Seminar on National Urban Development Policy

National Urban Development Policy: An Urban Economist's critique

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Basic points…

1. Cities have fundamental advantages and contribute directly to human welfare: most important invention in history
2. They work because of specialisation and agglomeration benefits: agglomeration economies – or returns to scale;
3. Cities more productive and give a better quality of life; and bigger cities – all else equal – provide more.
4. BUT costs as well as benefits of city size (congestion, pollution, crime, price of space);
5. Urban policy - a vital role but must be based on evidence; understanding how cities 'work'; or can work better;
6. Need a framework + goals but not dirigiste, universal national recipes;
7. Need focus on what will not happen on its own; and what urban policy can actually achieve; otherwise may do more harm than good.

Cities are fundamental to civilisation

- Start with short summary of recent research in urban economics: finish by applying to Policy Proposals
- Like the wheel – cities one of **the** fundamental inventions of humanity
- Intrinsic to economic & cultural development
- Basis of division of labour **and** contribute to welfare directly
- 'Invention' as fundamental as - and complementary to - invention of agriculture:
  - could say cities led to invention of wheel….
- Origins go back 10 000 years at least: to Middle East
- A Darwinian process: experimentation –
- Adopt what works - market places; public open spaces...
- Drop what does not work - city walls

Cities back on the economics agenda

- From about 1950 to 1990 economists largely ignored 'inconvenient' economies of scale.
- We all knew cities imposed costs – transport, congestion, higher prices of space; so unless their costs compensated by gains – they would not exist; and grow.
- But because economists ignored economies of scale they more or less ignored cities.
- So for about 50 years economists did not have much to say about cities or urban policy;
- Then along came Paul Krugman; brought scale or agglomeration economies back to economics mainstream;
- Urban economics has made enormous progress in past 15 years; now a lot to say relevant for urban policy.
- Very helpful because cities all about economic and social life; sources of productivity, creativity and welfare.

What are cities about?

Why do cities work?

Visible features of cities are buildings, transport systems, cityscapes or parks

- But this is not what cities are about - only means to an end
- Cities founded on *specialisation* – enriching human interactions - economically and culturally
- Peasants/farmers ↔ urban occupations

  Commerce, artisans, administration, professional services, cultural/religion, defence/military

➢ **Still** the fundamental urban occupations (except defence)

- Cities 'discovered' not only in Middle East but independently in other cultures (e.g. China, South America) at various times.

Specialisation Brings Agglomeration Economies

- Important for production
- Firms and workers become more specialised;
- Use each other, learn from each other: proximity improves contacts and **productive interactions**;

Conventional story told by Alfred Marshall in 19th Century:

- Textile firms used common knowledge of technology & markets: specialised finance, labour pooling; supply of skills and - 'knowledge in the air'

- Producers benefit from being 'close' to other complementary firms: labour pools and specialised/skilled workers; subcontractors; specialised inputs e.g. finance; networks; infrastructure; knowledge sharing....
- And so do workers – opportunities for specialists and - rising education of women - '*power couples*'

Agglomeration economies for services…

- Traditionally thought of for manufacturing: but
- More important for traded services & intellectual activities
- London's media industry: theatre – actors' agencies – film – TV – graphics and music - digital effects – intellectual property law etc;
- Cheap memory devices to £100 000 rough 'film' in 2 hours – minimise time to transmission/revenue generation; => inputs to hand
- Financial services – instantly act on information; research etc
- In cities not just **more face-to-face communication**: more communication of **ALL** types – learning from each other
- Recent British and French studies:

➢ Agglomeration most important in:
Consultancy, Advertising Business Services; Publishing, Printing & Media – tradable services.

How important are agglomeration economies overall?

