The Geography of Old Age in Late-Victorian England and Wales

A User Guide to the Dataset

Dr Tom Heritage

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Introduction

This aggregate-level dataset links poor relief data recorded on 1 January 1891 with several variables from corresponding 1891 census data, all at the level of the registration district (RD). Specifically, the numbers of men and women receiving indoor and outdoor relief in the 'non-able-bodied' category (taken as a proxy of the numbers of older-age men and women on relief) are accompanied with a series of socio-economic variables calculated from census data on the population aged 60 years and over (our definition of 'old age').

Thus, the dataset fulfils two objectives:

- To start reconciling poor relief data from the House of Commons Parliamentary Papers archive with transcribed Integrated Census Microdata (I-CeM) available at the UK Data Service (UKDS).
- To capture geographical variations in the proportion of older-age men and women on poor relief as well as in several household, occupational and migratory compositions recorded in the census, consulting data from 1891 as a pilot study in anticipation of an extended project covering all censuses from 1851-1911.

The dataset is based on these existing data:

The Integrated Census Microdata project (I-CeM). These are readily available for download from UKDS. They are transcriptions of raw census enumerators' books (CEBs) data for all populations of England and Wales between 1851 and 1911 (excluding 1871, although this period is in elementary format to researchers at the Cambridge Group for the History of Population and Social Structure, University of Cambridge, or CAMPOP). Consisting of 162 million individual records, the data are accompanied with a series of occupational, household and migration codes that run to near 100 variables. They are presented in anonymised format as well as a secure data format with names. A further enhanced version of I-CeM produced by original PI of I-CeM Professor Kevin Schürer, who (at the time of writing) is at CAMPOP, corrects numerous significant errors in the original I-CeM, including a far better allocation of people to places and corrections to the derived family and household variables (Schürer and Higgs, 2020, SN: 7481).

Poor Relief reports. These data are available from the House of Commons Parliamentary Papers archive as scans of the original print copies. Biannually, the House of Commons produced the numbers of men, women and children receiving poor relief on 1 January and 1

July since 1850 at county level and since 1857 at Poor Law Union level for all of England and Wales. Although Poor Law Union level data cease by 1912, coverage exists in full. Digitised transcriptions exist in datasets by Humphrey R. Southall and David R. Gilbert (2020, SN: 4567) entitled 'Great Britain Historical Database: Economic Distress and Labour Markets Data: Poor Law Statistics, 1859-1919'. Although embargoed on UKDS, they are released to the public on the website 'A Vision of Britain Through Time'. Also, there is Ian Plewis' dataset (2020, SN: 7822) entitled 'Census and Poor Law Union Data, 1871-1891'. It is open for direct download on UKDS and aims to replicate research produced by Victorian contemporary G. Udny Yule (1899).

Extracting and Enhancing the Poor Relief Data

Plewis provides data for Poor Law Unions recorded on 1 January 1871, 1881 and 1891, so it was decided to make a copy of all relevant variables gathered by Plewis of 1 January 1891. However, his data only record Poor Law Unions in England, not those in Wales. Also, the age profiles of the older-age population are derived from the published census abstracts produced alongside original analysis of the census data by Victorian contemporaries, rather than the more refined raw CEB data on which the abstracts extracted their data.

Further coding, checking and cleaning was required to enhance Plewis' original data. The enhancements are:

- 1. The addition of Poor Law Unions in Wales.
- 2. Providing numbers of older people aged 60 years and over from raw CEB data, rather than the published census abstracts.
- 3. The inclusion of additional variables related to census information on the household, migratory and occupational circumstances of older people.

After removing the Poor Law Unions of Shrewsbury, Radford and Witham, owing to lack of data for 1 January 1891, Poor Law Unions in the counties of Monmouthshire, South Wales and North Wales were added, increasing our total number of Poor Law Unions from 599 to 648.

