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Modelling the need for advice on social welfare

Methodological note

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Modelling the need for advice on social welfare

Methodological note

Wavehill Ltd in partnership with The Civic Research Initiative

wavehill

social and economic research
ymchwil cymdeithasol ac economaidd

the civic
research
initiative

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Views expressed in this report are those of the researcher and not necessarily those of the Welsh Government

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1. Guide for Producing Estimates of Justiciable Problems

1.1 This Annex provides a guide for producing estimates of the number of justiciable problems for local authorities in Wales. Instructions are given for estimating five different categories of justiciable problems:

- Debt problems
- Benefits problems
- Employment problems
- Consumer and finance problems
- Housing and neighbour problems

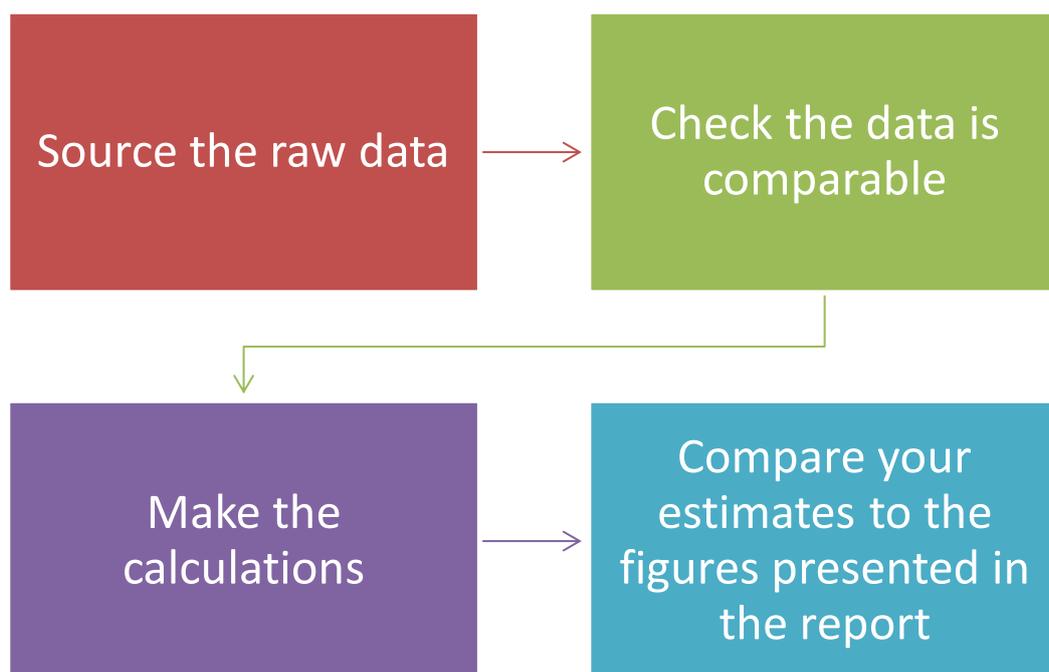
1.2 Once estimates have been made for the number of problems in each category, the figures can be added together to give an estimate of the total number of problems in a local authority. The instructions also allow estimates to be made of the number of problems within each of the five categories which may involve discrimination. Estimates can be made for either a single or for multiple local authorities.

1.3 The estimates are made by applying mathematical formulas to demographic and economic figures which can be sourced from publicly available datasets. The formulas are the result of several rounds of regression analysis but it is not necessary to repeat the regression analysis itself in order to update the estimates, simply apply the formulas provided.

1.4 Although the formulas themselves are quite long, they are reasonably straightforward to apply. However, the process does require the manipulation of survey data containing many thousands of records. It is recommended that the instructions are carried out by analysts who have experience of handling data from large national surveys and some expertise in statistical software packages such as SPSS, R, Stata or S+ (the instructions can be performed in Excel, but will be more time consuming and prone to error).

1.5 Locating the right demographic and economic data, and formatting it in the correct way, is also critical in making the estimates. A list of all the variables needed is given in the Data Dictionary, along with SPSS syntax for deriving some variables from the National Survey for Wales. The process for creating the estimates is shown below followed by a description of each stage.

Figure 1.1: Process for making new estimates



- 1.6 **Source the raw data.** Before beginning calculations, make sure you have sourced all the necessary data. The Data Dictionary at the end of this guide contains a list of all the variables you will need. The first 16 variables are required at the individual level (i.e. they relate to personal characteristics, such as whether a person is employed) so you will need to be able to source this data for a large random sample of individuals within your local authority. In the estimates presented in the report the National Survey for Wales was used as the source of all 16 individual level variables. Variables 17 to 40 are area-level variables (i.e. they relate to the local authority in its totality – such as the unemployment rate) so there will only be one figure for each local authority you are making estimates for. Note that if you are only interested in one type of justiciable problem (e.g. housing) then you will not need to source *all* of the variables listed in the Data Dictionary. In this case, work backwards from the relevant formulas below to identify which variables you require in order to make estimates for the different types of justiciable problems.
- 1.7 **Check the data is comparable.** There are countless ways that datasets can be coded and expressed. It is therefore critical that the data you are using is approximately compatible with the data that was originally used to build the statistical models. The Data Dictionary explains how the data should be coded and a typical range of figures is given for the area-level variables. If your data does not fall within these ranges your data is probably not suitable to make the calculations with. It may

be that the data needs recoding, or it may be that it was collected in a different way (e.g. perhaps the wording of the survey question was different in a way which no longer makes it compatible with the original data). Whilst data is expected to change over time, and the calculations are not for the most part sensitive to small changes in individual variables, inaccurate estimates are likely to be the result of errors in this stage.

- 1.8 **Make the calculations.** The formulas below show how the calculations are made. Note that Variables 17, 18 and 19 are also derived by making calculations – these variables need to be calculated before making the final calculations at the area level. All the formulas work in a very similar way; pieces of data that you have sourced (such as the unemployment rate of your local authority) are each multiplied by coefficients. The products of these pairs of numbers are then added together. The exponent of this large number is then divided by one plus the exponent of the same number. It is this ratio which gives the justiciable problem rate (expressed as a number between 0 and 1). From this the total number of expected problems can be calculated in straightforward way.
- 1.9 **Compare your estimates to the figures presented in the report.** Data legitimately changes over time and small differences in the way data has been compiled across can also lead to slightly changed estimates. But if the estimates you have calculated are very far off the numbers presented in this report it is likely that there has been a mistake. Go back to the raw data and try to identify if they lie outside that ranges given in the Data Dictionary.

How to produce estimates of the number of justiciable debt problems in a local authority

Debt problem rate for local authority j

$$= \frac{\text{EXP}(\beta_{0j} + \beta_{1j}X_{1j} + \beta_{2j}X_{2j} + \beta_{3j}X_{3j} + \beta_{4j}X_{4j} + \beta_{5j}X_{5j} + \beta_{6j}X_{6j} + \beta_{7j}X_{7j} + \beta_{8j}X_{8j} + \beta_{9j}X_{9j})}{1 + \text{EXP}(\beta_{0j} + \beta_{1j}X_{1j} + \beta_{2j}X_{2j} + \beta_{3j}X_{3j} + \beta_{4j}X_{4j} + \beta_{5j}X_{5j} + \beta_{6j}X_{6j} + \beta_{7j}X_{7j} + \beta_{8j}X_{8j} + \beta_{9j}X_{9j})}$$

where

$$\beta_{0j} = -3.130410$$

$$\beta_{1j} = 2.276300$$

X_{1j} = the average individual risk factor of experiencing a debt problem (Variable 19, see Data Dictionary) in local authority j

$$\beta_{2j} = -10.687139$$

X_{2j} = the average individual risk factor of experiencing an employment problem (Variable 18, see Data Dictionary) in local authority j

$$\beta_{3j} = 19.862177$$

X_{3j} = the average individual risk factor of experiencing a benefits problem (Variable 17, see Data Dictionary) in local authority j

$$\beta_{4j} = 2.973015$$

X_{4j} = the proportion of people working in an elementary or plant job (Variable 21, see Data Dictionary) in local authority j

$$\beta_{5j} = -1.340707$$

X_{5j} = the proportion of people renting in the private sector (Variable 37, see Data Dictionary) in local authority j

$$\beta_{6j} = -0.097595$$

X_{6j} = the average number of people in a household (Variable 24, see Data Dictionary) in local authority j

$$\beta_{7j} = -1.508751$$

X_{7j} = the proportion of people with a long term limiting illness (Variable 23, see Data Dictionary) in local authority j

$$\beta_{8j} = 2.895545$$

X_{8j} = the proportion of people reporting difficulty paying bills (Variable 31, see Data Dictionary) in local authority j

$$\beta_{9j} = -0.078205$$

X_{9j} = the unemployment rate (Variable 20, see Data Dictionary) in local authority j

Example: Anglesey

	B	X	BX
0 Constant	-3.1304	1	-3.13041
1 Debt Risk Factor	2.2763	0.103	0.234459
2 Employment Risk Factor	-10.6871	0.069	-0.73741
3 Benefits Risk Factor	19.86218	0.105	2.085529
4 Elementary and plant workers	2.973015	0.172	0.511359
5 Private renders	-1.34071	0.1456	-0.19521
6 Number in household	-0.0976	2.7686	-0.2702
7 Long term illness	-1.50875	0.3115	-0.46998
8 Debt problems	2.895545	0.0276	0.079917
9 Unemployment rate	-0.07821	5.7	-0.44577
			<u>-2.33771</u>

$$\frac{EXP(-2.33771)}{(1 + (EXP(2.33771)))} = .088$$

SPSS Syntax (having first derived the variables):

```
COMPUTE Debt_rate=EXP(-3.130410+(Unemploy_rate*-0.078205)+
(Experiencedebtproblems*2.895545)+(Longtermlimitingillness*-1.508751)+(NumPep_tc*-
0.097595)+(Private_sector_rent*-1.340707)+
(Elementary_and_plant*2.973015)+(Benefits_probabilities*19.862177)+(Employment_probabilities*-
10.687139)+(Debt_probabilities*2.276300))
/(1+EXP(-3.130410+(Unemploy_rate*-0.078205)+
(Experiencedebtproblems*2.895545)+(Longtermlimitingillness*-1.508751)+(NumPep_tc*-
0.097595)+(Private_sector_rent*-1.340707)+
(Elementary_and_plant*2.973015)+(Benefits_probabilities*19.862177)+(Employment_probabilities*-
10.687139)+(Debt_probabilities*2.276300))).
EXECUTE.
```

- 1.10 The formula above produces estimates of the prevalence rate of justiciable debt problems, expressed as a value between 0 and 1. To get an estimate of the total number of justiciable debt problems, multiply this prevalence rate by the number of residents aged 16 or over within the local authority, and then multiply by 0.952.
- 1.11 To estimate the number of debt problems which may involve discrimination, multiply the total number of debt problems by 0.034.
- 1.12 The number of debt problems which require specialist advice can be estimated by multiplying the total number of debt problems by 0.83. Similarly, the number of debt problems which would benefit from preventative advice can be estimated by multiplying the total number of debt problems by 0.81.

