000	73,000	13,000	54,000	87,000	147,000	70,000
	<b>Housing costs</b>	<i>Own it</i>	<i>Own it</i>	<i>Paying a mortgage</i>	<i>Own it</i>	<i>Paying a mortgage</i>	<i>Own it</i>	<i>Rent and other</i>	<i>Rent and other</i>	<i>Own it</i>	<i>Paying a mortgage</i>	<i>Paying a mortgage</i>	<i>Own it</i>	<i>Paying a mortgage</i>	<i>Own it</i>	<i>Own it</i>	<i>Own it</i>
	<b>Single or married</b>	<i>Married</i>	<i>Married</i>	<i>Married</i>	<i>Married</i>	<i>Married</i>	<i>Single</i>	<i>Single</i>	<i>Single</i>	<i>Married</i>	<i>Single</i>	<i>Married</i>	<i>Married</i>	<i>Married</i>	<i>Married</i>	<i>Married</i>	<i>Single</i>
	<b>Full-time or part-time</b>	<i>Part-time</i>	<i>Part-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Part-time</i>	<i>Part-time</i>	<i>Full-time</i>	<i>Part-time</i>	<i>Part-time</i>	<i>Full-time</i>	<i>Full-time</i>	<i>Part-time</i>	<i>Part-time</i>
	<b>Currently contributing to a private pension</b>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
	<b>Property wealth</b>	£255,000	£1,366,000	£308,000	£275,000	£187,000	£190,000	£0	£0	£300,000	£155,000	£302,000	£2,320,000	£200,000	£349,000	£383,000	£340,000
	<b>Pension value</b>	£236,500	£375,000	£178,500	£138,500	£88,500	£80,800	£2,800	£0	£198,700	£35,000	£220,600	£1,796,800	£245,500	£183,400	£266,500	£109,600
	<b>Other wealth</b>	£118,000	£1,639,400	£142,000	£122,600	£82,100	£76,500	£18,100	£25,200	£149,900	£46,100	£115,800	£1,172,900	£68,000	£124,600	£213,700	£123,700
Median Wealth	<b>Total property wealth</b>	£255,000	£1,366,000	£308,000	£275,000	£187,000	£190,000	£0	£0	£300,000	£155,000	£302,000	£2,320,000	£200,000	£349,000	£383,000	£340,000
	<b>Total household pension value</b>	£236,500	£375,000	£178,500	£138,500	£88,500	£80,800	£2,800	£0	£198,700	£35,000	£220,600	£1,796,800	£245,500	£183,400	£266,500	£109,600
	<b>Household net financial wealth</b>	£44,800	£1,433,000	£42,800	£48,900	£8,600	£23,600	£300	£200	£82,400	£400	£24,600	£992,400	£3,800	£40,900	£128,400	£46,200
	<b>Total physical wealth</b>	£57,500	£203,500	£68,000	£58,000	£53,000	£47,100	£16,800	£25,000	£66,500	£39,700	£63,600	£335,200	£64,000	£66,000	£67,500	£56,000
	<b>Total household wealth</b>	£748,400	£4,307,100	£728,200	£650,200	£410,400	£452,700	£47,300	£44,800	£723,100	£295,900	£663,000	£6,707,000	£495,400	£739,900	£1,109,500	£730,800
Hours worked per week	<b>0 - 10 hours</b>	29%	12%				9%		9%	15%	3%	18%	6%	0%	2%	50%	35%
	<b>11 - 30 hours</b>	59%	48%	14%	15%	9%	25%	11%	53%	43%	27%	73%	42%	18%	8%	42%	34%
	<b>31 - 40 hours</b>	3%	6%	33%	44%	45%	30%	42%	4%	21%	26%	5%	23%	33%	63%		16%
	<b>40+ hours</b>	9%	34%	52%	40%	47%	37%	47%	33%	21%	43%	4%	29%	49%	27%	8%	15%
Years in self-employment	<b>0 - 5 years</b>	46%	43%	20%	23%	37%	26%	54%	37%	14%	46%	49%	100%	44%	64%	29%	53%
	<b>6 - 10 years</b>	18%	4%	5%	9%	6%	15%	9%			4%	17%		17%		24%	8%
	<b>10+ years</b>	36%	54%	76%	68%	56%	58%	36%	63%	86%	51%	34%		39%	36%	47%	38%
Highest qualification	<b>Degree-level or above</b>	47%	54%	38%	32%	32%	29%	28%	35%	41%	33%	44%	67%	20%	28%	46%	52%
	<b>Another qualification</b>	53%	46%	62%	68%	68%	71%	72%	65%	59%	67%	56%	33%	80%	72%	54%	48%