A new variable, 'Subcounty', was created to incorporate the following Welsh sub-counties mentioned in the original Poor Relief reports:

County	Subcounty
North Wales	Anglesey
North Wales	Carnarvonshire
North Wales	Denbighshire
North Wales	Flintshire
North Wales	Merionethshire
North Wales	Montgomeryshire
South Wales	Brecknockshire
South Wales	Cardiganshire
South Wales	Carmarthenshire
South Wales	Glamorganshire
South Wales	Pembrokeshire
South Wales	Radnorshire

The English Poor Law Union names were then spaced rather than merged (i.e., London City, rather than Plewis' transcription LondonCity). References to Unions recorded as '(renamed)' by Plewis to reflect changes between 1871-1891 have been removed and replaced with the Union name as was recorded in the Poor Relief report for 1 January 1891.

Plewis' variables on population density (BoothDensity), the total population in 1891 (PlewisPopu1891), and the male and female population aged 65 years and over (PlewisM6591 and PlewisF6591) are retained to provide comparisons with the population totals from the refined CEB data. Information on these for Wales is lacking, so it was manually inputted from Charles Booth's publication, *The Aged Poor in England and Wales* (1894), where data from the 1891 published abstracts and pauperism rates across 1891-2 are presented for every Poor Law Union in England and Wales.

The Welsh Poor Law Union data was then checked from the original poor relief record to see if the numbers tallied with the total number of poor relief recipients (both in the 'able-bodied' and 'non-able-bodied' categories). This is because blemishes on the original Poor Relief record obscured the 'non-able-bodied' figures. The data for the Unions of Llanelly and Wrexham were thus checked and verified.

Plewis also grouped Poor Law Unions into 20 categories derived from Booth (1894) for each Poor Law Union, related to group number, geographical and economic composition. As the data were merged into one column, the strings were then split into three columns: BoothNumber; BoothGeoType, and BoothOccType.

The categories are as follows:

BoothNumber	BoothGeoType	BoothOccType
1	Rural	Agriculture(1)
2	Rural	Agriculture(2)
3	Rural	Agriculture and Town(1)
4	Rural	Agriculture and Town(2)
5	Rural	Mining
6	Rural	Manufacture
7	Rural	Shipping
8	Rural	Residential and Pleasure resorts
9	Half Rural	Agriculture and Town
10	Half Rural	Mining
11	Half Rural	Manufacture
12	Half Rural	Shipping
13	Half Rural	Residential
14	Mostly Urban or Semi-Urban	Mining
15	Mostly Urban or Semi-Urban	Manufacture
16	Mostly Urban or Semi-Urban	Residential
17	Provincial Urban	Manufacture and Trade
18	Provincial Urban	Residential
19	London	Manufacture and Trade
20	London	Residential

The differences between Groups 1 and 2 and between Groups 3 and 4 in BoothNumber relate to variations in population density (see Booth, 1894, p. 62).

Plewis' dataset is at the aggregated level of the Poor Law Union, not Registration District. Although the geographical boundaries between them are similar, there are fewer Registration Districts. A variable not included in the final dataset, HeritageUnionNotRD, denotes the present author's designation of those Registration Districts that contained separate Poor Law Unions. These were marked with the designation 'Union'.

In this way, the poor relief data belonging to the Poor Law Unions were then combined to make up the Registration District. For example, WINCHESTER RD contains within its boundaries the Poor Law Unions of New Winchester and Hursley. The poor relief data from both Unions were combined into WINCHESTER RD.