- Estimation is difficult because need to offset for 'worker and firm' sorting – only most productive can afford costs of bigger cities?
- Work post 2000 suggested elasticity estimates around 0.025 BUT – most recent estimates rising;
- De la Roca & Puga (2012) first to use individual level cohort data: able to offset for bias from firm/worker sorting – but also migration;
- Workers gain productivity in larger cities and take it with them: learn from each other, gain contacts but these endure.
- Allowing for this suggests elasticity around 0.055 (Spain)
- Suggests double size of city and productivity increases by 5.5 percent: ALL else equal
- **Or:** going from a city size of Curicó to Santiago – increase productivity a bit more than 11 percent: all else equal.

Not just agglomeration economies in production

- "...great achievements of the bourgeoisie ... rescued the mass of the people from the idiocy of rural life" (Marx & Engels, 1848)
- Cities as generators of welfare: variety, choice, competition, interactions, cultural services, compatible neighbours: FUN!

- **BUT:** - all economic choices constrained by income

- Many important 'goods' accessed via location;
- And the same is true of them:

e.g. School quality, clean air, peace & quiet, low crime, nice views, nice parks, friendly neighbourhoods...

All only 'consumable' if you live in the right location or neighbourhood – 'specialised neighbourhoods'.

Bigger the city – more and more specialised its neighbourhoods.

So: Need Policies to Influence the Size of Cities?

- Agglomeration economies in both 'consumption' and production point to wanting larger cities:
- Agglomeration economies are '*externalities*'; that is effects which impact welfare but not (fully) reflected in prices.
  - So: policy to promote larger cities??
- But costs – congestion, pollution, space costs – also rise with city size. Some of these also 'externalities' (obviously congestion & pollution);
  - So: policy to limit city-size??
- Reality in most countries: growth constraints: implicitly assuming costs of bigger cities outweigh benefits.
- Research giving quite a good answer to agglomeration economies: much less information on costs and city size;
- But most recent research (from France) suggests: after medium size, costs stabilise.
  - Suggests 'urban growth constraints' doubtful policy

Markets May 'Fail' – Basis & Guide for Policy

- Basic welfare economics highlight sources of 'Market Failure' ⇨ a guide to how policy can improve outcomes:

1. Monopolies may be able to set prices above costs – '*monopoly profits*' ⇨ so prices do not reflect costs to society;

➢ Policy: Regulation or, in land markets – 'eminent domain'

2. Some 'goods' (or 'bads') – do not have prices: '*Externalities*'

Examples – some agglomeration economies, pollution, congestion, noise

➢ Policy: tax; regulation; 'internalise' (e.g. change property rights)

3. And some goods are '*Public Goods*':

'*Non-rival*' in consumption – and '*non-excludable*'

a *restaurant meal* compared to a *park, view, a cityscape, wild habitat*

So producers can't charge for providing public goods (non-excludable); **and** welfare is improved if they **do not** charge

➢ Policy: public provision; 'clubs'

Economic Analysis of Urban land & housing markets

Recent empirical work on land & housing markets has important implications: tells us a lot about how cities 'work':

- Value of all those types of 'goods' (and 'bads' e.g. crime or air quality) tied to particular locations:

1. Capitalised into land/house prices: and not just at current levels – seems to include expected future levels(e.g. aircraft noise; school quality; improved access e.g. London's CrossRail).
2. Combined with distribution of incomes – **explains patterns of residential segregation:**
   - Basically: nicer neighbourhoods cost more.

Recent research on urban land & housing markets

- The monocentric model of urban land use –
- Classical monocentric trade-off model of urban economics: simple but powerful
- Closed city; jobs (so income) concentrated in CBD;

  => systematic journeys - travel to work; yields incomes.
- People/firms *in (spatial) equilibrium* so can't be better off by moving and all *available* land consumed

=> Land prices fall & consumption rises with distance from CBD as travel costs rise, at rate determined by *accessibility cost*

=> the "land rent function"…

=>Land prices & consumption (so densities) determined for all locations

Integrate with 'hedonic' analysis….