How to produce estimates of the number of justiciable benefits problems in a local authority

Benefit problem rate for local authority j

$$= \frac{EXP(\beta_{0j} + \beta_{1j}X_{1j} + \beta_{2j}X_{2j} + \beta_{3j}X_{3j} + \beta_{4j}X_{4j} + \beta_{5j}X_{5j} + \beta_{6j}X_{6j} + \beta_{7j}X_{7j})}{1 + EXP(\beta_{0j} + \beta_{1j}X_{1j} + \beta_{2j}X_{2j} + \beta_{3j}X_{3j} + \beta_{4j}X_{4j} + \beta_{5j}X_{5j} + \beta_{6j}X_{6j} + \beta_{7j}X_{7j})}$$

where

$$\beta_{0j} = -0.836927$$

$$\beta_{1j} = 5.028091$$

X_{1j} = the average individual risk factor of experiencing a debt problem (Variable 19) in local authority j

$$\beta_{2j} = -30.579620$$

X_{2j} = the average individual risk factor of experiencing an employment problem (Variable 18) in local authority j

$$\beta_{3j} = 26.606672$$

X_{3j} = the average individual risk factor of experiencing a benefits problem (Variable 17) in local authority j

$$\beta_{4j} = -0.870150$$

X_{4j} = the proportion of people renting in the public sector (Variable 38) in local authority j

$$\beta_{5j} = -0.427670$$

X_{5j} = the average number of people in a household (Variable 24) in local authority j

$$\beta_{6j} = -1.887772$$

X_{6j} = the proportion of people reporting difficulty paying bills (Variable 31) in local authority j

$$\beta_{7j} = -1.072406$$

X_{7j} = the average economic status of people (Variable 30) in local authority j (where 1=unknown, 2=inactive and 3=active)

SPSS Syntax:

```
COMPUTE Benefits_rate=EXP(-0.836927+(Economicstatus*-1.072406)+(Experiencedebtproblems*-1.887772)+
(NumPep_tc*-0.427670)+(Public_sector_rent*-
0.870150)+(Benefits_probabilities*26.606672)+(Employment_probabilities*-30.579620)+
(Debt_probabilities*5.028091))
/(1+EXP(-0.836927+(Economicstatus*-1.072406)+(Experiencedebtproblems*-1.887772)+
(NumPep_tc*-0.427670)+(Public_sector_rent*-
0.870150)+(Benefits_probabilities*26.606672)+(Employment_probabilities*-30.579620)+
(Debt_probabilities*5.028091))).
EXECUTE.
```

- 1.13 The formula above produces estimates of the prevalence rate of justiciable benefits problems, expressed as a value between 0 and 1. To get an estimate of the total number of justiciable benefits problems, multiply this prevalence rate by the number of residents aged 16 or over within the local authority, and then multiply by 0. 0.9588.
- 1.14 To estimate the number of benefits problems which may involve discrimination, multiply the total number of benefits problems by 0.042.
- 1.15 The number of benefits problems which require specialist advice can be estimated by multiplying the total number of benefits problems by 0.78. Similarly, the number of benefits problems which may be improved through preventative advice can be estimated by multiplying the total number of benefits problems by 0.76.

How to produce estimates of the number of justiciable employment problems in a local authority

Employment problem rate for local authority j

$$= \frac{\text{EXP}(\beta_{0j} + \beta_{1j}X_{1j} + \beta_{2j}X_{2j} + \beta_{3j}X_{3j} + \beta_{4j}X_{4j} + \beta_{5j}X_{5j})}{1 + \text{EXP}(\beta_{0j} + \beta_{1j}X_{1j} + \beta_{2j}X_{2j} + \beta_{3j}X_{3j} + \beta_{4j}X_{4j} + \beta_{5j}X_{5j})}$$

where

$$\beta_{0j} = -5.261659$$

$$\beta_{1j} = 30.429512$$

X_{1j} = the average individual risk factor of experiencing an employment problem (Variable 18) in local authority j

$$\beta_{2j} = 2.219155$$

X_{2j} = the proportion of people with a long term limiting illness (Variable 23) in local authority j

$$\beta_{3j} = -1.221169$$

X_{3j} = the average economic status of people (Variable 30) in local authority j (where 1=unknown, 2=inactive and 3=active)

$$\beta_{4j} = 1.846241$$

X_{4j} = the proportion of people who have any academic qualifications (Variable 34) in local authority j

$$\beta_{5j} = 2.751214$$

X_{5j} = the proportion of people who are carers (Variable 33) in local authority j

$$\beta_{6j} = -0.006266$$

X_{6j} = the population density (Variable 32) in local authority j

SPSS Syntax

```
COMPUTE Employment_rate=EXP(-5.261659+(Populationdensity*-0.006266)+
(Acarer*2.751214)+(Academicqualifications*1.846241)+(Economicstatus*-1.221169)+
(Longtermlimitingillness*2.219155)+(Employment_probabilities*30.429512))
/(1+EXP(-5.261659+(Populationdensity*-0.006266)+(Carer*2.751214)+
(Academicqualifications*1.846241)+(Economicstatus*-1.221169)+
```

(Longtermlimitingillness*2.219155)+(Employment_probabilities*30.429512))).

EXECUTE.

- 1.16 The formula above produces estimates of the prevalence rate of justiciable employment problems, expressed as a value between 0 and 1. To get an estimate of the total number of justiciable employment problems, multiply this prevalence rate by the number of residents aged 16 or over within the local authority.
- 1.17 To estimate the number of employment problems which may involve discrimination, multiply the total number of employment problems by 0.082.
- 1.18 The number of employment problems which require specialist advice can be estimated by multiplying the total number of employment problems by 0.97. Similarly, the number of employment problems which would benefit from preventative advice can be estimated by multiplying the total number of employment problems by 0.44.

How to produce estimates of the number of justiciable consumer and finance problems in a local authority

Consumer and finance problem rate for local authority j

$$= \frac{EXP(\beta_{0j} + \beta_{1j}X_{1j} + \beta_{2j}X_{2j} + \beta_{3j}X_{3j} + \beta_{4j}X_{4j} + \beta_{5j}X_{5j} + \beta_{6j}X_{6j} + \beta_{7j}X_{7j} + \beta_{8j}X_{8j})}{1 + EXP(\beta_{0j} + \beta_{1j}X_{1j} + \beta_{2j}X_{2j} + \beta_{3j}X_{3j} + \beta_{4j}X_{4j} + \beta_{5j}X_{5j} + \beta_{6j}X_{6j} + \beta_{7j}X_{7j} + \beta_{8j}X_{8j})}$$

where

$$\beta_{0j} = -5.766997$$

$$\beta_{1j} = 6.131617$$

X_{1j} = the average individual risk factor of experiencing a debt problem (Variable 19) in local authority j

$$\beta_{2j} = -24.699817$$

X_{2j} = the average individual risk factor of experiencing an employment problem (Variable 18) in local authority j

$$\beta_{3j} = 15.283151$$

X_{3j} = the average individual risk factor of experiencing a benefits problem (Variable 17) in local authority j

$$\beta_{4j} = -5.324079$$

X_{4j} = the proportion of people who work in management or technical jobs (Variable 39) in local authority j

$$\beta_{5j} = -0.547346$$

X_{5j} = the average number of people in a household (Variable 24) in local authority j

$$\beta_{6j} = 2.928822$$

X_{6j} = the proportion of people who have any academic qualifications (Variable 34) in local authority j

$$\beta_{7j} = 2.110487$$

X_{7j} = the proportion of people who have access to private transport (Variable 22) in local authority j

$$\beta_{8j} = 0.009992$$

X_{8j} = the population density (Variable 32) in local authority j

SPSS Syntax:

```
COMPUTE Money_rate=EXP(-4.041413+(Populationdensity*0.009992)+(Region*-
1.725584)+(Transport*2.110487)+
(Academicqualifications*2.928822)+(NumPep_tc*-0.547346)+(Managers_and_technical*-5.324079)+
(Benefits_probabilities*15.283151)+(Employment_probabilities*-24.699817)+(Debt_probabilities*6.131617))
/(1+EXP(-4.041413+(Populationdensity*0.009992)+(Region*-1.725584)+(Transport*2.110487)+
(Academicqualifications*2.928822)+(NumPep_tc*-0.547346)+(Managers_and_technical*-5.324079)+
(Benefits_probabilities*15.283151)+(Employment_probabilities*-24.699817)+(Debt_probabilities*6.131617))).
EXECUTE.
```

- 1.19 The formula above produces estimates of the prevalence rate of justiciable consumer and finance problems, expressed as a value between 0 and 1. To get an estimate of the total number of justiciable consumer and finance problems, multiply this prevalence rate by the number of residents aged 16 or over within the local authority, and then multiply by 0.9953.
- 1.20 To estimate the number of consumer and finance problems which may involve discrimination, multiply the total number of consumer and finance problems by 0.045.
- 1.21 The number of consumer and finance problems which require specialist advice can be estimated by multiplying the total number of consumer and finance problems by

0.37. All consumer and finance problems are likely to benefit from preventative advice.

How to produce estimates of the number of justiciable housing and neighbour problems in a local authority

Housing problem rate for local authority j

$$= \frac{EXP(\beta_{0j} + \beta_{1j}X_{1j} + \beta_{2j}X_{2j} + \beta_{3j}X_{3j} + \beta_{4j}X_{4j} + \beta_{5j}X_{5j} + \beta_{6j}X_{6j} + \beta_{7j}X_{7j} + \beta_{8j}X_{8j})}{1 + EXP(\beta_{0j} + \beta_{1j}X_{1j} + \beta_{2j}X_{2j} + \beta_{3j}X_{3j} + \beta_{4j}X_{4j} + \beta_{5j}X_{5j} + \beta_{6j}X_{6j} + \beta_{7j}X_{7j} + \beta_{8j}X_{8j})}$$

where

$$\beta_{0j} = -10.383753$$

$$\beta_{1j} = 17.881393$$

X_{1j} = the average individual risk factor of experiencing a benefits problem (Variable 17) in local authority j

$$\beta_{2j} = 4.519091$$

X_{2j} = the ratio of the proportion of people who work in managerial jobs and the proportion of people who work in professional jobs (Variable 25), in local authority j

$$\beta_{3j} = 1.071329$$

X_{3j} = the proportion of people not identifying as White British/Welsh (Variable 36) in local authority j

$$\beta_{4j} = 1.774574$$

X_{4j} = the proportion of people born outside of the UK (Variable 35) in local authority j

$$\beta_{5j} = 11.436366$$

X_{5j} = the proportion of people working in elementary or plant jobs (Variable 21) in local authority j

$$\beta_{6j} = 10.001292$$

X_{6j} = the proportion of people working in administrative jobs (Variable 29) in local authority j

$$\beta_{7j} = 15.144852$$

X_{7j} = the proportion of people working in professional jobs (Variable 26) in local authority j

$$\beta_{8j} = -18.404190$$

X_{8j} = the proportion of people working in managerial jobs (Variable 28) in local authority j

SPSS Syntax:

```
COMPUTE Housing_rate=EXP(-10.383753+(Managers_directors_and_senior_officials*-18.404190)+
(Professional_occupations*15.144852)+(Secretarial_occupations*10.001292)+
(Elementary_occupations*11.436366)+(Countryofbirth*1.774574)+(Ethnicity*1.071329)+
(Ratio_directors_to_professionals*4.519091)+(Benefits_probabilities*17.881393))
/(1+EXP(-10.383753+(Managers_directors_and_senior_officials*-
18.404190)+(Professional_occupations*15.144852)+
(Secretarial_occupations*10.001292)+(Elementary_occupations*11.436366)+(Countryofbirth*1.774574)+(Ethnic
ity*1.071329)+
(Ratio_directors_to_professionals*4.519091)+(Benefits_probabilities*17.881393))).
EXECUTE.
```

- 1.22 The formula above produces estimates of the prevalence rate of justiciable housing and neighbour problems, expressed as a value between 0 and 1. To get an estimate of the total number of justiciable housing and neighbour problems, multiply this prevalence rate by the number of residents aged 16 or over within the local authority, and then multiply by 0.9767.
- 1.23 To estimate the number of housing and neighbour problems which may involve discrimination, multiply the total number of housing and neighbour problems by 0.026.
- 1.24 The number of housing and neighbour problems which require specialist advice can be estimated by multiplying the total number of housing and neighbour problems by 0.55. Similarly, the number of housing and neighbour problems which would benefit from preventative advice can be estimated by multiplying the total number of housing and neighbour problems by 0.47.