As such, the poor relief data in 13 RDs are composed of data from Poor Law Unions embedded within. They are listed as follows:

RD Number	RD Name	Union Name (data combined into RD Name)
76	LEWES	Chailey
		Lewes
		West Firle
		Newhaven
101	WINCHESTER	New Winchester
		Hursley
135	HATFIELD	Hatfield
		Welwyn
132	ROYSTON	Royston
		Buntingford
265	DORCHESTER	Dorchester
		Cerne
339	HEREFORD	Hereford
		Dore
371	WOLVERHAMPTON	Wolverhampton
		Seisdon
424	CAISTOR	Caistor
		Grimsby
442	HAYFIELD	Glossop
		Hayfield
450	CHESTER	Chester
		Tarvin
		Hawarden
530	HELMSLEY	Helmsley
		Kirkby Moorside
507	WORTLEY	Wortley
		Penistone
543	STOCKTON	Stockton
		Sedgefield

The Unions of both Kensington and Paddington and both Bradford (Yorkshire) and North Bierley, although presented as separate rows by Plewis, in fact share the same RD number for census registration. Thus, RD 1 is designated 'KENSINGTON / PADDINGTON' and RD 497 is designated 'BRADFORD / NORTH BIERLEY'; the poor relief data for each Poor Law Union were combined into their RDs. The population density data for RD 1 and RD 497 is based on an average of the densities for both Kensington and Paddington Poor Law Unions and Bradford and North Bierley Poor Law Unions.

The variable 'Union' was renamed 'UnionName' and a variable 'RDNameSW' was created. The names of RDs were inputted using 'RDNameSW' as a guide; they are denoted through capitalisation (i.e., CAMBRIDGE). The RD names were derived from datasets created by Gill Newton in 2019 for a project led by Samantha Williams (hence the designation SW on 'RDNameSW') on populations enumerated in the workhouses of England and Wales. These data, co-created with Max Satchell, are available on CAMPOP's HPSS Core Filespace and the final data on workhouse populations embargoed up to the end of December 2021 at the UK Data Service (SN: 853999).

In the event that identical names appear across two or more RDs (i.e. RD 358 – NEWPORT in Shropshire and RD 585 – NEWPORT in Monmouthshire), they were differentiated with references to their counties in which they were based: 'NEWPORT (SHROPSHIRE)' and 'NEWPORT (MONMOUTHSHIRE)'.

With the ID numbers recalibrated to reflect the order of the RDs according to census registration, a manual check on the poor relief data was taken by comparing transcriptions from Plewis' dataset with the original poor relief record. Plewis used Optical Character Resolution to scan the poor relief data from the image files to actual numbers, and confirmed the accuracy through a test run of 169 Poor Law Unions (Plewis and Schmidt, 2015, pp. 3-5). The manual check indicated that, save for three errors, which were swiftly corrected, all cells were accurate. However, other errors throughout the dataset were corrected:

RD 501 LEEDS was mistakenly labelled as 'Rural' in the 'BoothGeoType' variable with a population density score of 0.16. This was fixed to a score of 16 and an 'Urban' designation applied. RD 424 CAISTOR was also changed from 'Rural' to 'Mixed'.

The population density figures provided by Charles Booth for RD 596 LLANDILOFAWR and RD 597 CARMARTHEN differ (1894, pp. 58, 68, 495-6). The figures chosen were based on those inputted before discovering Booth's error (0.08 and 0.19 respectively). The poor relief figures for RD 454 TOXTETH PARK and RD 455 WEST DERBY were originally the other way round. This has now been fixed.

RD 38 CROYDON and RD 186 WEST HAM have also been corrected under the variable name 'Type' from 'Metropolitan' to 'Urban'. The county designation of 'Southampton', used in the original poor relief records and census abstracts, has been changed to 'Hampshire'.

Although 630 RDs are listed in the dataset, RD 302 SCILLY ISLANDS is absent owing to the lack of poor relief data. Before the poor relief data were calculated, the county names contained in RDs to denote differentiation were removed (for example, RD 358 NEWPORT – SHROPSHIRE became simply RD 358 NEWPORT).

The 'UnionName' and 'RDNameSW' variables were then removed.

Calculating the Poor Relief Data

The variables 'MNotAbT' and 'FNotAbT' refer to the total numbers of non-able-bodied men and women on poor relief by RD, derived from the variables of the numbers on indoor and outdoor relief.