**Table 1.3b: Baby Boomer clustering, retirement saving attitudes**

		Baby Boomers, male							Baby Boomers, female								
Safest way to save for retirement	Pension scheme	34%	35%	28%	32%	29%	29%	23%	24%	22%	37%	42%	47%	45%	19%	24%	38%
	Property	39%	54%	47%	47%	42%	47%	34%	34%	57%	44%	34%	45%	37%	41%	45%	39%
	Financial saving	18%	9%	19%	17%	20%	17%	26%	18%	16%	13%	16%	8%	12%	33%	25%	22%
	Other (includes does not know)	8%	1%	6%	4%	9%	6%	16%	24%	5%	6%	8%		7%	7%	6%	1%
Which will make the most of your money	Pension scheme	21%	33%	17%	24%	20%	20%	19%	16%	5%	28%	25%	28%	22%	16%	13%	20%
	Property	51%	55%	53%	45%	55%	55%	42%	33%	66%	48%	41%	45%	53%	56%	61%	43%
	Financial saving	19%	10%	25%	25%	15%	21%	23%	29%	29%	18%	26%	27%	17%	28%	22%	19%
	Other (includes does not know)	9%	1%	5%	6%	11%	4%	16%	22%	1%	6%	9%		8%		4%	19%
Expected sources of retirement income	State Pension	91%	83%	95%	91%	82%	88%	82%	88%	96%	87%	74%	94%	90%	96%	90%	99%
	Private pension	62%	73%	94%	57%	51%	64%	28%	17%	86%	41%	47%	88%	39%	35%	49%	60%
	Savings	48%	79%	52%	44%	35%	46%	14%	18%	67%	27%	44%	70%	22%	48%	53%	72%
	From main residence	21%	9%	37%	25%	43%	31%	7%	7%	45%	59%	57%	34%	54%	48%	24%	31%
	From another property	11%	40%	25%	10%	22%	11%	3%	4%	30%	7%	23%	13%	23%	18%	18%	21%
	From business	21%	50%	28%	19%	19%	17%	9%	17%	14%	10%	8%	5%	20%	11%	15%	14%
	From family / partner etc.	19%	20%	26%	15%	21%	14%	7%	16%	34%	20%	35%	8%	23%	28%	32%	22%
	Other (includes work, benefits, other savings)	31%	13%	29%	23%	28%	29%	32%	25%	28%	33%	23%	5%	12%	13%	36%	26%
Largest part of income during retirement	State Pension	25%	2%	21%	30%	14%	28%	31%	53%	26%	27%	26%		19%	30%	31%	30%
	Private pension	53%	40%	38%	26%	24%	29%	26%	18%	20%	15%	14%	62%	10%	14%	19%	33%
	Savings	5%	24%	5%	17%	12%	9%	1%	7%	10%	8%	13%	30%		23%	7%	8%
	From main residence	3%		8%	2%	15%	11%	1%	1%	8%	33%	17%		35%	10%	4%	13%
	From another property	2%	7%	7%	7%	12%	5%	4%	2%	17%	5%	2%		14%	12%	6%	10%
	From business	5%	20%	9%	10%	7%	8%	15%	4%	2%	5%	2%		17%	2%	7%	
	From family / partner etc.	2%	6%	6%	1%	3%	1%	0%	9%	16%	3%	22%	8%		8%	26%	3%
	Other (includes work, benefits, other savings)	6%	2%	6%	7%	13%	9%	21%	7%	1%	3%	5%		6%	1%		2%
Saving enough for retirement	Yes	36%	84%	32%	34%	26%	30%	12%	13%	41%	9%	22%	65%	23%	34%	47%	32%
	No	56%	12%	56%	62%	69%	60%	78%	84%	52%	88%	67%	35%	70%	66%	46%	68%
	Don't Know	7%	3%	12%	4%	5%	10%	10%	3%	7%	4%	11%		6%		8%	