- Hedonic analysis: understand markets for range of goods which are 'composite' or 'differentiated'

  e.g. houses, cars: even apples – 1929

  Theoretical foundations: Lancaster (1966); Rosen (1974).
- Composite goods: attributes/characteristics => utility:
- For houses:
  1. Physical e.g. space – garden & floor area;
  2. Location with respect to jobs (incomes)
  3. Location with respect to amenities, public goods, etc
- Any composite good - any property - offers particular mix of attributes – "house-hunting"

  => **each attribute commands a price: Price of good (e.g. house) is sum of these attribute prices**
- **But** only directly observe the price of the 'composite' good

But can estimate implicit prices of each characteristic

- Simplest possible formal representation:
  - $P_h = \alpha + \beta_1.X_1 + \beta_2.X_2 + \beta_3.X_3 \ldots\ldots\ldots B_n.X_n$
  - P_h = price of a house $X_{1,2,\ldots n}$ = attributes/characteristics
- Characteristics:
  - Floor area; bedrooms; bathrooms; age; attached; garage; condition; energy efficiency….
  - Neighbourhood character, amenities, access to local public goods e.g. parks;
  - Accessibility to jobs (in CBD by assumption)
  - Just need a lot of observations of sales

Price functions turn out to be highly non-linear

Since about 1980 - thousands of studies;

- Quality improved - much has been learnt:
- Results based on ever bigger data sets;
- Using more detailed data e.g. use of (3D) GIS to map patterns of land use, distance to types of park, exposure to pollution or noise, visual amenities;
- Using more sophisticated methods.

- 2 general points:

1. Prices non-linear: 'quantity discounts' e.g. garden size: or, for some attributes, 'quantity premiums' e.g. school quality;
2. Prices interact: e.g. value of parks/local crime; value of better schools/house size; parks/neighourhood density.

Test of Land Price theory: but Clarifies 'Land Price'

1. "Land price" in the monocentric city model is **not** land price as observed in markets: it is the price of land as '*pure-space-with-accessibility*'

Varies with location with respect to jobs & - given estimated values of parameters – with size – even shape(!) - of plot

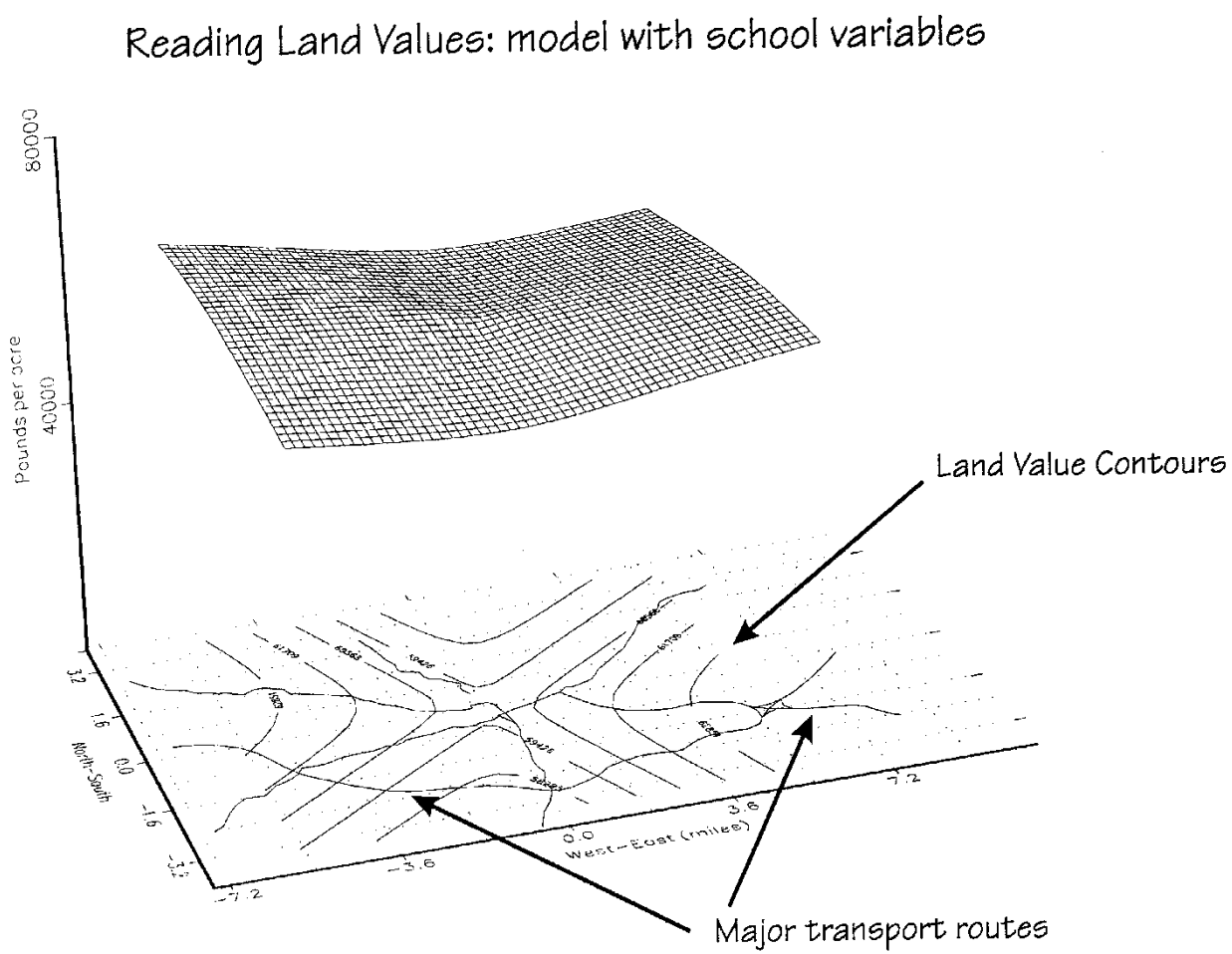
- **Observed** land prices include capitalised values of:
  - localised amenities,
  - local public goods,
  - neighbourhood characteristics