The variables 'M60+' and 'F60+' comprise the total numbers of men and women aged 60 years and over by RD. Available on the HPSS Core Filespace at CAMPOP, it is also sourced from a dataset created by Professor Alice Reid supplied to the author: '1891 RD Populations by Age and Sex'. These are sourced from the further enhanced version of I-CeM produced at CAMPOP, providing a corrected version of the transcribed 1891 I-CeM data.

The variable 'HeriMpauPerC' denotes the percentage of males aged 60 years and over on poor relief, where 'MNotAbT' is divided by 'M60+' and multiplied by 100 ('Heri' means the present author, Heritage, denoting data created by the present author). The variable 'HeriFpauPerC' is the percentage of females aged 60 years and over on poor relief, where 'FNotAbT' is divided by 'F60+' and multiplied by 100.

'M0-59' and 'F0-59' comprise the numbers of men and women aged 0-59 years by RD, derived from Reid's dataset. The numbers were added with those in the 'M60+' and 'F60+' variables, to come to the total population figures for males and females, or 'MPopT' and 'FPopT'. With that, the proportion of the total male and female population aged 60 years and over was calculated. They are respectively labelled 'M60+PerC' and 'F60+PerC'.

To provide comparisons with Plewis' data containing the numbers of men and women aged 65 years and over from the published census abstracts, variables 'PlewMpPerC' and 'PlewFpPerC' were created which denote the percentages of men and women aged 65 years and over on poor relief ('Plew' meaning Plewis). The data are calculated from these variables: 'MNotAbT' divided by 'PlewisM6591' and multiplied by 100, and 'FNotAbT' divided by 'PlewisF6591' and multiplied by 100.

Poor relief on 1 January 1891 was issued either as 'indoor relief' (usually meaning welfare provided to those in an institution, especially workhouses) or as 'outdoor relief' (welfare prescribed at home). In order to calculate the percentage of poor relief granted to males and females as either on indoor or outdoor relief, these variables were created: 'MInPerC', 'FInPerC', 'MOutPerC', 'FOutPerC'. For example, the numbers that were male, not-able-

bodied, and on indoor relief were divided by the numbers that were overall male and non-ablebodied. The methods to calculate these variables follow:

MInPerC	=	MNotABI91/MNotABT	x 100
FInPerC	=	FNotABI91/FNotABT	x 100
MOutPerC	=	MNotABO91/MNotABT	x 100
FOutPerC	=	FNotABO91/FNotABT	x 100

Finally, the numbers of the 'non-able-bodied' on poor relief do not inform us about the actual age composition of these claimants. In other words, some of these claimants may have been under the age of 60 years, and the objective is to assess the numbers on poor relief that passed the threshold of 'old age'. C.S. Loch (1906) proposed from evidence revealing the actual numbers aged 60 years and over on poor relief that 81.7 per cent of the 'non-able-bodied' population were over 60 years.

Ratios were thus created where the numbers of males and females on indoor relief, outdoor relief and in both categories were multiplied by 0.817. These variables are named: 'MNotABTRat', 'FNotABTRat', 'MNotABI91Rat', 'FNotABI91Rat', 'MNotABO91Rat', and 'FNotABI9ORat'. The method for calculating the percentages of males and females on poor relief generally, where Loch's ratio was deployed, follows:

HeriMpauPerCRat	=	MNotABTRat/M60+	x 100
HeriFpauPerCRat	=	FNotABTRat/F60+	x 100

As well as these, ratios based on Charles Booth's estimation that 75 per cent of the 'non-ablebodied' population were aged 65 years and over are presented as four variables (1899). The numbers on poor relief are calculated as:

BoothMNotABTRat	=	MNotABT	x 0.75
BoothFNotABTRat	=	FNotABT	x 0.75

The percentages of the male and female non-able-bodied population assumed by Booth to be aged 65 years and over was calculated as:

