

Evaluating the Glasgow stock and its implications for Wales

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The Glasgow stock transfer

- 2003: Glasgow council transferred all of its social housing stock
- £4 Billion funding for infrastructure (~£1.5 Billion in first 10 years and ongoing)
- Evaluated by the GoWell project
- Example of area based regeneration and intervention





The Glasgow stock transfer

- The intervention took place entirely within Glasgow city council boundaries
- Glasgow city limits is underbounded
- Functional urban area extends across six other councils
- Opportunity to use difference-in-difference design





Data

- Using Scottish Longitudinal Study (SLS) sample and enumeration postcodes (1991 – 2001 – 2011)
- The Scottish Longitudinal Study (SLS) is a large-scale linkage study created using data from administrative and statistical sources, it is a 5.3% representative sample based on the Scottish censuses (<u>https://sls.lscs.ac.uk/</u>)
- Compare changes in employment in 2001 2011 for SLS members who lived in Glasgow and other control areas





Who are the treatment group?

- People living in Glasgow in 2001 (prior to 2002 ballot)
- Main interventions:
- 1) Change of governance from council to local housing organisations
- 2) Infrastructure repairs and demolitions
- 3) Direct capital spend (and employment multiplier effect)
- Note: Second stage transfer of housing not yet fully completed by 2011





Who are the control group(s)?

- The treatment took place within Glasgow city limits
- 1) Glasgow's urban area is larger than its city limits
- 2) Several contiguous social housing estates overspill its borders
- 3) Glasgow's borders shrunk in 1996 for unrelated reasons
- Difference in Difference (eliminates time invariant differences)





Deprivation map (Mason and Kearns 2018)



Figure 1. Most deprived quintile of neighbourhoods, Glasgow, 2016, Scottish Index of Multiple Deprivation (SIMD). Contains Scottish Government and Ordinance Survey Data. Source: © Crown copyright and database right 2012–6.





'Peripheral' neighbourhoods







Glasgow borders (pre-1996 / now)







Main results

- Tons of specification tests later...
- Positive effect on employment for <u>NON-social</u> renters (including HA and private renters; homeowners) [Effect size: 3.3% - 4.4%]
- No effect [<0.5%] on LA social renters in Glasgow either through:
 - 1. Direct spending or employment multiplier effects
 - 2. The combined effects of infrastructure and housing governance
- Context: Employment was not a primary objective of the intervention



Welsh context 1: Equitable benefits?

- Economic contribution due to capital spending is a noted benefit
- Who is benefitting? Further subgroup analyses:
- 1. Men not women
- 2. Families without dependent children
- 3. Individuals with post-secondary qualifications
- 4. ...and not LA social-renters





Welsh context 2: Evaluating evaluations

- Interventions are implemented in ways not conducive to evaluation
- What can we do to obtain 'good enough' estimates given minimal resources? [See LaLonde 1986; Cook et al]
- Example estimating the treatment effect for LA renters in Glasgow under realistic hypothetical scenarios
- Assume in all cases we have longitudinal data





Welsh context 2: Evaluating evaluations

Common problematic situations

- No control groups: Difference over time
- No randomised control group (match by socio-demographic and area (IMD))

Replication using SLS data (Target effect size = 0%)

• Glasgow only DiD (12.7%)

• Matching Glasgow residents with others in Scotland (3.7%)



Welsh context 2: Evaluating evaluations

Common problematic situations

Understanding Inequalities

 Attrition in longitudinal studies (Potential for imputation or reweighting) Replication using SLS data (Target effect size = 0%)

- What if people who moved address were more likely to drop out (Missing At Random: MAR)
- Effect size for non-movers (-0.07)
- Effect size for movers (0.07)
- No real bias (so far)





Evaluating evaluations: Future directions

- Recent study of ARBED and NEST using linked data (SAIL)
- What permutation of estimators, matching variables, and research designs would get us closest to the true treatment effect?
- Are we getting correct estimates by luck (or data mining)?
- Potential to collaborate? Test hypothesis re: best estimators?





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Appendix tables

	Alternative estimators (OLS) (Source: SLS)			
	No control group (1)	Matched control group (2)	Stayers (3)	Movers (4)
In Glasgow City		0.037**	-0.007	0.007
		(0.016)	(0.021)	(0.020)
Constant	0.127***	0.081***	0.156***	0.096***
	(0.012)	(0.007)	(0.013)	(0.011)
Observations	2,000	7,000	3,000	3,000
Note:	Frequencies are rounded to nearest 1,000			*p<0.1; **p<0.05; ***p<0.01





Appendix notes

- For matched control group we used exact matching by: sex, age, number of dependent children, post-secondary education, lone parent status, and proportion of datazone social renters in 2001.
- Some unmatched members of the treatment group an alternate estimator using OLS with same variables gives exact same results
- Simulating different attrition levels based on moving status doesn't fundamentally change results

