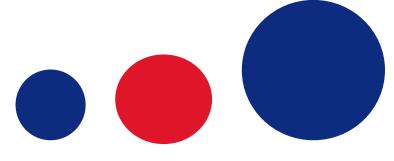
Government Operational Research

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Department for Work and Pensions





<u>Summary</u>



- Introduction to GORS and the Civil Service
- Myself and my role
- Working in GORS
- Career opportunities
- Questions

What is Operational Research?



OR society: https://www.theorsociety.com/about-or/

"Operational research (OR) is a scientific approach to the solution of problems in the management of complex systems that enables decision makers to make better decisions."

- Generally: using applied maths to solve real world problems and help make better decisions.
- Used to reduce risk, enhance revenue, improve customer service...
- OR is usually collaborative, need to engage with stakeholders to address the problem.



 Lots of routes into OR, there is not a typical Operational Researcher.

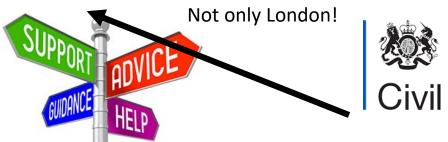
The Civil service



























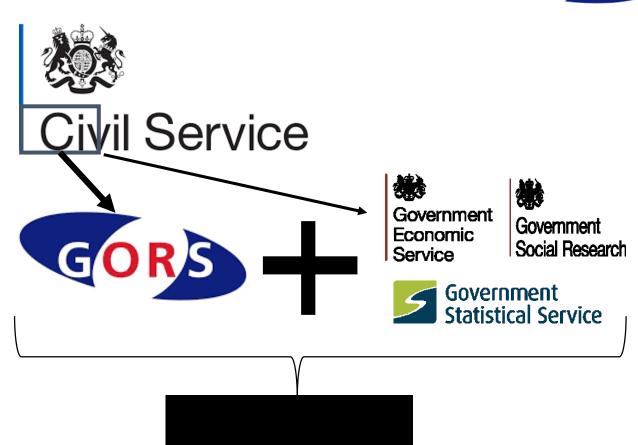
Government Operational Research Service (GORS)



 400,000 people in the civil service, with jobs from psychologist to lawyers and policy makers.

 GORS has more than 1,000 analysts spread across 25 departments/ agencies.

 Operational Researchers use analysis to advise decision makers in government.







Qualifications:

- 2015-2018: BSc Mathematics Durham University
- 2018/19: MSc Operational Research and Data Science Edinburgh University

GORS:

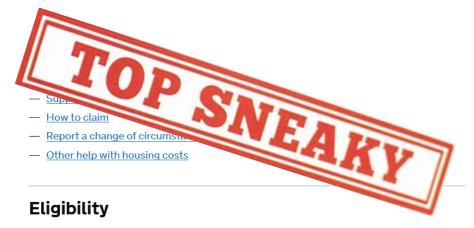
- 2019/20: Housing Benefit analyst Department for Work and Pensions
- 2020: Forecasting Universal Credit Department for Work and Pensions

My role – Housing Benefit analyst GORS



- Main role: use data to support Housing Benefit (HB) policy.
- Housing Benefit (HB): payments made by the government to help claimants pay their rent.
- Data handling and analysis: build datasets, extract and analyse data.
- Forecasting/predicting Housing Benefit, impacts of certain policies.
- Help understand the past, current state and predict the future states of HB.

Housing Benefit



Housing Benefit can help you pay your rent if you're unemployed, on a low income or claiming benefits. It's being replaced by Universal Credit.

You can make a new claim for Housing Benefit if any of the following apply:

- · you're getting the severe disability premium, or are entitled to it
- you got or were entitled to the severe disability premium within the last month and are still eligible for it
- you have reached State Pension age
- you're in supported, sheltered or temporary housing

My role - Day to day



Main part of the day spent working on some kind of analysis.

Plenty of emails and meetings.