2. Data Dictionary

Individual level variables

- 2.1 The following data is required for a large random sample of individual within the local authority. All of these variables were available in the 2015 release of the National Survey for Wales (NSW) and are likely to be available from future releases.
- 2.2 Survey data should be weighted by probability (or sample) weights. For the NSW, this can be achieved through the variable SampleAdultWeigh (SPSS syntax: WEIGHT BY SampleAdultWeight).

Variable 1

Being married with no children

Whether or not the individual is married AND has no children.

Example source: NSW

Example syntax (SPSS, based on NSW 2015):

```
IF (DvHhType=2 & MarStat2=2) OR (DvHhType=5 & MarStat2=2) Married_couple_no_children=1. RECODE Married_couple_no_children (MISSING=0).
```

```
EXECUTE.
```

Variable 2

Being a lone parent

Whether or not the individual is a lone parent

Example source: NSW

Example syntax (SPSS, based on NSW 2015):

```
IF (DvHhType=6) Lone_parent=1.
```

```
RECODE Lone_parent (MISSING=0).
```

```
EXECUTE.
```

Variable 3

Being single with no children

Whether or not the individual is single AND has no children

Example source: NSW

Example syntax (SPSS, based on NSW 2015):

```
IF (DvHhType=1) OR (DvHhType=3) Single_no_children=1.
```

```
RECODE Single_no_children (MISSING=0).
```

```
EXECUTE.
```

Variable 4

Cohabiting with children

Whether or not the individual is cohabiting with children

Example source: NSW

Example syntax (SPSS, based on NSW 2015):

```
IF (DvHhType=4 & MarStat2<>2) Cohabiting_children=1.
```

```
RECODE Cohabiting_children (MISSING=0).
```

```
EXECUTE.
```

Variable 5

Cohabiting with no children

Whether or not the individual is cohabiting without children

Example source: NSW

Example syntax (SPSS, based on NSW 2015):

```
IF (DvHhType=5 & MarStat2<>2) Cohabiting_no_children=1.
```

```
RECODE Cohabiting_no_children (MISSING=0).
```

```
EXECUTE.
```

Variable 6

Aged between 30 and 39

Whether or not the individual is aged 30 to 39

Example source: NSW (variable DvAgebnd10_2 on NSW 2015)

Variable 7

Aged between 40 and 49

Whether or not the individual is aged 40 to 49

Example source: NSW (variable DvAgebnd10_3 on NSW 2015)

Variable 8

Aged between 50 and 59

Whether or not the individual is aged 50 to 59

Example source: NSW (variable DvAgebnd10_4 on NSW 2015)

Variable 9

Aged 60 or over

Whether or not the individual is aged 60 or over

Example source: NSW (variables DvAgebnd10_5 AND DvAgebnd10_6 on NSW 2015)

Variable 10

Having a long term limiting illness

Whether or not the individual has a long term limiting illness

Example source: NSW

Example syntax (SPSS, based on NSW 2015):

```
RECODE DvLLTI (2=0) (1=1) (-9=SYSMIS) (-99=SYSMIS) INTO vw1illany.
```

```
VARIABLE LABELS vw1illany 'Long term limiting illness'. EXECUTE.
```

Variable 11

Experiencing difficulties with paying bills

Whether or not the individual has expressed any difficulty in paying bills

Example source: NSW

Example syntax (SPSS, based on NSW 2015):

```
IF (FinBilCred=4 OR FinBilCred=5) Experienced_debt_problems=1. RECODE Experienced_debt_problems (MISSING=0). EXECUTE.
```

Variable 12

Having academic qualifications

Whether an individual has any academic qualifications at all

Example source: NSW

Example syntax (SPSS, based on NSW 2015):

```
RECODE Quals13 (1=0) (0=1) (SYSMIS=SYSMIS) (-999 thru -0.5=SYSMIS) (ELSE=Copy) INTO Academic_qualification.
```

```
VARIABLE LABELS Academic_qualification 'Academic_qualification'.
```

```
EXECUTE.
```

Variable 13

Number of people in household

The total number of people living in the household (including the respondent)

Example source: NSW (variable NumPep_tc in NSW 2015)

Variable 14

Economically inactive AND experiencing difficulty in paying bills

Example source: Derived from NSW (variable Economic_status_2 AND Experienced_debt_problems_2 given syntax below)

Example syntax (SPSS, based on NSW 2015):

```
SPSSINC CREATE DUMMIES VARIABLE=DvEcoStat
ROOTNAME1=Economic_status
/OPTIONS ORDER=A USEVALUELABELS=YES USEML=YES OMITFIRST=NO.
SPSSINC CREATE DUMMIES VARIABLE=Experienced_debt_problems
ROOTNAME1=Experienced_debt_problems
/OPTIONS ORDER=A USEVALUELABELS=YES USEML=YES OMITFIRST=NO.
```

Variable 15

Economically inactive AND NOT experiencing difficulty in paying bills

Example source: Derived from NSW (variable Economic_status_2 AND Experienced_debt_problems_1 given syntax below)

Example syntax (SPSS, based on NSW 2015):

```
SPSSINC CREATE DUMMIES VARIABLE=DvEcoStat
ROOTNAME1=Economic_status
/OPTIONS ORDER=A USEVALUELABELS=YES USEML=YES OMITFIRST=NO.
SPSSINC CREATE DUMMIES VARIABLE=Experienced_debt_problems
ROOTNAME1=Experienced_debt_problems
/OPTIONS ORDER=A USEVALUELABELS=YES USEML=YES OMITFIRST=NO.
```

Variable 16

Economically active AND experiencing difficulty in paying bills

Example source: Derived from NSW (variable Economic_status_3 AND Experienced_debt_problems_2 given syntax below)

Example syntax (SPSS, based on NSW 2015):

```
SPSSINC CREATE DUMMIES VARIABLE=DvEcoStat
ROOTNAME1=Economic_status
/OPTIONS ORDER=A USEVALUELABELS=YES USEML=YES OMITFIRST=NO.
SPSSINC CREATE DUMMIES VARIABLE=Experienced_debt_problems
ROOTNAME1=Experienced_debt_problems
/OPTIONS ORDER=A USEVALUELABELS=YES USEML=YES OMITFIRST=NO.
```

Local authority level variables

2.3 The following data is available for each local authority. Many of these variables are published by the Office of National Statistics (ONS) and available through their Nomis portal. The other variables were available as individual-level variables on the 2015 release of the National Survey for Wales and can then be averaged for each local authority.

Variable 17

Average individual risk factor of experiencing a benefits problem

Benefits problem risk factor for individual i

$$= \frac{EXP(\beta_{0_i} + \beta_{1_i}X_{1_i} + \beta_{2_i}X_{2_i} + \beta_{3_i}X_{3_i} + \beta_{4_i}X_{4_i} + \beta_{5_i}X_{5_i} + \beta_{6_i}X_{6_i} + \beta_{7_i}X_{7_i} + \beta_{8_i}X_{8_i} + \beta_{9_i}X_{9_i} + \beta_{10_i}X_{10_i} + \beta_{11_i}X_{11_i})}{1 + EXP(\beta_{0_i} + \beta_{1_i}X_{1_i} + \beta_{2_i}X_{2_i} + \beta_{3_i}X_{3_i} + \beta_{4_i}X_{4_i} + \beta_{5_i}X_{5_i} + \beta_{6_i}X_{6_i} + \beta_{7_i}X_{7_i} + \beta_{8_i}X_{8_i} + \beta_{9_i}X_{9_i} + \beta_{10_i}X_{10_i} + \beta_{11_i}X_{11_i})}$$

Where

$$\beta_{0_i} = -2.386$$

$$\beta_{1_i} = -0.345$$

$X_{1_i} = 1$ if individual i is married and has no children, 0 otherwise (Variable 1)

$$\beta_{2_i} = 1.052$$

$X_{2_i} = 1$ if individual i is a lone parent, 0 otherwise (Variable 2)

$$\beta_{3_i} = 0.127$$

$X_{3_i} = 1$ if individual i is single and has no children, 0 otherwise (Variable 3)

$$\beta_{4_i} = 0.516$$

$X_{4_i} = 1$ if individual i is cohabiting with children, 0 otherwise (Variable 4)

$$\beta_{5_i} = 0.418$$

$X_{5_i} = 1$ if individual i is cohabiting with no children, 0 otherwise (Variable 5)

$$\beta_{6_i} = 0.189$$

$X_{6_i} = 1$ if individual i is aged between 30 and 39, 0 otherwise (Variable 6)

$$\beta_{7_i} = -0.316$$

$X_{7_i} = 1$ if individual i is aged between 40 and 49, 0 otherwise (Variable 7)

$$\beta_{8_i} = -0.312$$

$X_{8_i} = 1$ if individual i is aged between 50 and 59, 0 otherwise (Variable 8)

$\beta_{9_i} = -0.524$

$X_{9_i} = 1$ if individual i is aged 60 or over, 0 otherwise (Variable 9)

$\beta_{10_i} = 0.734$

$X_{10_i} = 1$ if individual i has a long term limiting illness, 0 otherwise (Variable 10)

$\beta_{11_i} = 1.604$

$X_{11_i} = 1$ if individual i reports difficulties with paying bills, 0 otherwise (Variable 11)