BoothMNotABTPCRat	=	BoothMNotABTRat/PlewisM6591 x 100
BoothFNotABTPCRat	=	BoothFNotABTRat/PlewisF6591 x 100

The 'Demographic Data' Sheet

All RD names, the geographical and economic compositions of said RDs, their poor relief and their demographic variables discussed above were grouped into the sheet 'Demographic Data'. Presented by columns in Excel, they are listed here:

COLUMN	VARIABLE	LABEL
Α	ID	Identification number
В	RDName	The name of the registration district
С	Region	Regions as defined by census registration divisions
D	County	County where registration district is based
E	Subcounty	Welsh sub-counties grouped under main Welsh counties
F	Туре	Geographical composition defined by Charles Booth (Metropolitan, Mixed, Urban, Rural)
G	BoothNumber	The group number allocated by Booth to a Poor Law Union/RD
Н	BoothGeoType	The geographical type allocated by Booth to a Poor Law Union/RD
1	BoothOccType	The occupational type allocated by Booth to a Poor Law Union/RD
J	BoothDensity	Persons per acre by Poor Law Union reported by Charles Booth
К	MNotABI91	The number of non-able-bodied males on indoor relief on 1 January 1891
L	FNotABI91	The number of non-able-bodied females on indoor relief on 1 January 1891
м	MNotABO91	The number of non-able-bodied males on outdoor relief on 1 January 1891
N	FNotABO91	The number of non-able-bodied females on outdoor relief on 1 January 1891
0	MNotABT	The number of non-able-bodied males on indoor/outdoor relief on 1 January 1891
Р	FNotABT	The number of non-able-bodied females on indoor/outdoor relief on 1 January 1891
Q	MNotABTRat	The number of non-able-bodied males on indoor/outdoor relief on 1 January 1891, excluding those that may have not been under 60 years of age
R	FNotABTRat	The number of non-able-bodied females on indoor/outdoor relief on 1 January 1891, excluding those that may have not been under 60 years of age
S	MNotABI91Rat	The number of non-able-bodied males on indoor relief on 1 January 1891, excluding those that may have not been under 60 years of age

Т	FNotABI91Rat	The number of non-able-bodied females on indoor relief on
		1 January 1891, excluding those that may have not been
		under 60 years of age
U	MNotABO91Rat	The number of non-able-bodied males on outdoor relief on 1
		January 1891, excluding those that may have not been under
		60 years of age
V	FNotABO91Rat	The number of non-able-bodied females on outdoor relief on
		1 January 1891, excluding those that may have not been
		under 60 years of age
W	M60+	Number of males aged 60 years and over
X	F60+	Number of females aged 60 years and over
Y	HeriMpauPerC	The percentage of non-able-bodied males on indoor/outdoor
		relief on 1 January 1891
Z	HeriFpauPerC	The percentage of non-able-bodied females on
		indoor/outdoor relief on 1 January 1891
AA	HeriMpauPCRat	The percentage of non-able-bodied males on indoor/outdoor
		relief on 1 January 1891, excluding those that may have not
		been under 60 years of age
AB	HeriFpauPCRat	The percentage of non-able-bodied females on
		indoor/outdoor relief on 1 January 1891, excluding those
		that may have not been under 60 years of age
AC	PlewisPopn1891	Number of the total population recorded by Plewis from
		published 1891 census abstracts
AD	PlewisM6591	Number of the male population aged 65 years and over
		recorded by Plewis from published 1891 census abstracts
AE	PlewisF6591	Number of the female population aged 65 years and over
		recorded by Plewis from published 1891 census abstracts
AF	PlewMpPerC	The percentage of non-able-bodied males on indoor/outdoor
		relief on 1 January 1891 out of the male population aged 65
		years and over
AG	PlewFpPerC	The percentage of non-able-bodied females on
		indoor/outdoor relief on 1 January 1891 out of the female
		population aged 65 years and over
AH	BoothMNotABTRat	The number of non-able-bodied males on indoor/outdoor
		relief on 1 January 1891, based on Booth excluding those that
		may have not been under 65 years of age
AI	BoothFNotABTRat	The number of non-able-bodied females on indoor/outdoor
		relief on 1 January 1891, based on Booth excluding those that
		may have not been under 65 years of age
AJ	BoothMNotABTPCRat	The percentage of non-able-bodied males on indoor/outdoor
		relief on 1 January 1891, based on Booth excluding those that
		may have not been under 65 years of age
АК	BoothFNotABTPCRat	The percentage of non-able-bodied females on
		indoor/outdoor relief on 1 January 1891, based on Booth

