

The relationship between growth and poverty in British cities

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Introduction

- General assumption that growth will reduce poverty building on developing country evidence (e.g. China)
- But, concern in UK that growth may have ‘decoupled’ from living standards (Plunkett et al. 2013)
 - Poverty reductions achieved through redistribution not wage growth (Brewer, 2012)
- Growth highly uneven between British cities (Gardiner et al. 2013)
- Cities increasingly seen as important for growth and given new powers over areas of quasi-social policy (e.g. Skills)
- Yet little research on the link between economic growth and poverty at a city level

How might growth affect poverty

- **Employment** – creation of new jobs likely to be key issue
 - If jobs go to households in poverty (i.e. not second earner households)
 - May lead to in-work poverty
- **Wage increase**
 - Maybe due to a tighter labour market
 - Depending on distribution of wage increases
- **Raised costs** – reducing real incomes

Existing evidence

- Developing world literature (e.g. Dollar & Kray 2003; Dollar et al. 2013:
 - *Output* growth can reduce poverty in national studies
 - But context matters – i.e. sectors / geography
 - Some circumstances (i.e. India) doesn't apply
- Some research for United States (Partridge & Rickman, 2008a; 2008b)
 - *Employment* growth reduces poverty in US sub-national studies
 - But, context matters – growth needs to be near the poor
- No study (that we are aware of) on UK

Data

- **Poverty data**
 - No standard, time-consistent, geographically specific measure of relative poverty
 - Unadjusted Means-Tested Benefits Rate (UMBR) - annual average of % of households claiming major means-tested out-of-work benefits [Building on Fenton 2013; Lupton et al. 2013]
 - Close (but not linear) relationship to other measures of poverty including income poverty (see Fenton, 2013)
- **Cities**
 - 60 Travel-To-Work-Areas (TTWA) from State of the Cities Database
- **Time period: 2000 – 2008**
- **‘Growth’**
 - Output: Total GVA (ln), GVA per worker (ln), GVA per adult (ln)
 - Employment: Total Employment (ln) [but note issues with relationship]

The basic model

$$Poverty_{it} = \alpha + \beta_1 Growth_{it} + \beta_2 Demography_{it} + \beta_3 Skills_{it} + v_i + \varepsilon_{it} \quad (1)$$

Control variables

- Lone Parents (%)
- Degree share (%)
- Female pop (%)
- Pop under 16 (%)
- Born abroad (%)

Measures of 'growth'

- GVA Per Capita (ln)
- GVA Per Worker (ln)
- Total GVA (ln)
- Total Employment (ln)

Baseline regressions (no controls)

	(1)	(2)	(3)	(4)
Percentage of households in poverty (UMBR Measure)				
GVA per capita (ln)	0.0163 (0.0155)			
GVA per worker (ln)		0.0328** (0.0162)		
GVA (ln)			0.00459 (0.0149)	
Total employment (ln)				-0.0544*** (0.0105)
Controls	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes
Obs / TTWA	480 (60)	480 (60)	480 (60)	480 (60)
R-squared	0.122	0.137	0.115	0.842

Notes: Estimated as fixed effects panel regression with robust standard errors. Robust standard errors in parentheses. * $P < 0.1$, ** $P < 0.05$, *** $P < 0.01$

Regressions (full controls)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Percentage of households in poverty (UMBR Measure)							
GVA per capita (ln)	-0.00744 (0.0154)					-0.00623 (0.0149)	
GVA per worker (ln)		0.00709 (0.0154)					0.00567 (0.0148)
GVA (ln)			-0.00799 (0.0143)		-0.00363 (0.0136)		
Total employment (ln)				-0.0292*** (0.00782)	-0.0288*** (0.00747)	-0.0290*** (0.00759)	-0.0291*** (0.00804)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs / TTWA	480 (60)	480 (60)	480 (60)	480 (60)	480 (60)	480 (60)	480 (60)
R-squared	0.346	0.345	0.346	0.378	0.378	0.379	0.378

Notes: Estimated as fixed effects panel regression with robust standard errors. Controls: Lone parents (%), Degree share (%), Female pop (%), Pop under 16 (%), Born abroad (%). Robust standard errors in parentheses. * P < 0.1, ** P < 0.05, *** < P 0.01