Need to agree priorities, update on current work, discuss problems,

learn about other's work...

 Work on analysis but also need to work with others, document and communicate my results.



My role - Project example

- Project working with the Prime Ministers Implementation Unit (PMIU), looking at HB and its economic Impact.
- Data analysis (Excel): extract large dataset and analyse it, understand univariate trends, use charts, mean, kernel density...
- Multivariate analysis, correlation, regression, statistical tests, small model building.
- Made a PowerPoint to display results, need to be understood by everyone.
- Presented my results to different departments and Number 10.



Obs	PartNumber	PartName	Amount_in_Stock	Price	ReceivedDate
1	AA11	hammer	55	32.26	03/27/2018
2	BB22	wrench	21	17.35	03/27/2018
3	BC85	clamp	80	9.55	08/16/1999
4	BV1E	timer	56	36.50	08/03/2000
5	CC33	socket	7	22.19	03/27/2018
6	JD03	switch	383	13.99	01/09/2000
7	K89R	seal	40	247.50	07/07/1998
8	KJ66	cutter	16	24.50	06/18/1999
9	LK43	filter	121	10.99	05/19/1999
10	M4J7	sander	98	45.88	06/20/1998
11	MN21	brace	43	27.87	08/10/1999
12	NCF3	valve	198	24.50	03/20/1999
42	I IVNI7	rad	244	11 EE	00/00/4000

Not actual data



Other types of work in GORS



 <u>Telephony</u>: working on running the Department. Analyse volume of calls made to helplines. Forecast number of staff needed to answer claimants...

• <u>Maintaining large models</u>: understand and aid development of a large model used for predictions. Engage with people that use the outputs. Produce special outputs, find errors...

• Others: <u>Education</u>: Analyse student finance loans, <u>UK border control</u>: passport eGate.

Is GORS for you?



What I like about my job:

- To solve complex problems using maths.
- To work on problems for the "public good".
- Great work/life balance.
- Lots of data which is ready to use.
- Easily move around and change role.
- Lots of learning and support.
- A friendly atmosphere.
- A very stable job.



Is GORS for you?

GORS

What I like less:

- Large "company".
- Lots of paperwork, lengthy processes.
- Constantly changing directions.
- Recruitment is very specific.
- Not sure where you will end up in the civil service.



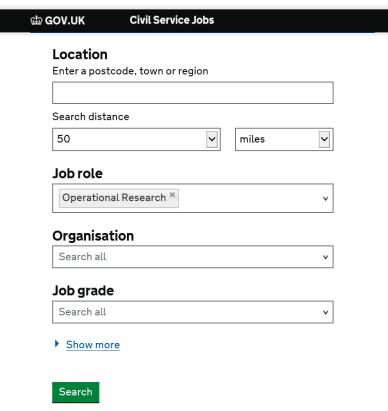
Career opportunities



• **Summer student placement**, shouldn't be your final year, applications open at the start of 2021.

 1-year student placement, part of your degree, applications closed at the end of October.

 Mainstream or Fast stream, permanent positions, applications closed at the end of October.



MSc dissertation with GORS

Applications: my hints and tips



- Job application is a skill.
- Like sports or playing music, you need to practice to get better.
- Don't apply for your dream job first.

- Confidence is important.
- Build your confidence by practicing
- And use the resources available: get your CV looked at, practice interviews and assessment centres, go to career talks.

• **Start early**: applications for Operational Research in the civil service close in November.



Applications are judged by people so quality is subjective.

- Quality is more important than quantity.
- Find jobs you really want, it will make applying easier.

- In the end, you only need one success.
- Even with a 20% success chance after 10 applications you have a 90% chance of getting an offer.



Contact Details and questions



GORS website: www.operational-research.gov.uk

Student placement email address: analytical.studentplacement@dwp.gov.uk

Civil service jobs: https://www.civilservicejobs.service.gov.uk/csr/index.cgi

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Any questions?