i.e. all 'goods' generating welfare, consumption of which is conditioned on location

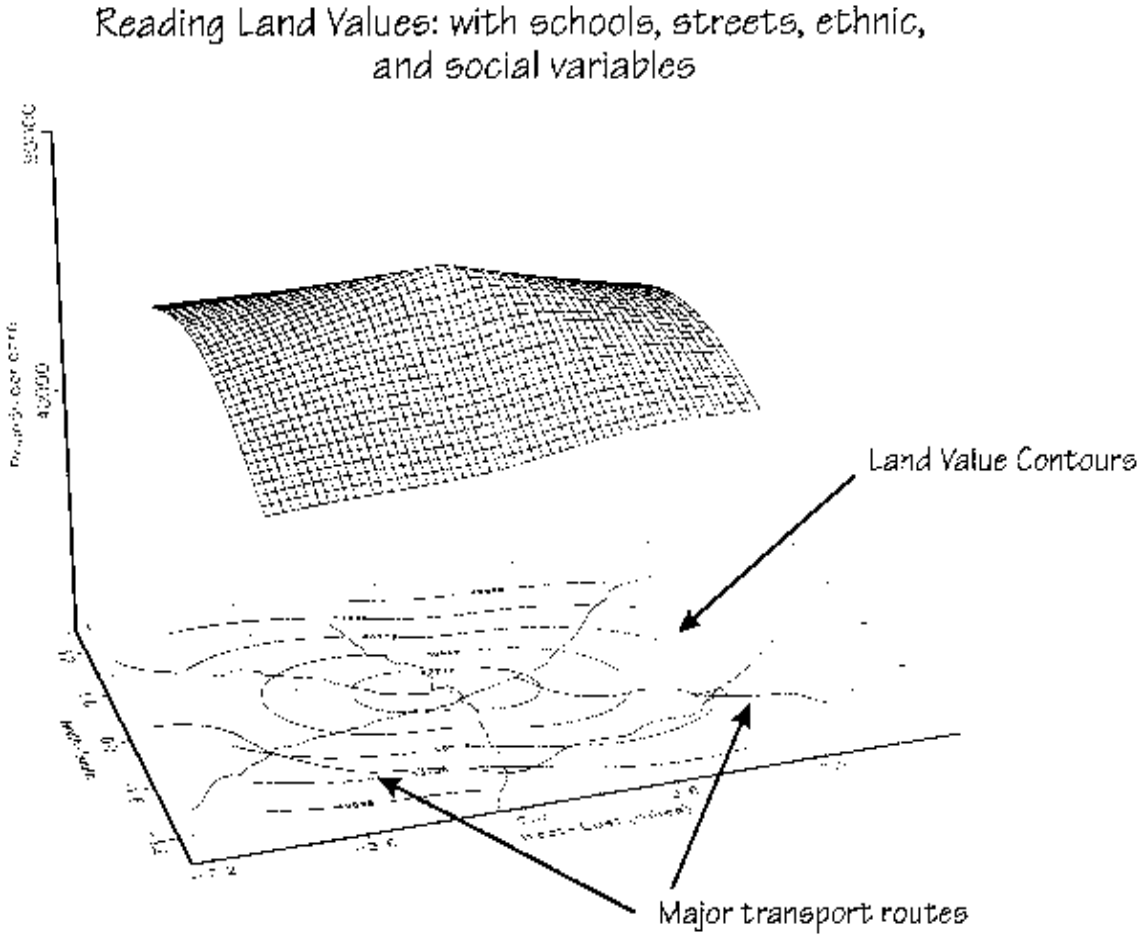
=> Market prices of land are not what rent function estimates