		excluding those that may have not been under 65 years of
		age
AL	M0-59	Number of males aged 0-59 years
AM	F0-59	Number of females aged 0-59 years
AN	МРорТ	Number of the total male population recorded in 1891 census from I-CeM
AO	FPopT	Number of the total female population recorded in 1891 census from I-CeM
ΑΡ	M60+PerC	Percentage of the male population aged 60 years and over
AQ	F60+PerC	Percentage of the female population aged 60 years and over
AR	MInPerC	The percentage of the share of non-able-bodied males on poor relief who were granted indoor relief
AS	FInPerC	The percentage of the share of non-able-bodied females on poor relief who were granted indoor relief
AT	MOutPerC	The percentage of the share of non-able-bodied males on poor relief who were granted outdoor relief
AU	FOutPerC	The percentage of the share of non-able-bodied females on poor relief who were granted outdoor relief

Extracting Census Data

The series of socio-economic census variables included in this dataset are sourced from a text file containing 2,114,020 males and females aged 60 years and over in the 1891 census. This was supplied to the author by Professor Alice Reid and contain 47 variables requested by the author. The exclusion of RD 302 SCILLY ISLANDS produces an overall sample size of 2,113,797.

The variables are in the second sheet of the dataset, titled 'Economic Data'. The occupational and household variables derive from the numeric codes ascribed to an occupation and a household structure (recorded in the variables 'Occode' and 'HHD' respectively; information on those 'living on own means' was gathered from a variable denoting whether one was actively pursuing an occupation, 'Inactiv'). The migratory variables are based on the distance between an individual's parish of enumeration on census night and their parish of birth, recorded in the text file under the variable 'MIN_DIST_KM', based on an unpublished dataset created by Dr Joseph Day (for more information, see Jaadla *et al.*, 2020, pp. 1,550-1,551). Information on 'Occode' and 'HHD' are in the Integrated Census Microdata (I-CeM) guidebook (Higgs *et al.*, 2013, pp. 163-183, 234-7).

These socio-economic variables are not in the original text file itself, but derive from Stata commands of tabulations by RD number (known in the text file as the variable 'RD') and sex

(known as 'Sex'), using the 'preserve, keep and restore' functions on Stata to filter out the selected codes required for tabulation of key socio-economic compositions.

To include one example, the original text file data are 'preserved' in its original state, before we keep all those in the data that are male (command: keep if Sex=="M"). We then keep those males with an occupational code of 181 (denoting those working as agricultural labourers; command: keep if Occode==181). With a sample size of 100,279, we then tabulate by RD and sex (command: tab RD Sex). The numbers by RD are then integrated into our dataset as the variable 'MAgLab', and the proportion out of the population calculated as:

$$MAgLabPerC = MAgLab/M60 + x 100$$

The data on the text file are restored to return to the original 2,114,020 sample size. The same process is applied to the remainder of the socio-economic variables (excluding again data from RD 302 SCILLY ISLANDS).

All the selected socio-economic census data were calculated as a proportion of the population aged 60 years and over, using 'M60+' and 'F60+' as the denominator. While it is possible to expand upon this dataset by incorporating more data from the text file, those seen in the dataset reflect those utilised in two unpublished papers (Heritage, 2022a; Heritage, 2022b).