SPSS Syntax:

```
COMPUTE Benefits_probabilities=EXP(-2.386+(Married_couple_no_children*-.345)+(Lone_parent*1.052)+(Single_no_children*.127)+(Cohabiting_children*.516)+(Cohabiting_no_children*.418)+(DvAgebnd10_2*.189)+(DvAgebnd10_3*.316)+(DvAgebnd10_4*.312)+(DvAgebnd10_5*-.524)+(DvAgebnd10_6*-.524)+(vw1illany*.734)+(Experienced_debt_problems*1.604)))/(1+EXP(-2.386+(Married_couple_no_children*-.345)+(Lone_parent*1.052)+(Single_no_children*.127)+(Cohabiting_children*.516)+(Cohabiting_no_children*.418)+(DvAgebnd10_2*.189)+(DvAgebnd10_3*.316)+(DvAgebnd10_4*.312)+(DvAgebnd10_5*-.524)+(DvAgebnd10_6*-.524)+(vw1illany*.734)+(Experienced_debt_problems*1.604))).EXECUTE.
```

- 2.4 Add all the final scores together and then divide by the number of individuals to get the average risk factor (\hat{y}_j) in the local authority: $\hat{y}_j = 1/n_j \sum_{i=1}^n y_{ij}$ where $i = 1, \dots, n_j$ and n_j represents a large random sample of residents (aged 16 and over) within local authority j .
- 2.5 E.g. Average individual risk factor of experiencing a benefits problem in Anglesey (2015) $\sim .11$
- 2.6 Expected range: .09 to .13

Variable 18

Average individual risk factor of experiencing an employment problem

Employment problem risk factor for individual i

$$= \frac{EXP(\beta_{0_i} + \beta_{1_i}X_{1_i} + \beta_{2_i}X_{2_i} + \beta_{3_i}X_{3_i} + \beta_{4_i}X_{4_i} + \beta_{5_i}X_{5_i} + \beta_{6_i}X_{6_i} + \beta_{7_i}X_{7_i})}{1 + EXP(\beta_{0_i} + \beta_{1_i}X_{1_i} + \beta_{2_i}X_{2_i} + \beta_{3_i}X_{3_i} + \beta_{4_i}X_{4_i} + \beta_{5_i}X_{5_i} + \beta_{6_i}X_{6_i} + \beta_{7_i}X_{7_i})}$$

Where

$$\beta_{0_i} = -2.419$$

$$\beta_{1_i} = 0.404$$

X_{1_i} = 1 if individual i has any academic qualifications, 0 otherwise (Variable 12)

$$\beta_{2_i} = 0.130$$

X_{2_i} = the number of people who live in individual i 's household (including individual i) (Variable 13)

$$\beta_{3_i} = 0.099$$

X_{3_i} = 1 if individual i is aged between 30 and 39, 0 otherwise (Variable 6)

$$\beta_{4_i} = 0.105$$

X_{4_i} = 1 if individual i aged between 40 and 49, 0 otherwise (Variable 7)

$$\beta_{5_i} = 0.053$$

X_{5_i} = 1 if individual i is aged between 50 and 59, 0 otherwise (Variable 8)

$$\beta_{6_i} = -0.869$$

X_{6_i} = 1 if individual i is aged 60 or over, 0 otherwise (Variable 9)

$$\beta_{7_i} = 0.940$$

X_{7_i} = 1 if individual i reports difficulties in paying bills, 0 otherwise (Variable 11)

SPSS Syntax:

```
COMPUTE Employment_probabilities=EXP(-2.419+(Academic_qualification*.404)+(NumPep_tc*-.130)+
(DvAgebnd10_2*.099)+(DvAgebnd10_3*.105)+(DvAgebnd10_4*.053)
+(DvAgebnd10_5*-.869)+(DvAgebnd10_6*-.869)+(Experienced_debt_problems*.940))
/(1+EXP(-2.419+(Academic_qualification*.404)+(NumPep_tc*-.130)+
(DvAgebnd10_2*.099)+(DvAgebnd10_3*.105)+(DvAgebnd10_4*.053)
+(DvAgebnd10_5*-.869)+(DvAgebnd10_6*-.869)+(Experienced_debt_problems*.940))).
EXECUTE.
```

- 2.7 Add all the final scores together and then divide by the number of individuals to get the average risk factor (\hat{y}_j) in the local authority: $\hat{y}_j = 1/n_j \sum_{i=1}^n y_{ij}$ where $i = 1, \dots, n_j$ and n_j represents a large random sample of residents (aged 16 and over) within local authority j .
- 2.8 E.g. Average individual risk factor of experiencing an employment problem in Anglesey (2015) $\sim .07$
- 2.9 Expected range: .06 to .09

Variable 19

Average individual risk factor of experiencing a debt problem

Debt problem risk factor for individual i

$$= \frac{\text{EXP}(\beta_{0_i} + \beta_{1_i}X_{1_i} + \beta_{2_i}X_{2_i} + \beta_{3_i}X_{3_i} + \beta_{4_i}X_{4_i} + \beta_{5_i}X_{5_i} + \beta_{6_i}X_{6_i} + \beta_{7_i}X_{7_i} + \beta_{8_i}X_{8_i})}{1 + \text{EXP}(\beta_{0_i} + \beta_{1_i}X_{1_i} + \beta_{2_i}X_{2_i} + \beta_{3_i}X_{3_i} + \beta_{4_i}X_{4_i} + \beta_{5_i}X_{5_i} + \beta_{6_i}X_{6_i} + \beta_{7_i}X_{7_i} + \beta_{8_i}X_{8_i})}$$

Where

$$\beta_{0_i} = 2.613$$

$$\beta_{1_i} = 5.901$$

$X_{1_i} = 1$ if individual i is economically inactive AND reports difficult with paying bills, 0 otherwise (Variable 14)

$$\beta_{2_i} = -.042$$

$X_{2_i} = 1$ if individual i is economically inactive AND does not report difficulty with paying bills, 0 otherwise (Variable 15)

$$\beta_{3_i} = 5.882$$

$X_{3_i} = 1$ if individual i is economically active AND reports difficulty with paying bills, 0 otherwise (Variable 16)

$$\beta_{4_i} = -0.029$$

$X_{4_i} = 1$ if individual i is married and has no children, 0 otherwise (Variable 1)

$$\beta_{5_i} = 0.392$$

$X_{5_i} = 1$ if individual i is a lone parent, 0 otherwise (Variable 2)

$$\beta_{6_i} = 0.244$$

$X_{6_i} = 1$ if individual i is single and has no children, 0 otherwise (Variable 3)

$$\beta_{7_i} = 0.694$$

$X_{7_i} = 1$ if individual i is cohabiting with children, 0 otherwise (Variable 4)

$$\beta_{8_i} = 0.568$$

$X_{8_i} = 1$ if individual i is cohabiting with no children, 0 otherwise (Variable 5)

SPSS Syntax:

```
COMPUTE Debt_probabilities=EXP(-2.613+
((Economic_status_2*Experienced_debt_problems_2)*5.901)+
((Economic_status_2*Experienced_debt_problems_1)*-.042)+
((Economic_status_3*Experienced_debt_problems_2)*5.882)+
(Married_couple_no_children*-
.029)+(Lone_parent*.392)+(Single_no_children*.244)+(Cohabiting_children*.694)+(Cohabiting_no_children*.568))
/(1+EXP(-2.613+
((Economic_status_2*Experienced_debt_problems_2)*5.901)+
((Economic_status_2*Experienced_debt_problems_1)*-.042)+
((Economic_status_3*Experienced_debt_problems_2)*5.882)+
(Married_couple_no_children*-
.029)+(Lone_parent*.392)+(Single_no_children*.244)+(Cohabiting_children*.694)+(Cohabiting_no_children*.568))).
EXECUTE.
```

2.10 Add all the final scores together and then divide by the number of individuals to get the average risk factor (\hat{y}_j) in the local authority: $\hat{y}_j = 1/n_j \sum_{i=1}^n y_{ij}$ where $i = 1, \dots, n_j$ and n_j represents a large random sample of residents (aged 16 and over) within local authority j .

- 2.11 E.g. Average individual risk factor of experiencing a debt problem in Anglesey (2015) ~ .10
- 2.12 Expected range: .09 to .15

Variable 20

Unemployment rate

As a proportion (a value between 1 and 100) of economically active

Example source: ONS Annual Population Survey (accessed through www.nomisweb.co.uk/)

e.g. Labour Market Profile – Anglesey

<http://www.nomisweb.co.uk/reports/lmp/la/1946157383/report.aspx>

e.g. Unemployment rate in Anglesey (2015) ~ 5.7

Expected range: .01 to .10

Variable 21

The proportion of people working in elementary or plant jobs

This is the proportion of people in Soc Major Group 8 plus the proportion in Soc Major Group 9

Example source: ONS Annual Population Survey (accessed through www.nomisweb.co.uk/)

e.g. Labour Market Profile – Anglesey, Soc Major group 8 and 9

<http://www.nomisweb.co.uk/reports/lmp/la/1946157383/report.aspx>

COMPUTE Elementary_and_plant=Elementary_occupations + Process_plant_and_machine_operatives.

EXECUTE.

e.g. Anglesey (2015) ~ .17

Expected range: .1 to .3

Variable 22

The proportion of people who have access to private transport

Example source: NSW (mean for each local authority of derived individual level variable, formed through syntax below)

```
IF (AtUsModeShp1=1 OR AtUsModeDr1=1 OR AtUsModePub1=1 OR AtUsModeJob1=1  
OR AtUsModeSch1=1) Transport=1. RECODE Transport (SYSMIS=0). EXECUTE.
```

e.g. Anglesey (2015) ~ .79

Expected range: .6 to .9

Variable 23

The proportion of people with a long term limiting illness

Example source: NSW (mean for each local authority of derived individual level variable, formed through syntax below)

```
RECODE DvLLTI (2=0) (1=1) (-9=SYSMIS) (-99=SYSMIS) INTO vw1illany.  
VARIABLE LABELS vw1illany 'Long term limiting illness'. EXECUTE.
```

e.g. Anglesey (2015) ~ .31

Expected range: 0.2 to 0.35

Variable 24

The average number of people in a household

Example source: NSW (mean of NumPep_tc for each local authority)

e.g. Anglesey (2015) ~ 2.77

Expected range: 2.5 to 3.5

Variable 25

The ratio of people who work in managerial jobs and people who work in professional jobs

i.e. the proportion of people who work in managerial jobs divided by the proportion of people who work in professional jobs

Example source: Derived from ONS Annual Population Survey (accessed through www.nomisweb.co.uk/)

e.g. Labour Market Profile – Anglesey, Soc Major Group 1 / Soc Major Group 2
<http://www.nomisweb.co.uk/reports/lmp/la/1946157383/report.aspx>

COMPUTE Ratio_directors_to_professionals=Managers_directors_and_senior_officials / Professional_occupations.
EXECUTE.