Can see this in action….estimated for British city of Reading

The capitalisation of locational ‘goods’: 1984 – sample mean plot size



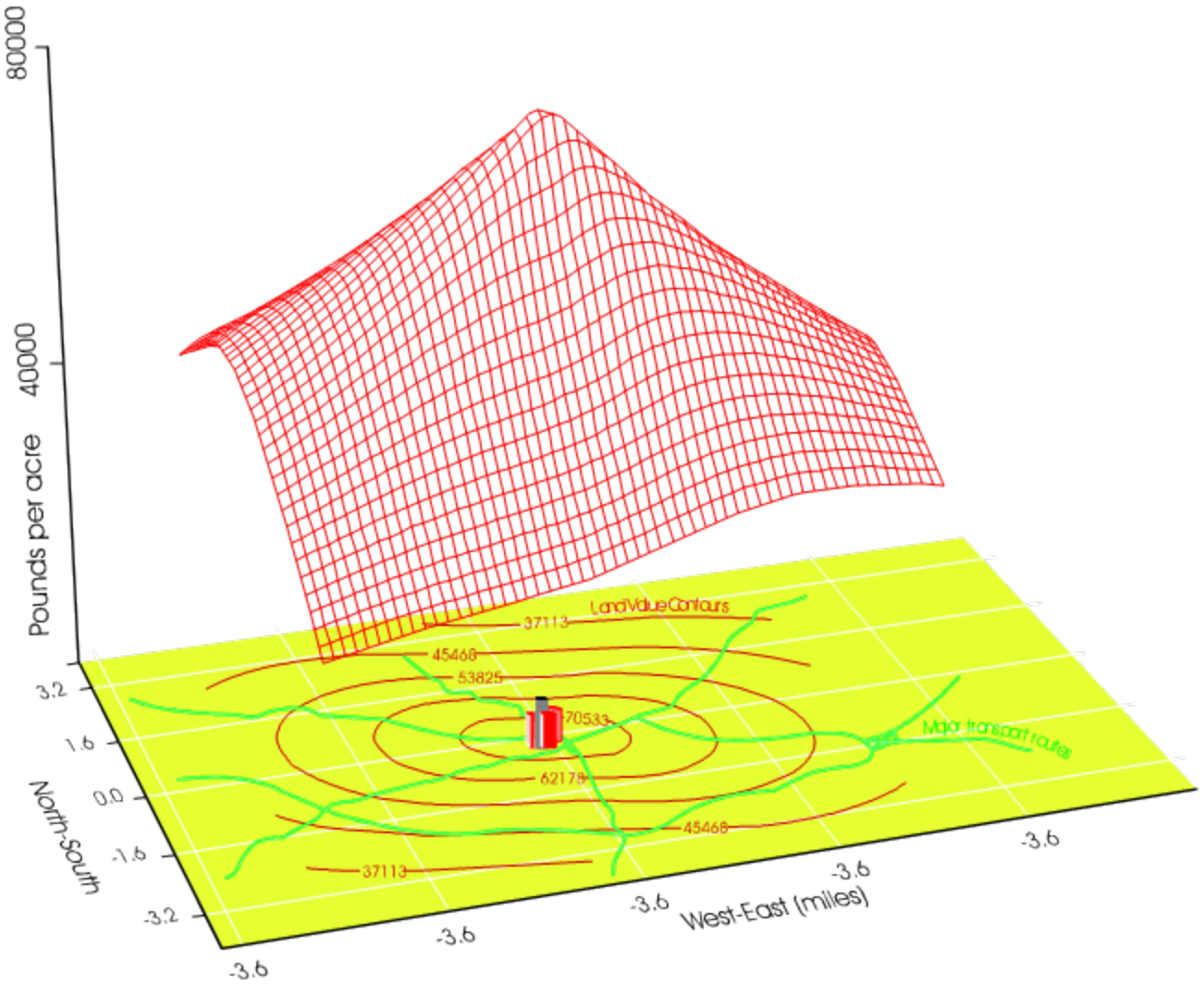
The capitalisation of locational ‘goods’: 1984– sample mean plot