The 'Economic Data' Sheet

The data for columns A-J of the 'Demographic Data' sheet appear in identical columns of the 'Economic Data' sheet. From column K onwards, the variable names and labels for both the numbers in a variable and percentages of the population aged 60 years and over in the 'Economic Data' sheet, as well as how they were extracted in the I-CeM text file and their correspondence with sex, are as follows:

COLUMN	VARIABLE	SEX	LABEL	I-CeM	I-CeM
				VARIABLE	CODE
К	M60+	Male	Number of the population	N/A	N/A
			aged 60 years and over		
L	F60+	Female	Number of the population	N/A	N/A
			aged 60 years and over		
М	MAgLab	Male	Number working as	Occode	181
			agricultural labourers		
Ν	MAgLabPerC	Male	Percentage working as	Occode	181
			agricultural labourers		
0	MFarm	Male	Number working as farmers	Occode	173

Р	MFarmPerC	Male	Percentage working as	Occode	173
			farmers		
Q	MGLab	Male	Number working as general labourers	Occode	765
R	MGLabPerC	Male	Percentage working as general labourers	Occode	765
S	MExMul	Male	Number living in an extended/multiple household type	HHD	410- 599
Т	MExMulPerC	Male	Percentage living in an extended/multiple household type	HHD	410- 599
U	MCoupAl	Male	Number living as a married couple without offspring/relatives	HHD	310
V	MCoupAlPerC	Male	Percentage living as a married couple without offspring/relatives	HHD	310
W	MSolWid	Male	Number living in a solitary household type and are widowed	HHD	110
X	MSolWidPerC	Male	Percentage living in a solitary household type and are widowed	HHD	110
Y	MDis11-50	Male	Number living 11-50KM from their birthplace	MIN_DIST_ KM	N/A
Z	MDis11-50PerC	Male	Percentage living 11-50KM from their birthplace	MIN_DIST_ KM	N/A
AA	MDis51-800	Male	Number living 51-800KM from their birthplace	MIN_DIST_ KM	N/A
AB	MDis51-800PerC	Male	Percentage living 51-800KM from their birthplace	MIN_DIST_ KM	N/A
AC	FDomServ	Female	Number working as domestic servants	Occode	84
AD	FDomServPerC	Female	Percentage working as domestic servants	Occode	84
AE	FCharLaun	Female	Number working as charwomen and as laundry workers	Occode	104- 105
AF	FCharLaunPerC	Female	Percentage working as charwomen and as laundry workers	Occode	104- 105
AG	FLiving	Female	Number recorded 'living on own means' as occupation	Inactiv	6

AH	FLivingPerC	Female	Percentage recorded 'living	Inactiv	6
			on own means' as		
			occupation		
AI	FExMul	Female	Number living in an	HHD	410-
			extended/multiple		599
			household type		
AJ	FExMulPerC	Female	Percentage living in an	HHD	410-
			extended/multiple		599
			household type		
AK	FCoupAl	Female	Number living as a married	HHD	310
			couple without		
			offspring/relatives		
AL	FCoupAlPerC	Female	Percentage living as a	HHD	310
			married couple without		
			offspring/relatives		
AM	FSolWid	Female	Number living in a solitary	HHD	110
			household type and are		
			widowed		
AN	FSolWidPerC	Female	Percentage living in a solitary	HHD	110
			household type and are		
			widowed		
AO	FDis11-50	Female	Number living 11-50KM from	MIN_DIST_	N/A
			their birthplace	КМ	
AP	FDis11-50PerC	Female	Percentage living 11-50KM	MIN_DIST_	N/A
			from their birthplace	КМ	
AQ	FDis51-800	Female	Number living 51-800KM	MIN_DIST_	N/A
			from their birthplace	КМ	
AR	FDis51-800PerC	Female	Percentage living 51-800KM	MIN_DIST_	N/A
			from their birthplace	КМ	