e.g. Anglesey (2015) ~ 0.55

Expected range: 0.3 to 0.9

Variable 26

The proportion of people who work in professional jobs

Example source: ONS Annual Population Survey (accessed through www.nomisweb.co.uk/)

e.g. Labour Market Profile – Anglesey, Soc Major Group 2
<http://www.nomisweb.co.uk/reports/lmp/la/1946157383/report.aspx>

e.g. Anglesey (2015) ~ 0.19

Expected range: 0.1 to 0.3

Variable 27

The proportion of people who work in customer service occupations

Example source: ONS Annual Population Survey (accessed through www.nomisweb.co.uk/)

e.g. Labour Market Profile – Anglesey, Soc Major Group 7
<http://www.nomisweb.co.uk/reports/lmp/la/1946157383/report.aspx>

e.g. Anglesey (2015) ~ 0.07

Expected range: .05 to .12

Variable 28

Proportion of people who work in managerial jobs

Example source: ONS Annual Population Survey (accessed through www.nomisweb.co.uk/)

e.g. Labour Market Profile – Anglesey, Soc Major Group 1

<http://www.nomisweb.co.uk/reports/lmp/la/1946157383/report.aspx>

e.g. Anglesey (2015) ~ 0.10

Expected range: .05 to .15

Variable 29

Proportion of people who work in administrative jobs

Example source: ONS Annual Population Survey (accessed through www.nomisweb.co.uk/)

e.g. Labour Market Profile – Anglesey, Soc Major Group 4

<http://www.nomisweb.co.uk/reports/lmp/la/1946157383/report.aspx>

e.g. Anglesey (2015) ~ 0.08

Expected range: .06 to .15

Variable 30

The average economic status of residents

Average economic status where 1=unknown, 2=inactive and 3=active

Example source: NSW (mean of DvEcoStat)

e.g. Anglesey (2015) ~ 1.45

Expected range: 1.2 to 1.5

Variable 31

The proportion of people experiencing difficulty with paying bills

Example source: NSW (mean for each local authority of derived individual level variable, formed through syntax below)

```
IF (FinBilCred=4 OR FinBilCred=5) Experienced_debt_problems=1.
```

```
RECODE Experienced_debt_problems (MISSING=0).
```

```
EXECUTE
```

e.g. Anglesey (2015) ~ .028

Expected range: .01 to .08

Variable 32

Population density

Example source: Derived from ONS National and Local Authority Level Population Estimates (divided by hectarge) (accessed through www.nomisweb.co.uk/)

e.g. Labour Market Profile – Anglesey, Total Population

<http://www.nomisweb.co.uk/reports/lmp/la/1946157383/report.aspx>

Hectarge by local authority available from ONS e.g.

https://www.ons.gov.uk/file?uri=/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/2011censuskeystatisticsandquickstatisticsforwardsandoutputareasinenglandandwales/r22ewrtablegs102ewladv1_tcm77-296538.xls

e.g. Anglesey (2015) ~ 1.0

Expected range: .2 to 30

Variable 33

Proportion of people who are carers

The proportion of people in each local authority who identify as 'carers'

Example source: NSW (mean for each local authority of derived individual level variable, formed through syntax below)

```
RECODE DvSCHhCarer (1=1) (2=1) (3=0) (-9=0) INTO Carer.
```

```
VARIABLE LABELS Carer 'Carer'.
```

```
EXECUTE.
```

e.g. Anglesey (2015) ~ 0.07

Expected range: .03 to .08

Variable 34

The proportion of people who have academic qualifications

Example source: NSW (the proportion of people NOT reporting 'no qualifications' in each local authority, formed through syntax below)

```
CROSSTABS  
/TABLES=DvUniAuth BY Quals13  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

e.g. Anglesey (2015) ~ 0.82

Expected range: .7 to .9

Variable 35

The proportion of people born outside of the UK

Example source: ONS Annual Population Survey (accessed through www.nomisweb.co.uk/)

e.g. Query Annual Population Survey via Nomis for White: Born outside of UK (TO4:2) and Non-White born outside of UK (TO4:4) as a proportion of total population (i.e. TO4:1 + TO4:2 + TO4:3 + TO4:4)

e.g. Anglesey (2015) ~ 0.04

Expected range: .01 to .15

Variable 36

The proportion of people not identifying as White

Example source: ONS Annual Population Survey (accessed through www.nomisweb.co.uk/)

e.g. Query Annual Population Survey via Nomis for Ethnicity. White (T18:4) as a proportion of total population (T18:1))

e.g. Anglesey (2015) ~ 0.99

Expected range: 0.85 to 0.99

Variable 37

The proportion of people renting in the private sector

Example source: NSW (mean for each local authority of derived individual level variable, formed through syntax below)

```
IF (Tenure2=4 AND DvTenurGrp=4) Private_sector_rent=1.
```

```
RECODE Private_sector_rent (MISSING=0).
```

```
EXECUTE.
```

e.g. Anglesey (2015) ~ 0.15

Expected range: .06 to .28

Variable 38

The proportion of people renting in the public sector

Example source: NSW (mean for each local authority of derived individual level variable, formed through syntax below)

```
IF (Tenure2=4 AND DvTenurGrp=3) OR (Tenure2=4 AND DvTenurGrp=2) Public_sector_rent=1.
```

```
RECODE Public_sector_rent (MISSING=0).
```

```
EXECUTE.
```

e.g. Anglesey (2015) ~ 0.16

Expected range: .06 to .25

Variable 39

The proportion of people who work in managerial or technical jobs

Example source: ONS Annual Population Survey (accessed through www.nomisweb.co.uk/)

e.g. Labour Market Profile – Anglesey, Soc Major Group 1 and Soc Major Group 3

<http://www.nomisweb.co.uk/reports/lmp/la/1946157383/report.aspx>

```
COMPUTE
```

```
Managers_and_technical=Managers_directors_and_senior_officials+Associate_prof_and_tech_occupations.
```