Reading Land Rent Surface

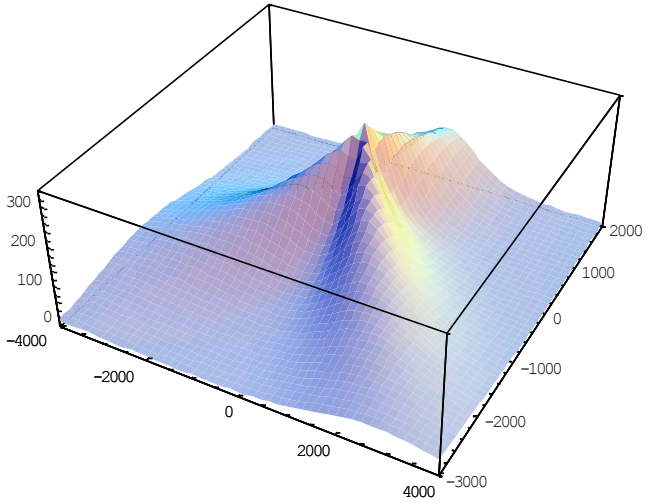
Full model + 'amenities' + open space – Sample mean plots

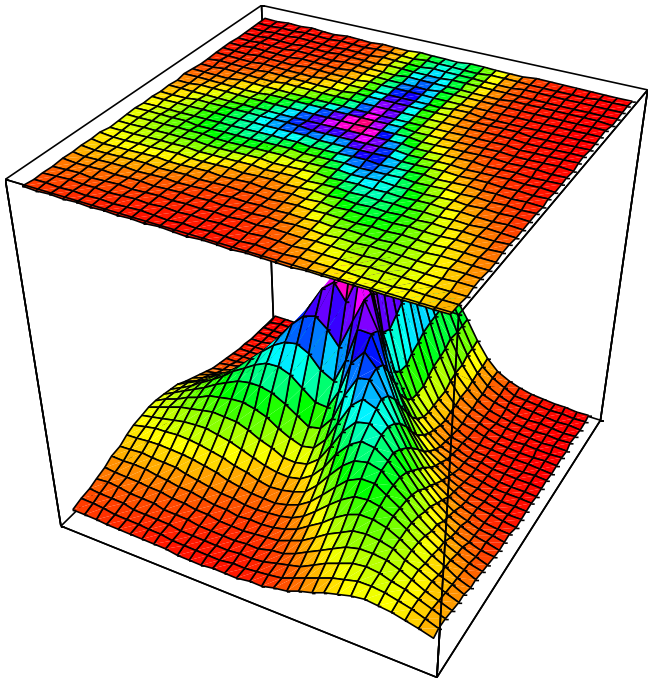
Reading:
land rent surface
as estimated
for 1984
Cheshire & Sheppard
Economica 1995



