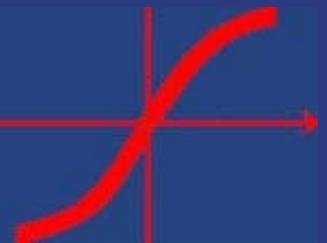


Firm location modelling

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URBAN, REGIONAL AND TRANSPORT PLANNING



Introduction

- Interest mainly in establishment
- Extensive empirical literature on establishment location at the regional level – we are concerned with the urban level
- Decisions about the location of establishments (and hence much of the location of employment) clearly made by firms or individuals within firms
- Many modellers talk about modelling firms' location behaviour without actually modelling firms.

Existing model treatment

Important to appreciate whether a model operates in terms of

- employment (continuous variable within a sector)
- employment by sector and establishment size band
- pseudo-establishments (average/arbitrary size)
- actual establishments

...the first three of these may be equivalent to modelling one representative firm, or an unspecified number of firms that are identical in their measured characteristics, in each modelled category .

Working models of firms

- Khan, Hunt and Abraham (University of Calgary): prototype microsimulation model of establishment location and development using invented data for an artificial area
- Moeckel and Wegener (University of Dortmund/Spiekerman & Wegener): prototype microsimulation model using data for Dortmund
- Maoh and Kanaroglou (McMaster University): model calibration using observed data for small, single-site, independent firms for Hamilton, intended to contribute to an operational model.

Common model features

All have (after considering survival)

- a mobility choice (stay/move or stay/move/leave)
- a relocation choice for establishments choosing "move"
- a location choice for new firms.

Empirical results

Maoh's estimated coefficients provoked considerable discussion eg

- growth seemed to **encourage** mobility amongst manufacturing firms but to **discourage** it in retail and wholesale firms...
- what role should dummy location values (eg for CBD locations) play in such a model?

Location variables

Moeckel: distinction between

- necessary variables (eg space, affordability [levels of rent, tax], accessibility)
- replaceable factors (eg quality of environment, image, agglomeration effects).

Relationship with land/buildings

Moeckel was the only speaker to mention the question of fitting establishments into available units of space, but that only in the sense that an establishment may occupy more or less floorspace than that available in one grid cell.

Not yet attempted...

Things not considered:

- fitting establishments to available units (office suites, factory units)
- bespoke development
- relationships between establishments within one firm (NB some administration/production links considered by sector in PECAS and DELTA).

Present conclusions

All in all

- a very interesting line of work
- a long way from practical application
- big (and real) questions about the stability of the results.