```
EXECUTE.
```

e.g. Anglesey (2015) ~ 0.20

Expected range: .1 to .4

3. Model coefficients

- 3.1 Model coefficients and significance values for the five area-level models and three individual-level models are given in the following tables.
- 3.2 A positive regression coefficient indicates that a variable is associated with an increase in the prevalence of the justiciable problem, taking into account (i.e. having controlled for) the other variables in the model, with a negative coefficient indicating the reverse¹. Please note that the presence of the other powerful variables in a model can sometimes change the statistical relationship between a covariate and the justiciable problems in unexpected ways. These models are intended for predictive — not explanatory — purposes.
- 3.3 The estimated significance value (or 'p-value') suggests how likely it is that the apparent association between the covariate and prevalence of the justiciable problem is due to a sampling error (i.e. a random pattern that may not exist if everybody in England and Wales had been interviewed)².

¹ The model also includes a 'Constant', this value does not have substantive meaning but represents the value of the model intercept and is later used in the prediction process.

² P-values above 0.1 (i.e. above a 10% chance of error) have not been included. Note that the individual-level models contain some categorical variables which are tested collectively in a different way, but are ultimately associated with p-values of <0.05. Local authorities were included as random effects in the individual-level models to account for the clustering introduced by the design sampling scheme.

Table 3.1: Area Model – Debt problems

Source of data	Variable	Regression coefficient (B)	Sig. (p-value)
CSJPS ³	Prevalence of Debt problems	n/a (dependent variable)	
ONS ⁴	Unemployment rate	-0.078	0.007
CSJPS	The proportion of people experiencing difficulty with paying bills	2.896	0.000
CSJPS	The proportion of people with a long-term, limiting illness	-0.098	0.001
CSJPS	The average number of people in a household	-0.098	0.037
ONS	The proportion of people renting in the private sector	-1.341	0.039
ONS	The proportion of people working in elementary or plant jobs	2.973	0.010
Individual-level model	The average individual risk factor of experiencing a Benefit problem	19.862	0.000
Source of data	Variable	Regression coefficient (B)	Sig. (p-value)
Individual-level model	The average individual risk factor of experiencing an Employment problem	-10.687	0.049
Individual-level model	The average individual risk factor of experiencing a Debt problem	2.276	0.092
n/a	Constant	-3.130	0.426

Table 3.2: Area Model – Welfare Benefit problems

Source of data	Variable	Regression coefficient (B)	Sig. (p-value)
CSJPS	Prevalence of Benefit problems	n/a (dependent variable)	
CSJPS	The proportion of people who are economically inactive	-1.072	0.026
CSJPS	The proportion of people experiencing difficulty with paying bills	-1.888	0.053
CSJPS	The average number of people in a household	-0.428	0.000
ONS	The proportion of people renting in the public sector	-0.870	0.000
Individual-level model	The average individual risk factor of experiencing a Benefit problem	26.607	0.000
Individual-level model	The average individual risk factor of experiencing an Employment problem	-30.580	0.000
Individual-level model	The average individual risk factor of experiencing a Debt problem	5.028	0.008
n/a	Constant	-0.837	0.058

³ CSJPS = Civil and Social Justice Panel Survey (2010 release, Wave 1 data)

⁴ ONS = Office for National Statistics. Data available through www.nomisweb.co.uk

Table 3.3: Area Model – Employment problems

Source of data	Variable	Regression coefficient (B)	Sig. (p-value)
CSJPS	Prevalence of Employment problems	n/a (dependent variable)	
ONS	Population density	-0.006	0.071
CSJPS	Proportion of people who are carers	2.751	0.023
CSJPS	The proportion of people who have academic qualifications	1.846	0.023
CSJPS	The proportion of people who are economically inactive	-1.221	0.078
CSJPS	The proportion of people with a long-term, limiting illness	2.219	0.017
Individual-level model	The average individual risk factor of experiencing an Employment problem	30.430	0.001
n/a	Constant	-5.262	0.262

Table 3.4: Area Model – Consumer and Finance problems

Source of data	Variable	Regression coefficient (B)	Sig. (p-value)
CSJPS	Prevalence of Consumer and Finance problems	n/a (dependent variable)	
ONS	Population density	0.010	0.035
CSJPS	Local authority is in Wales	-1.726	0.011
CSJPS	The proportion of people who have access to private transport	2.110	0.009
CSJPS	The proportion of people who have academic qualifications	2.929	0.003
CSJPS	The average number of people in a household	-0.547	0.006
ONS	The proportion of people who work in managerial or technical jobs	-5.324	0.008
Individual-level model	The average individual risk factor of experiencing a Benefit problem	15.283	0.007
Individual-level model	The average individual risk factor of experiencing an Employment problem	-24.700	0.083
Individual-level model	The average individual risk factor of experiencing a Debt problem	6.132	0.097
n/a	Constant	-4.041	0.944

Table 3.5: Area Model – Housing problems

Source of data	Variable	Regression coefficient (B)	Sig. (p-value)
CSJPS	Prevalence of Housing problems	n/a (dependent variable)	
ONS	Proportion of people who work in managerial jobs	-18.404	0.071
ONS	Proportion of people who work in professional jobs	15.145	0.004
ONS	Proportion of people who work in administrative jobs	10.001	0.015
ONS	The proportion of people working in elementary or plant jobs	11.436	0.003
CSJPS	The proportion of people born outside of the UK	1.775	0.030
CSJPS	The proportion of people not identifying as White British/Welsh	1.071	0.063
ONS (derived)	The ratio of people who work in managerial jobs and people who work in professional jobs	4.519	0.020
Individual-level model	The average individual risk factor of experiencing a Benefit problem	17.881	0.000
n/a	Constant	-10.384	0.000

Table 3.6: Individual-level Model – Benefit problem

Source of data	Variable	Regression coefficient (B)	Sig. (p-value)
CSJPS	Individual risk of experiencing a Benefit problem	n/a (dependent variable)	
CSJPS	Being married with no children	-0.345	0.102
CSJPS	Being a lone parent	1.052	0.000
CSJPS	Being single with no children	0.127	0.502
CSJPS	Cohabiting with children	0.516	0.066
CSJPS	Cohabiting with no children	0.418	0.086
CSJPS	Aged between 30 and 39	0.189	0.307
CSJPS	Aged between 40 and 49	-0.316	0.101
CSJPS	Aged between 50 and 59	-0.312	0.123
CSJPS	Aged 60 or over	-0.524	0.007
CSJPS	Having a long-term, limiting illness	0.734	0.000
CSJPS	Experiencing difficulties with paying bills	1.604	0.000
n/a	Constant	-2.386	0.000

Table 3.7: Individual-level Model – Employment problem

Source of data	Variable	Regression coefficient (B)	Sig. (p-value)
CSJPS	Individual risk of experiencing an Employment problem	n/a (dependent variable)	
CSJPS	Having academic qualifications	0.404	0.017
CSJPS	Number of people in household	-0.130	0.018
CSJPS	Aged between 30 and 39	0.099	0.632
CSJPS	Aged between 40 and 49	0.105	0.588
CSJPS	Aged between 50 and 59	0.053	0.792
CSJPS	Aged 60 or over	-0.869	0.000
CSJPS	Experiencing difficulties with paying bills	0.940	0.000
n/a	Constant	-2.419	0.089

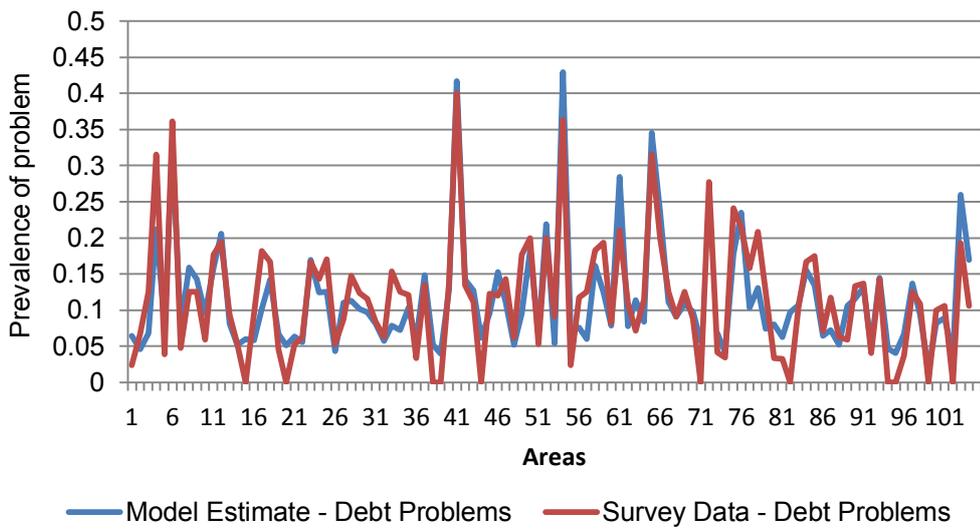
Table 3.8: Individual-level Model – Debt problem

Source of data	Variable	Regression coefficient (B)	Sig. (p-value)
CSJPS	Individual risk of experiencing a Debt problem	n/a (dependent variable)	
CSJPS	Economically inactive AND experiencing difficulty in paying bills	5.901	0.000
CSJPS	Economically inactive AND NOT experiencing difficulty in paying bills	-0.042	0.757
CSJPS	Economically active AND experiencing difficulty in paying bills	5.882	0.000
CSJPS	Being married with no children	-0.029	0.000
CSJPS	Being a lone parent	0.392	0.231
CSJPS	Being single with no children	0.244	0.217
CSJPS	Cohabiting with children	0.694	0.030
CSJPS	Cohabiting with no children	0.568	0.031
n/a	Constant	2.613	0.000

4. Validation of estimates

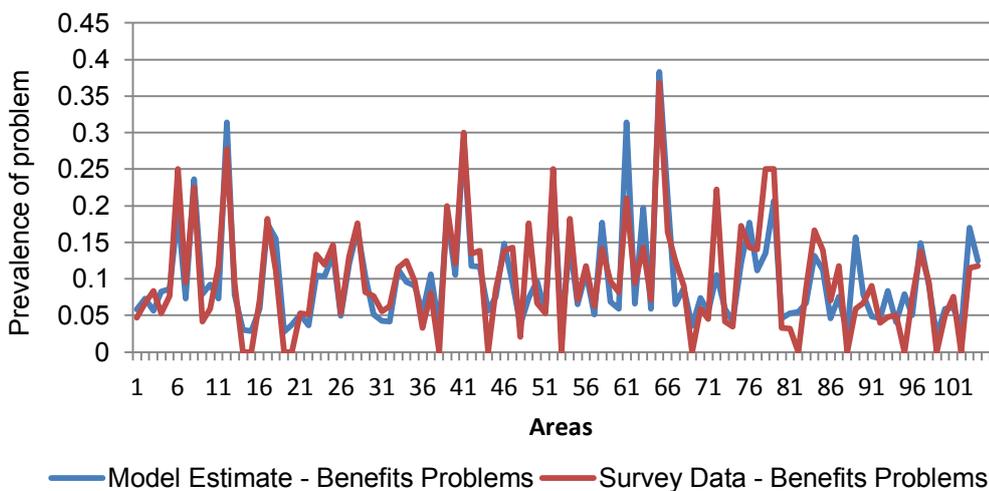
- 4.1 Although the true prevalence rates of justiciable problems are unknown, the methodology used presents an opportunity for validation. This is because the information on justiciable problems within a particular local authority collected in the Civic and Social Justice Panel Survey are independent of the final model-based estimates. Thus, it is possible to compare these direct estimates (taken straight from the survey data) to the model-based estimates. The comparison can only be performed for the local authorities which feature in the Civic and Social Justice Panel Survey, most of which are English. Nevertheless, comparing the general pattern of the model-based estimates to the direct estimates throughout these local authorities can provide some sense of the likely accuracy of the models.
- 4.2 It is important to remember, though, that the direct survey estimates do not represent the actual prevalence rates. Indeed, some of the sample sizes are quite small, which leads to unusual direct estimates, such as prevalence rates of zero. In these cases, it may be that the model-based estimates are closer to the actual prevalence rates. That being said, overall, it is expected that direct estimates would approximate the true prevalence rates and, therefore, good model-based estimates should, to some extent, reflect the pattern of prevalence rates suggested by the direct estimates. The graphs below suggest that the model-based and direct estimates do show similar trends of prevalence rates throughout the areas. Note that in these graphs, prevalence rates are shown on a scale of between zero and one. A prevalence rate of zero would indicate no estimated occurrences of the justiciable problem in an area, whereas a rate of one would indicate that there are as many estimated justiciable problems as there are adults (aged 16 years or over) in the population. For the purposes of validation, it is the general pattern of the two sets of estimates (direct and model-based) which is of interest, rather than any substantive interpretation of the results.
- 4.3 The chart below shows the direct estimates of the prevalence of debt problems from the Civic and Social Justice Panel Survey data (labelled as 'Survey Data') for all of the areas in the survey against the corresponding model-based estimates. The two sets of estimates follow a very similar pattern in the graph, which suggests that the debt model is performing well. The correlation coefficient between the two sets of estimates is very high (0.88).

Figure 4.1: Model estimates of the prevalence of justiciable debt problems against the direct estimates from the survey data



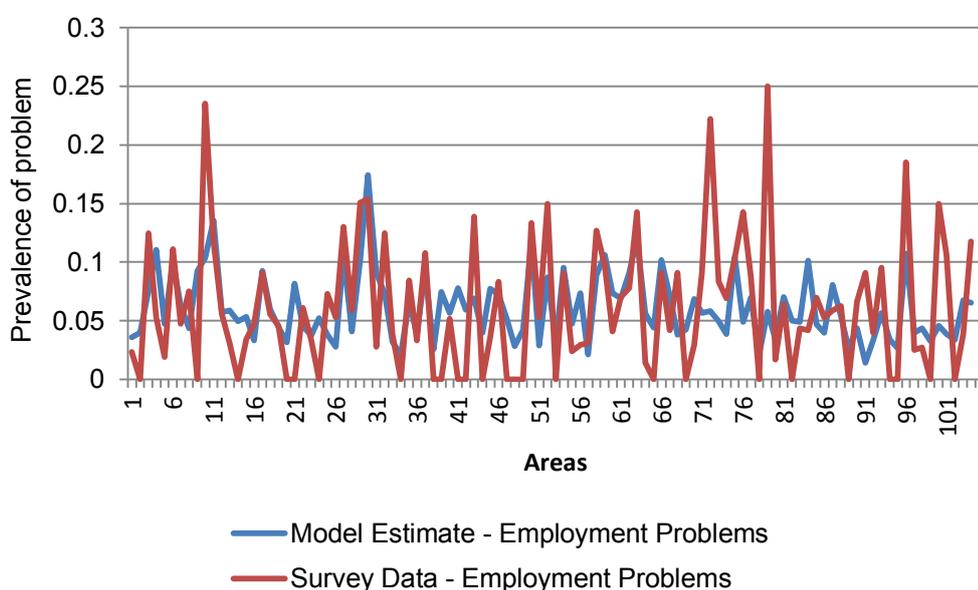
4.4 The chart below shows the direct estimates of the prevalence of benefit problems from the Civic and Social Justice Panel Survey data for all of the areas in the survey against the corresponding model-based estimates. Once again, the two sets of estimates follow a very similar pattern, which suggests that the benefit model is performing well. Note that some of the direct estimates suggest that the prevalence of benefit problems is zero in some areas — which is almost certainly false — but it is encouraging that the model estimates do not make the same mistake in these cases. The correlation coefficient between the two sets of estimates is 0.87, which is very high.

Figure 4.2: Model estimates of the prevalence of justiciable benefit problems against the direct estimates from the survey data



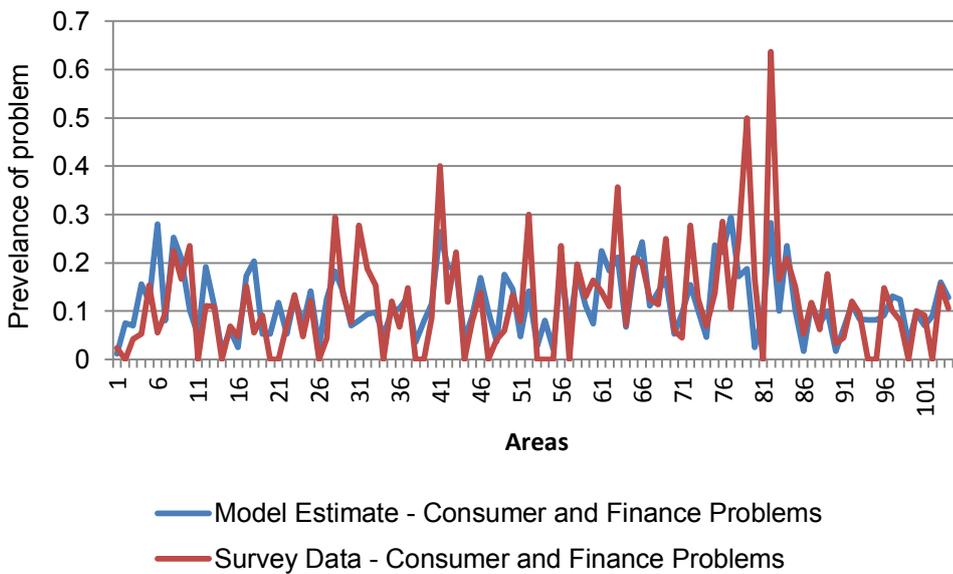
4.5 The chart below shows the direct estimates of the prevalence of employment problems from the Civic and Social Justice Panel Survey data for all of the areas in the survey against the corresponding model-based estimates. More differences between the two sets of estimates are observable in this chart. Whilst both follow the same general pattern, the model-based estimates are noticeably more conservative, not hitting the same extremes of peaks or troughs as those of the direct estimates. Although the model estimates do not appear to exhibit bias in any specific way, this tendency for the estimates to regress towards the mean produces a relatively low correlation coefficient between the two sets of estimates (0.52).

Figure 4.3: Model estimates of the prevalence of justiciable employment problems against the direct estimates from the survey data



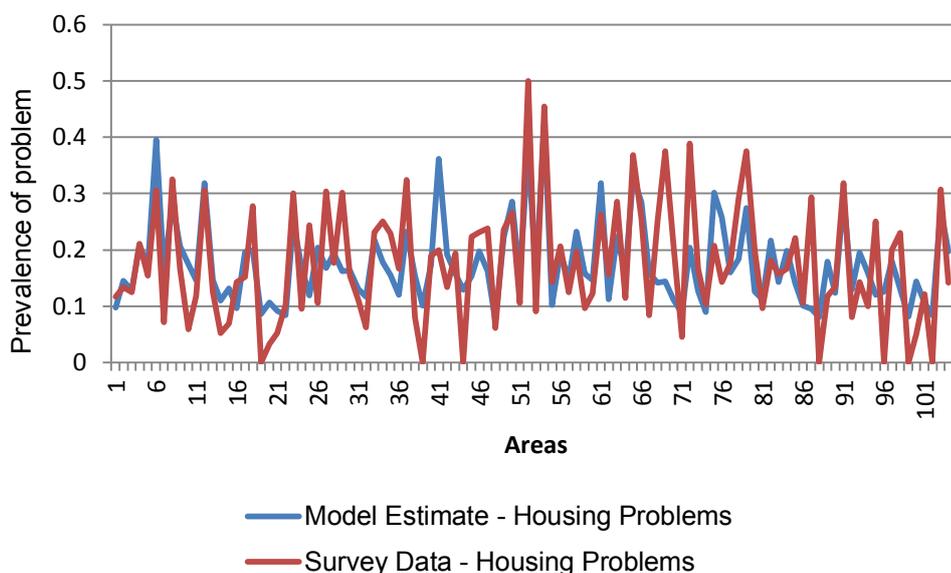
4.6 The chart below shows the direct estimates of the prevalence of consumer and finance problems from the Civic and Social Justice Panel Survey data for all of the areas in the survey against the corresponding model-based estimates. Whilst both sets of estimates track each reasonably closely, the most obvious differences are for areas in which the direct estimates suggest that the prevalence of consumer and finance is extremely high (over 60 per cent in one case). Whilst it is likely that such extremes are a consequence of the small sample sizes upon which the direct estimates are based, it is also possible that the model-based estimates are not quite as sensitive to the differences between areas as they should be. However, even allowing for this, the correlation coefficient between the two sets of estimates is reasonable (0.63).

Figure 4.4: Model estimates of the prevalence of justiciable consumer and finance problems against the direct estimates from the survey data



4.7 The chart below shows the direct estimates of the prevalence of housing and neighbour problems from the Civic and Social Justice Panel Survey data for all of the areas in the survey against the corresponding model-based estimates. Although the patterns of the two sets of estimates are reasonably similar to each other, there is some evidence that the model might not be performing to quite the levels hoped for. There are several instances in which the model-based estimates do not reflect the variation between areas as suggested by the direct models. Whilst this may be justified, it could also suggest that the model works better for some areas than for others. This suspicion is strengthened by a couple of instances in which the model estimates are actually more extreme than the direct estimates. This is generally quite rare when the models perform as expected, as model-based estimates are naturally drawn towards the overall average. That being said, the correlation coefficients between the two sets of estimates remain quite high (0.69).

Figure 4.5: Model estimates of the prevalence of justiciable housing and neighbour problems against the direct estimates from the survey data



4.8 Although there are not many comparable studies for the Welsh context, the Money Advice Service have recently released their estimates of Over-indebtedness at the local authority level⁵. The definition of “Over-indebtedness” as used by the Money Advice Service is somewhat different from the definition of “Justiciable Debt Problem” as used in this report.

4.9 The Money Advice Service’s definition of “over-indebted” was derived from two questions within the FinCap and YouGov surveys. Respondents must have answered either: (i) I find meeting my monthly bills/commitments a heavy burden; and/or (ii) I have missed bill payments in three or more months out of the last six months. This produces an overall level of Over-indebtedness of 15 per cent throughout the UK.

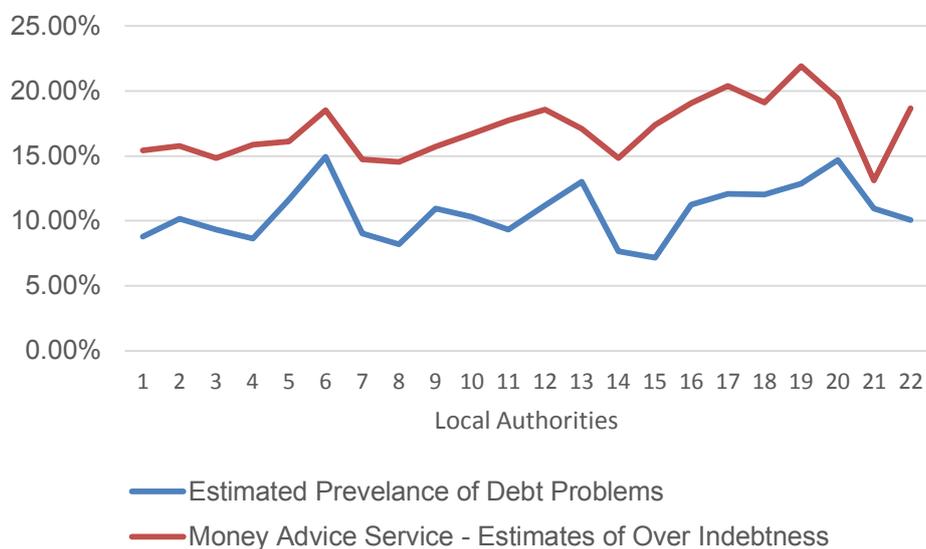
4.10 Contrast this with the definition of “Justiciable Debt Problem” as used in this report, which is based on a question in the Civic and Social Justice Panel Survey which asks whether the respondent has experienced any of a set of debt problems shown on a card. This produces an overall prevalence rate of around 9 per cent throughout England and Wales.

4.11 Allowing for these differences, it might still be expected that both studies give a comparable view of the distribution of debt throughout Wales. The chart below shows

⁵ <http://overindebtednessmap.org/>

the Money Advice Service's estimates for the 22 local authorities of Wales against the model-based estimates presented in this report. As can be seen, despite the differences in the methodologies of the two studies, the general pattern of the two sets of estimates is recognisably similar throughout the local authorities.

Figure 4.6: Validation against Money Advice Service estimates



5. SPSS syntax

For individual level variables

* Encoding: UTF-8.

*This syntax creates the individual level variables (1-19)

*Syntax applied to National Survey for Wales