Reading Land Rent Surface

Impact of transport improvements- sample mean plots





Reading:

land rent surface

as estimated

for 1999/2000

After improved access to centre from M4 Junction 11

& A33 dual carriageway work

Cheshire & Sheppard

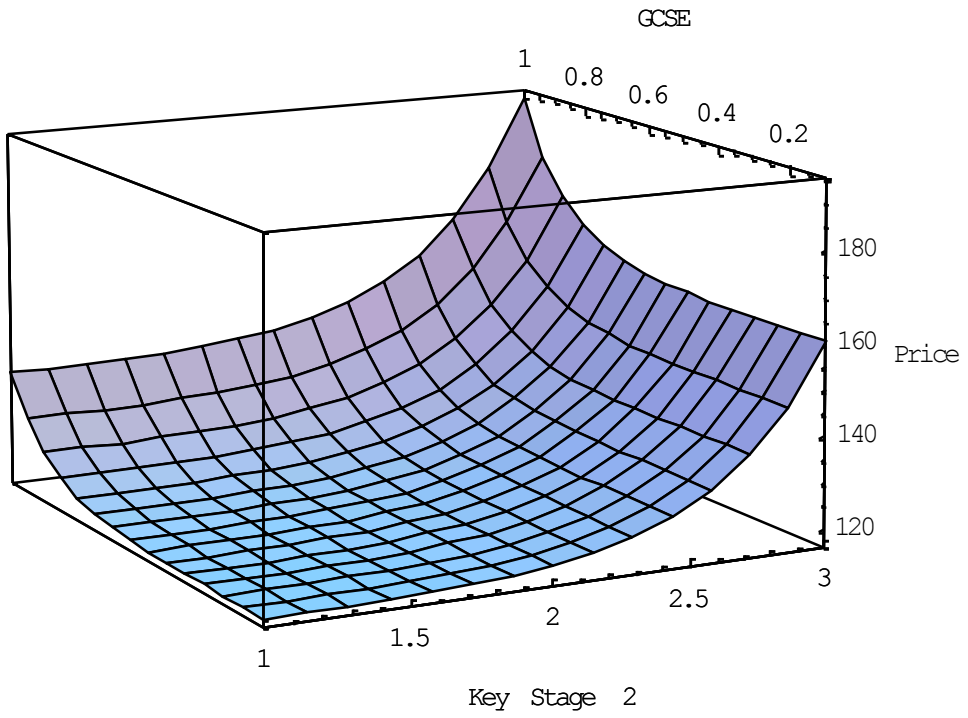
Economic Journal 2004

Capitalisation & spatial equilibrium

- Increasingly results from these type of studies confirms that spatial equilibrium **within cities** is a reasonable approximation:
  1. Estimate proportion of sample who 'could' buy set of observed housing/locational attributes more cheaply given estimated prices – trivial
  2. Find evidence that not just current but expected future values capitalised (e.g. school quality discounted for risk of change – Cheshire & Sheppard, 2004)
  3. Evidence 'social capital' of neighbourhoods capitalised; & differentially between owner occupiers/renters (Hilber, JUE 2010)
  4. Evidence on how value of proximity to parks interacts with crime
- Value of identical house in poor/rich areas? Canning town or Fulham?
  - Neighbourhood quality, amenities and locational goods (e.g. schools) cost some 3 - 10 times price of '*pure-land-with-accessibility*'
- And accessibility to what? Income earning opportunities: so accessibility to central New York? or central Detroit?