Table 1.3c: Generation X clustering, motives for current savings

		Baby Boomers, male							Baby Boomers, female								
Reason for saving	For unexpected expenditures or rainy day	63%	29%	59%	55%	67%	61%	54%	53%	49%	48%	87%	36%	70%	56%	71%	70%
	For other family members (including for gifts or inheritance)	26%	35%	22%	25%	18%	12%	5%	18%	20%	9%	19%	49%	32%	14%	46%	25%
	To provide a regular income over the next 12 months	9%	35%	10%	8%	5%	10%	18%	24%	6%	5%		19%		35%	10%	2%
	To provide income for retirement	34%	67%	59%	36%	27%	35%	25%	13%	55%	14%	45%	52%	8%	39%	39%	28%
	To cover a planned expense in the future	32%	30%	18%	29%	30%	24%	11%	27%	37%	24%	25%	41%	28%	44%	34%	34%
	For a deposit to buy property	0%	12%	5%	5%	1%	4%	7%	16%			8%	8%	4%		1%	
	For holidays or other leisure recreation	57%	42%	46%	46%	34%	34%	28%	25%	61%	40%	33%	52%	91%	36%	55%	38%
	To see my money grow or good interest rates or speculation	19%	38%	17%	16%	11%	13%		9%	28%	9%	7%	34%	21%	26%	21%	4%
	Do not, spend all of income	15%	11%	7%	18%	9%	11%	6%		18%	16%	4%	17%	12%	9%	17%	10%
	Other	4%	6%	2%	1%	7%	7%	3%			2%	8%			3%	1%	4%
Reason for not saving	Want to pay off debts first	9%	11%	22%	12%	22%	21%	14%	18%	8%	29%	30%		25%	13%	5%	6%
	Have not thought about it	8%		6%	7%	9%		3%	3%	7%	6%	10%			7%	8%	0%
	Do not need to save	15%	40%	10%	13%	4%	8%	1%	4%	8%		9%			20%	17%	21%
	Too late to start saving	2%			2%	3%	1%	2%	7%						7%	1%	9%
	Would lose out on benefits							1%									
	Have an offset mortgage	1%		4%		2%	1%					1%					
	Cannot afford to	55%		55%	63%	64%	60%	79%	79%	64%	65%	51%	50%	49%	45%	52%	51%
	Intended to, but debts too high	12%		2%	4%	4%	3%	10%	13%	6%	4%	8%					
	Other	6%	50%	15%	12%	6%	10%	7%	4%	19%	11%	10%	28%	23%	17%	22%	25%
	Do not know	2%				2%	1%	1%					23%	5%			

- The wealthiest men (cluster 2) are people who may have reduced to working part-time. They are less likely to save for unexpected expenditures, as they have accumulated wealth available.
- Men who work part-time (clusters 1 & 2) are higher educated and likely to be more recent entrants to self-employment, potentially tapering into retirement.
- The choice of variables used to perform the analysis has had the effect that women who do not believe in pensions have tended to be grouped around their expected sources of income in retirement:
  - E.g. cluster 1 around the State Pension, cluster 8 around family support

## Chapter two: comparing the self-employed population to the automatic enrolment thresholds

The self-employed population was compared to the current automatic enrolment thresholds.

That is annual earnings of at least £10,000 and aged between 22 and State Pension age (SPa).

Similar patterns are observed between the datasets; however there is a significant gap between the population that can be assessed within the datasets and the entire self-employed population.

### The self-employed who meet the eligibility thresholds

#### **Labour Force Survey data**

The Labour Force Survey (LFS) data does not include earnings amounts for the self-employed. However, the data is the most up to date assessment of the number of self-employed, with 4.6 million self-employed individuals meeting the age criteria [Table 2.1].

**Table 2.1, Number of self-employed aged between 22 and SPa<sup>10</sup>**

		Gender		Total
		Men	Women	
Generation	Millennials	600,000	300,000	<b>1,000,000</b>
	Generation X	1,200,000	700,000	<b>1,800,000</b>
	Baby Boomers	1,300,000	600,000	<b>1,800,000</b>
Total		<b>3,100,000</b>	<b>1,600,000</b>	<b>4,600,000</b>

Data from other sources demonstrates a clear gap between the datasets.

#### **Family Resources Survey data**

Data from the Family Resources Survey (FRS) is not as current (2015-16). There is an effective gap of around 1 million individuals to the current level of self-employment, made up of:

- 100,000 net increase in the number of self-employed since the FRS data.
- 900,000 individuals who are:
  - Omitted by the weighting;
  - The recorded data is inadequate (generally missing income data).

It is not possible to assess whether these individuals would meet the criteria. The age criteria has been taken from age 20 to SPa, rather than from age 22 as this coincides with the age banding in the dataset. This will lead to a slight understatement of those who are ineligible due to being too young.

<sup>10</sup> PPI analysis of Labour Force Survey (ONS, 2017)

Of the 3.95 million individuals, 2.3 million meet the criteria. The rate of eligibility is higher amongst men than women [Table 2.2].

**Table 2.2, Number of self-employed meeting eligibility criteria<sup>11</sup>**

	Gender		Total
	Men	Women	
Eligible	1,741,000	556,000	2,298,000
Ineligible	930,000	725,000	1,655,000
<b>Total</b>	<b>2,672,000</b>	<b>1,281,000</b>	<b>3,953,000</b>
Eligibility rate	65%	43%	58%

Of the eligible individuals, 58% earn between £10,000 and £25,000 [Table 2.3].