```
GET FILE='C:\Users\...\nsw_2014-15_v2.sav'.  
DATASET NAME NSW WINDOW=FRONT.
```

```
IF (Quals8+Quals10>0) Degree=1.  
RECODE Degree (MISSING=0).  
EXECUTE.
```

```
IF (Quals9>0) & (Degree=0) Diploma=1.  
RECODE Diploma (MISSING=0).  
EXECUTE.
```

```
IF (Quals6+Quals7>0) & (Degree=0) & (Diploma=0) A_levels=1.  
RECODE A_levels (MISSING=0).  
EXECUTE.
```

```
IF (Quals5>0) & (Degree=0) & (Diploma=0) & (A_levels=0) Apprenticeship=1.  
RECODE Apprenticeship (MISSING=0).  
EXECUTE.
```

```
IF (Quals3+Quals4>0) & (Degree=0) & (Diploma=0) & (A_levels=0) & (Apprenticeship=0) GCSE_A_to_C=1.  
RECODE GCSE_A_to_C (MISSING=0).  
EXECUTE.
```

```
IF (Quals1+Quals2>0) & (Degree=0) & (Diploma=0) & (A_levels=0) & (Apprenticeship=0)  
& (GCSE_A_to_C=0) GCSE_D_to_G=1.  
RECODE GCSE_D_to_G (MISSING=0).  
EXECUTE.
```

```
IF (Degree=0) & (Diploma=0) & (A_levels=0) & (Apprenticeship=0)  
& (GCSE_A_to_C=0) & (GCSE_D_to_G=0) None_or_Other=1.  
RECODE None_or_Other (MISSING=0).  
EXECUTE.
```

```
IF (DvHhType=4 & MarStat2=2) Married_couple_children=1.  
RECODE Married_couple_children (MISSING=0).  
EXECUTE.
```

```
IF (DvHhType=2 & MarStat2=2) OR (DvHhType=5 & MarStat2=2) Married_couple_no_children=1.  
RECODE Married_couple_no_children (MISSING=0).  
EXECUTE.
```

```
IF (DvHhType=6) Lone_parent=1.  
RECODE Lone_parent (MISSING=0).  
EXECUTE.
```

```
IF (DvHhType=1) OR (DvHhType=3) Single_no_children=1.  
RECODE Single_no_children (MISSING=0).  
EXECUTE.
```

```
IF (DvHhType=4 & MarStat2<>2) Cohabiting_children=1.  
RECODE Cohabiting_children (MISSING=0).  
EXECUTE.
```

```
IF (DvHhType=5 & MarStat2<>2) Cohabiting_no_children=1.  
RECODE Cohabiting_no_children (MISSING=0).  
EXECUTE.
```