Some extensions

- How might growth reduce/increase poverty?
 - Wage increase
 - Entry into employment
 - Or increasing house prices
- Next models estimate similar regressions to (1)
testing these effects

Growth and the wage distribution

	(1)	(2)	(3)	(4)	(5)
Dependent variable:	10 th	20 th	Median	80 th	90 th
	Percentile	Percentile		Percentile	Percentile
<i>Model 1:</i>					
GVA per capita (ln)	0.0346 (0.0680)	0.0210 (0.0628)	0.0177 (0.0606)	0.186** (0.0718)	0.185** (0.0820)
<i>Model 2:</i>					
GVA per worker (ln)	0.0417 (0.0594)	0.0282 (0.0475)	0.108* (0.0567)	0.152** (0.0730)	0.215*** (0.0758)
<i>Model 3:</i>					
GVA (ln)	-0.0321 (0.0585)	-0.0244 (0.0590)	-0.00918 (0.0564)	0.175*** (0.0649)	0.177** (0.0830)
<i>Model 4:</i>					
Total employment(ln)	-0.0621 (0.0410)	-0.0494 (0.0394)	-0.0387 (0.0429)	0.0835 (0.0510)	0.0291 (0.0784)

Note: Coefficients each report key result from separate regressions, with models estimated as in equation (1) but with different wage percentiles as dependent variables. All models estimated as fixed effects regressions, 480 obs and 60 TTWAs.

Growth and employment

	(1)	(2)	(3)
	Employment rate for those with < NVQ 2		
GVA per capita (ln)	2.136 (6.490)		
GVA per worker (ln)		-9.055 (6.351)	
GVA (ln)			1.391 (6.058)
Controls	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Obs / TTWA	480 (60)	480 (60)	480 (60)
R-squared	0.275	0.280	0.274

Notes: Estimated as fixed effects panel regression with robust standard errors. Controls: Lone parents (%), Degree share (%), Female pop (%), Pop under 16 (%), Born abroad (%). Robust standard errors in parentheses. * P < 0.1, ** P < 0.05, *** < P 0.01

Growth and house prices

	(1)	(2)	(3)	(4)
	Lower Quartile House Prices			
Total employment (ln)	-3,602 (6,751)			
GVA per capita (ln)		17,532 (11,621)		
GVA per worker (ln)			57,317*** (12,904)	
GVA (ln)				29,274** (11,188)
Controls	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Obs / TTWA	480 (60)	480 (60)	480 (60)	480 (60)
R-squared	0.544	0.275	0.280	0.274

Notes: Estimated as fixed effects panel regression with robust standard errors. Controls: Lone parents (%), Degree share (%), Female pop (%), Pop under 16 (%), Born abroad (%). Robust standard errors in parentheses. * P < 0.1, ** P < 0.05, *** < P 0.01

Summary & Conclusions

- Results
 - **no relationship** between output growth in this period and poverty, wages below the median and employment rates for low skilled workers
 - **positive relationship** between output growth, wages above the median and lower quartile house prices
- Implications
 - Growth in this period did not ‘lift all boats’ but was focused on relatively high wage earners
 - Rising housing costs in some cities may have reduced real wages
 - Employment growth did have some impact on those in poverty (i.e. was not completely second earners)
- Extensions: we consider short-term effects for a very specific period

IV Results

IV Results

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	Percentage of households in poverty (UMBR Measure)					
IV results						
GVA (ln)	0.0103 (0.0342)			-0.0457 (0.0321)		
GVA per worker (ln)		-0.0153 (0.0308)			-0.0715** (0.0314)	
Total employment (ln)			-0.106 (0.0900)			-0.167** (0.0741)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Obs / TTWA	480 (60)	480 (60)	480 (60)	480 (60)	480 (60)	480 (60)

Instrument is a shift share using city level employment or GVA by sector in 1998 and assuming national level growth rates for each sector. Controls: Lone parents (%), Degree share (%), Female pop (%), Pop under 16 (%), Born abroad (%). Robust standard errors in parentheses. * P < 0.1, ** P < 0.05, *** < P 0.01