The 'Control Data' Sheet

The explanatory variables were then accompanied with a series of control variables derived from I-CeM as well as other source materials, in order to provide the background context of each RD. They include the proportion of the population aged 60 years and over and population density sizes provided by Charles Booth, both of which are also seen in the 'Demographic Data' sheet. They also include the proportion of males aged 15-64 years in the first seven social groups defined by the Registrar General in the 1911 census (the eighth group is excluded as the patterns in the composition of males aged 15-64 years in agricultural labouring were identical to that of males aged 60 years and over, as captured in the 'MAgLab' variable in the 'Economic Data' sheet), and the percentages of married and single women aged 15 years and over recorded as working (widowed groups excluded as we are interested in incorporating data

on younger populations, and the widowed were more likely to be elderly), all from the 1891 census and accessible via the CAMPOP website populationspast.org (for more information, see Garrett and Reid, 2018). They are also stored on the UK Data Service (Reid *et al.*, 2020, SN: 8613), with data files for each period and by RSD (registration subdistrict, which was below RD in the census boundary hierarchy). Columns A-L are identical to the columns in the 'Economic Data' sheet. From Column M, a list of these variables follows:

COLUMN	VARIABLE	SEX	LABEL	SOURCE
М	M60+PerC	Male	Percentage of the population aged 60 years and over	I-CeM
N	F60+PerC	Female	Percentage of the population aged 60 years and over	I-CeM
0	Population	N/A	The overall numbers in the population by RD	populationspast.org
Р	RGOne	Male	Number of men aged 15-64 years in RG Class 1: Professional	populationspast.org
Q	RGOnePerC	Male	Percentage of men aged 15-64 years in RG Class 1: Professional	populationspast.org
R	RGTwo	Male	Number of men aged 15-64 years in RG Class 2: Non-Manual Skilled	populationspast.org
S	RGTwoPerC	Male	Percentage of men aged 15-64 years in RG Class 2: Non-Manual Skilled	populationspast.org
т	RGThree	Male	Number of men aged 15-64 years in RG Class 3: Manual Skilled	populationspast.org
U	RGThreePerC	Male	Percentage of men aged 15-64 years in RG Class 3: Manual Skilled	populationspast.org
V	RGFour	Male	Number of men aged 15-64 years in RG Class 4: Manual Semi-Skilled	populationspast.org
W	RGFourPerC	Male	Percentage of men aged 15-64 years in RG Class 4: Manual Semi-Skilled	populationspast.org
X	RGFive	Male	Number of men aged 15-64 years in RG Class 5: Manual Unskilled	populationspast.org
Y	RGFivePerC	Male	Percentage of men aged 15-64 years in RG Class 5: Manual Unskilled	populationspast.org
Z	RGSix	Male	Number of men aged 15-64 years in RG Class 6: Textile Workers	populationspast.org
AA	RGSixPerC	Male	Percentage of men aged 15-64 years in RG Class 6: Textile Workers	populationspast.org
AB	RGSeven	Male	Number of men aged 15-64 years in RG Class 7: Miners	populationspast.org
AC	RGSevenPerC	Male	Percentage of men aged 15-64 years in RG Class 7: Miners	populationspast.org

AD	MarWomen	Female	Number of married women aged 15 years and over working	populationspast.org
AE	MarWomenPerC	Female	Percentage of married women aged 15 years and over working	populationspast.org
AF	SigWomen	Female	Number of single women aged 15 years and over working	populationspast.org
AG	SigWomenPerC	Female	Percentage of single women aged 15 years and over working	populationspast.org

The data from populationspast.org are available for download on its website but only at RSD level (RD levels can be viewed at populationspast.org in map format). It is possible to recover the numbers by RD by dividing the percentage given to a particular variable for each RSD by 100, and multiplying the outcome by the RSD's population. The numbers for each RSD are then combined into their corresponding RDs, and those numbers integrated into our dataset.

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