```
IF (Tenure2=1) Own_home=1.
RECODE Own_home (MISSING=0).
EXECUTE.
```

```
IF (Tenure2=2 OR Tenure2=3) Mortgage=1.
RECODE Mortgage (MISSING=0).
EXECUTE.
```

```
IF (Tenure2=4 AND DvTenurGrp=3) OR (Tenure2=4 AND DvTenurGrp=2) Public_sector_rent=1.
RECODE Public_sector_rent (MISSING=0).
EXECUTE.
```

```
IF (Tenure2=4 AND DvTenurGrp=4) Private_sector_rent=1.
RECODE Private_sector_rent (MISSING=0).
EXECUTE.
```

```
IF (Tenure2=5 OR Tenure2=6) Rent_free=1.
RECODE Rent_free (MISSING=0).
EXECUTE.
```

```
IF (AtUsModeShp1<>1 OR AtUsModeDr1<>1 OR AtUsModePub1<>1 OR AtUsModeJob1<>1
OR AtUsModeSch1<>1 ) Transport=1.
RECODE Transport (MISSING=0).
EXECUTE.
```

```
IF (FinBilCred=4 OR FinBilCred=4) Experienced_debt_problems=1.
RECODE Experienced_debt_problems (MISSING=0).
EXECUTE.
```

```
RECODE DvSCHhCarer (1=1) (2=1) (3=0) (-9=0) INTO Carer.
VARIABLE LABELS Carer 'Carer'.
EXECUTE.
```

```
SPSSINC CREATE DUMMIES VARIABLE=DvAgebnd10
ROOTNAME1=DvAgebnd10
/OPTIONS ORDER=A USEVALUELABELS=YES USEML=YES OMITFIRST=NO.
```

```
RECODE DvLLTI (2=0) (1=1) (-9=SYSMIS) (-99=SYSMIS) INTO vw1illany.
VARIABLE LABELS vw1illany 'Long term limiting illness'.
EXECUTE.
```

*** Apply weights

```
WEIGHT BY SampleAdultWeight.
```

```
COMPUTE Benefits_probabilities=EXP(-2.367+(Married_couple_no_children*-
.362)+(Lone_parent*1.037)+(Single_no_children*.112)+
(Cohabiting_children*.511)+(Cohabiting_no_children*.412)+(DvAgebnd10_2*.173)+(DvAgebnd10_3*-
.333)+(DvAgebnd10_4*-.315)
+(DvAgebnd10_5*-.521)+(DvAgebnd10_6*-.521)+(vw1illany*.719)+(Experienced_debt_problems*1.573))
/(1+EXP(-2.367+(Married_couple_no_children*-
.362)+(Lone_parent*1.037)+(Single_no_children*.112)+
(Cohabiting_children*.511)+(Cohabiting_no_children*.412)+(DvAgebnd10_2*.173)+(DvAgebnd10_3*-
.333)+(DvAgebnd10_4*-.315)
+(DvAgebnd10_5*-.521)+(DvAgebnd10_6*-.521)+(vw1illany*.719)+(Experienced_debt_problems*1.573))).
EXECUTE.
```

```
COMPUTE Employment_probabilities=EXP(-2.087+(NumPep_tc*-.125)+
(DvAgebnd10_2*.100)+(DvAgebnd10_3*.104)+(DvAgebnd10_4*.029)
+(DvAgebnd10_5*-.988)+(DvAgebnd10_6*-.988)+(Experienced_debt_problems*.908))
/(1+EXP(-2.087+(NumPep_tc*-.125)+
(DvAgebnd10_2*.100)+(DvAgebnd10_3*.104)+(DvAgebnd10_4*.029)
+(DvAgebnd10_5*-.988)+(DvAgebnd10_6*-.988)+(Experienced_debt_problems*.908))).
EXECUTE.
```

```

COMPUTE Debt_probabilities=EXP(-2.623+(Married_couple_no_children*-.039)+
(Lone_parent*.38)+(Single_no_children*.238)+(Cohabiting_children*.694)+(Cohabiting_no_children*.572)
+(Experienced_debt_problems*5.904))
/(1+EXP(-2.623+(Married_couple_no_children*-.039)+
(Lone_parent*.38)+(Single_no_children*.238)+(Cohabiting_children*.694)+(Cohabiting_no_children*.572)
+(Experienced_debt_problems*5.904))).
EXECUTE.

```

```

MEANS TABLES=Benefits_probabilities Employment_probabilities Debt_probabilities BY DvUniAuth
/CELLS=MEAN.

```

For area level calculations

```

COMPUTE Ratio_directors_to_professionals=Managers_directors_and_senior_officials / Professional_occupations.
EXECUTE.

```

```

COMPUTE Elementary_and_plant=Elementary_occupations + Process_plant_and_machine_operatives.
EXECUTE.

```

```

COMPUTE
Managers_and_technical=Managers_directors_and_senior_officials+Associate_prof_and_tech_occupations.
EXECUTE.

```

```

COMPUTE Debt_rate=EXP(-3.130410+(Unemploy_rate*-0.078205)+
(Experiencedebtproblems*2.895545)+(Longtermlimitingillness*-1.508751)+(NumPep_tc*-
0.097595)+(Private_sector_rent*-1.340707)+
(Elementary_and_plant*2.973015)+(Benefits_probabilities*19.862177)+(Employment_probabilities*-
10.687139)+(Debt_probabilities*2.276300))
/(1+EXP(-3.130410+(Unemploy_rate*-0.078205)+
(Experiencedebtproblems*2.895545)+(Longtermlimitingillness*-1.508751)+(NumPep_tc*-
0.097595)+(Private_sector_rent*-1.340707)+
(Elementary_and_plant*2.973015)+(Benefits_probabilities*19.862177)+(Employment_probabilities*-
10.687139)+(Debt_probabilities*2.276300))).
EXECUTE.

```

```

COMPUTE Benefits_rate=EXP(-0.836927+(Economicstatus*-1.072406)+(Experiencedebtproblems*-1.887772)+
(NumPep_tc*-0.427670)+(Public_sector_rent*-
0.870150)+(Benefits_probabilities*26.606672)+(Employment_probabilities*-30.579620)+
(Debt_probabilities*5.028091))
/(1+EXP(-0.836927+(Economicstatus*-1.072406)+(Experiencedebtproblems*-1.887772)+
(NumPep_tc*-0.427670)+(Public_sector_rent*-
0.870150)+(Benefits_probabilities*26.606672)+(Employment_probabilities*-30.579620)+
(Debt_probabilities*5.028091))).
EXECUTE.

```

```

COMPUTE Employment_rate=EXP(-5.261659+
(Populationdensity*-0.006266)+
(Carer*2.751214)+
(Academicqualifications*1.846241)+
(Economicstatus*-1.221169)+
(Longtermlimitingillness*2.219155)+
(Employment_probabilities*30.429512))
/(1+EXP(-5.261659+
(Populationdensity*-0.006266)+
(Carer*2.751214)+
(Academicqualifications*1.846241)+
(Economicstatus*-1.221169)+
(Longtermlimitingillness*2.219155)+
(Employment_probabilities*30.429512))).
EXECUTE.

```

```

COMPUTE Money_rate=EXP(-4.041413+(Populationdensity*0.009992)+(Region*-
1.725584)+(Transport*2.110487)+
(Academicqualifications*2.928822)+(NumPep_tc*-0.547346)+(Managers_and_technical*-5.324079)+
(Benefits_probabilities*15.283151)+(Employment_probabilities*-24.699817)+(Debt_probabilities*6.131617))
/(1+EXP(-4.041413+(Populationdensity*0.009992)+(Region*-1.725584)+(Transport*2.110487)+
(Academicqualifications*2.928822)+(NumPep_tc*-0.547346)+(Managers_and_technical*-5.324079)+
(Benefits_probabilities*15.283151)+(Employment_probabilities*-24.699817)+(Debt_probabilities*6.131617))).
EXECUTE.

```

```

COMPUTE Housing_rate=EXP(-10.383753+(Managers_directors_and_senior_officials*-18.404190)+
(Professional_occupations*15.144852)+(Secretarial_occupations*10.001292)+
(Elementary_occupations*11.436366)+(Countryofbirth*1.774574)+(Ethnicity*1.071329)+
(Ratio_directors_to_professionals*4.519091)+(Benefits_probabilities*17.881393))
/(1+EXP(-10.383753+(Managers_directors_and_senior_officials*-
18.404190)+(Professional_occupations*15.144852)+
(Secretarial_occupations*10.001292)+(Elementary_occupations*11.436366)+(Countryofbirth*1.774574)+(Ethnicity*
1.071329)+
(Ratio_directors_to_professionals*4.519091)+(Benefits_probabilities*17.881393))).
EXECUTE.

```

6. Variables used in the model

Source	Variable	Level
ONS Annual Population Survey	Unemployment rate (as a proportion of the economically active)	Local authority
ONS Annual Population Survey	The proportion of people working in elementary or plant jobs	Local authority
All	Local authority is in Wales	Local authority
NSW	The proportion of people who have access to private transport	Local authority
NSW	The proportion of people with a long-term, limiting illness	Local authority
NSW	The average number of people in a household	Local authority
Derived from ONS Annual Population Survey	The ratio of people who work in managerial jobs and people who work in professional jobs	Local authority
ONS Annual Population Survey	Proportion of people who work in customer service occupations	Local authority
ONS Annual Population Survey	Proportion of people who work in managerial jobs	Local authority
ONS Annual Population Survey	Proportion of people who work in professional jobs	Local authority
NSW	The proportion of people who are economically inactive	Local authority
NSW	The proportion of people experiencing difficulty with paying bills	Local authority

Source	Variable	Level
Derived from ONS National and Local Authority Level Population Estimates (and hectarage)	Population density	Local authority
NSW	Proportion of people who are carers	Local authority
ONS Annual Population Survey	The proportion of people who have academic qualifications	Local authority
ONS Annual Population Survey	The proportion of people born outside of the UK	Local authority
ONS Annual population survey	The proportion of people not identifying as White British/Welsh	Local authority
NSW	The proportion of people renting in the private sector	Local authority
NSW	The proportion of people renting in the public sector	Local authority
ONS Annual Population Survey	The proportion of people who work in managerial or technical jobs	Local authority
ONS Annual Population Survey	Proportion of people who work in administrative jobs	Local authority
NSW	Being married with no children	Individual
NSW	Being a lone parent	Individual
NSW	Being single with no children	Individual
NSW	Cohabiting with children	Individual
NSW	Cohabiting with no children	Individual
NSW	Aged between 30 and 39	Individual
NSW	Aged between 40 and 49	Individual
NSW	Aged between 50 and 59	Individual
NSW	Aged 60 or over	Individual

Source	Variable	Level
NSW	Having a long-term, limiting illness	Individual
NSW	Experiencing difficulties with paying bills	Individual
NSW	Having academic qualifications	Individual
NSW	Number of people in household	Individual
Derived from NSW	Economically inactive AND experiencing difficulty in paying bills	Individual
Derived from NSW	Economically inactive AND NOT experiencing difficulty in paying bills	Individual
Derived from NSW	Economically active AND experiencing difficulty in paying bills	Individual