**Table 2.3, Number of self-employed aged between 20 and SPa, earning at least £10,000<sup>12</sup>**

Earnings band (£s)	Generation			Total
	Millennials	Generation X	Baby Boomers	
10,000 - 15,000	123,000	212,000	235,000	569,000
15,000 - 20,000	107,000	155,000	150,000	412,000
20,000 - 25,000	95,000	126,000	130,000	351,000
25,000 - 30,000	51,000	89,000	106,000	246,000
30,000 - 35,000	32,000	61,000	29,000	123,000
35,000 - 40,000	42,000	54,000	43,000	139,000
40,000 - 45,000	11,000	51,000	22,000	84,000
More than 45,000	67,000	155,000	151,000	373,000
<b>Total</b>	<b>528,000</b>	<b>904,000</b>	<b>866,000</b>	<b>2,298,000</b>

### Wealth and Assets Survey data

Data from the Wealth and Assets Survey (WAS) as used in cluster analysis covers the survey period of 2012-14. There is an effective gap of around 1.5 million individuals to the current level of self-employment, made up of:

- 500,000 net increase in the number of self-employed since the FRS data
- 900,000 individuals who are:
  - Omitted by the weighting;
  - The recorded data is inadequate (generally missing income data).

<sup>11</sup> PPI analysis of Family Resources Survey (DWP, 2016)

<sup>12</sup> PPI analysis of Family Resources Survey (DWP, 2016)

It is not possible to assess whether these individuals would meet the criteria. The age criteria has been taken from age 20 to SPa, rather than from age 22 as this coincides with the age banding in the dataset. This will lead to a slight understatement of those who are ineligible due to being too young.

Of the 3.37 million individuals, 1.59 million meet the criteria. The rate of eligibility is higher amongst men than women [Table 2.4]. The WAS dataset shows a lower rate of eligibility than FRS for both men and women.

**Table 2.4, Number of self-employed meeting eligibility criteria<sup>13</sup>**

	Gender		Total
	Men	Women	
Eligible	1,372,000	405,000	1,778,000
Ineligible	950,000	638,000	1,588,000
<b>Total</b>	<b>2,323,000</b>	<b>1,043,000</b>	<b>3,366,000</b>
Eligibility rate	59%	39%	53%

Of the eligible individuals, 60% earn between £10,000 and £25,000 [Table 2.5]. The distributions of income within the two datasets are similar and reflect that many individuals do not meet the eligibility due to low earnings.

**Table 2.5, Number of self-employed aged between 20 and SPa, earning at least £10,000<sup>14</sup>**

Earnings band (£s)	Generation			Total
	Millennials	Generation X	Baby Boomers	
10,000 - 15,000	130,000	153,000	170,000	453,000
15,000 - 20,000	98,000	134,000	94,000	327,000
20,000 - 25,000	77,000	142,000	76,000	295,000
25,000 - 30,000	32,000	77,000	51,000	161,000
30,000 - 35,000	40,000	62,000	71,000	172,000
35,000 - 40,000	4,000	40,000	27,000	70,000
40,000 - 45,000	6,000	43,000	22,000	72,000
More than 45,000	31,000	97,000	98,000	227,000
<b>Total</b>	<b>419,000</b>	<b>749,000</b>	<b>610,000</b>	<b>1,778,000</b>

<sup>13</sup> PPI analysis of Wealth and Assets Survey (ONS, 2016)

<sup>14</sup> PPI analysis of Wealth and Assets Survey (ONS, 2016)

## The self-employed who do not meet the eligibility thresholds

### **Labour Force Survey data**

Of the 1,071,000 self-employed individuals who fall outside of the eligible age band, only 78,000 are under 22 years old. The other 992,000 individuals are working as self-employed beyond State Pension age.

### **Family Resources Survey data**

Within the FRS dataset 1,655,000 self-employed individuals are identified as not meeting the eligibility criteria. This represents 42% of the self-employed population where there is adequate information to assess eligibility. The criteria which excludes most is the earnings criteria:

- Of the 1,655,000 individuals who do not meet the criteria:
  - 199,000 are excluded by only the age criteria;
  - 1,279,000 are excluded by only the earnings criteria;
  - 177,000 are excluded by both age and earnings criteria.

### **Wealth and Assets Survey data**

Within the WAS dataset 1,588,000 self-employed individuals are identified as not meeting the eligibility criteria. This represents 47% of the self-employed population where there is adequate information to assess eligibility. The criteria which excludes most is the earnings criteria:

- Of the 1,588,000 individuals who do not meet the criteria:
  - 198,000 are excluded by only the age criteria;
  - 1,239,000 are excluded by only the earnings criteria;
  - 150,000 are excluded by both age and earnings criteria.

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Legal and General  
NEST  
Standard Life Group  
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