The Price Paid to Get to the **Best** Schools? [1999]

- **Move an 'average' house from the catchment area of worst to best school**
- **Mean house price £126,938**
  - Secondary school price increase = £23,763 (18.7%
  - Primary school price increase = £42,541 (33.5%
- **Estimates for different date quite stable: secondary schools**
- 1984 13.9%
- 1993 14.1%
- 1999 18.7%



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So free goods in cities are not free

- 'Free goods' **provided** by taxes but **allocated** via housing markets: because values are capitalised.
- Richer people 'buy' access to best state schools or parks - via housing market
- This means social/residential segregation is the *spatial articulation of income distribution*.
- Also neighbourhoods: as welfare generators/consumption goods

  Sympathetic neighbours, living with similar & compatible people – important source of welfare: ethnic; demographic; tastes; incomes...
- Policy attempts to force 'mixed' communities **tackling symptom not cause**
- Evidence shows people when left to choose, live with peers;
- Because - however poor - peers generate positive externalities: e.g. access to appropriate facilities; support.

And Upgrading Neighbourhoods Prices Poor Out

- All consumption choices constrained by incomes:
- Poor people can't afford rich neighbourhoods – **but their problem is poverty – not where they live.**
- People move and they **sort** into suitable housing;
- Better parks, better metro service, neighbourhood upgrades, better local restaurants => increase price of housing;
- Prices poorer out; and
- Greater overall inequality generates sharper residential segregation – rich are relatively richer so more effectively outbid poor for access to locational 'goods'.
- Compare Helsinki with London or Santiago:
- Finland a very equal society/economy so Helsinki has not much difference in neighbourhoods: no sharp segregation.

➢ Policy should worry about poor people **not** poor neighbourhoods

Direct Evidence on 'Neighbourhood Effects'

- So the essential question is:
- Does living in a poor neighbourhood make the poor poorer - **independently** of factors making them poor in first place? Damage life chances? [*'Neighbourhood effects'*]
- Methodologically difficult problem – people have unobserved characteristics; self-selection of neighbourhoods
- Two main approaches
  1. Observe impact of moving individuals from deprived to affluent neighbourhoods [or richer to poorer– Weinhardt, 2010]
  2. Track individuals over time
- Best – or still best known- example of 1.

➢ US Moving to Opportunity Program (MTO) set up 1992

MTO Programme/ Experiment

- Quasi-experimental: offered chance to move from very poor neighbourhood (= Census Tract 40%+ below poverty line) to affluent one (<10% below poverty line)
- 5 cities: 4 600 families randomly allocated to 3 groups
  - **Group 1** – financial & professional help to move to affluent neighbourhood
  - **Group 2** – vouchers to get new housing of their choice
  - **Group 3** – no help though can move if able
- Self-selection – only 25% of eligible volunteered
- 13% of volunteers rejected as unsuitable

(So would not pass 1st base for testing new drug…)

MTO Results: Long Term Follow-up

- But Kling *et al*, 2005; 2007; Sanbonmatsu *et al*., 2012; Chetty *et al*, 2015.
- Followed up 4 -7 now 10 - 15 years: focus on adolescents
- Results complex & quite negative
- **No economic gains** for adults in Gp 1
- Adolescents Gp 1 & Gp 2 – small non-significant behavioural improvements: Girls showed non-significant improvements; youngest at move helped more.
- Boys showed significant deterioration especially - property crime, behaviour in school & relationships
- Some possible health improvements for adults (but may be other ways of achieving them…)
- Weinhardt 2010 studied enforced moves to distressed areas: no impact on children's educational outcomes

Cohort studies

- Oreopoulos (2003) Canada, 30-year tracking – origin in range of social housing neighbourhoods
  - Neighbourhood of origin had NO significant effect on labour market success or earnings
- Bolster *et al* (2007) Britain, 10-year tracking
  - Neighbourhood of origin had NO significant effect on labour market success or earnings (perverse sign)
- van Ham & Manley (2009)
  - 10 year tracking & labour market outcomes – test for tenure mix effects/social housing: for social housing concentrations – NO effects.
- Evidence clear: neighbourhood effects are at most very weak + not straightforward + both positive and negative

In OECD Countries Broad Trends Favour Cities

- 1974 – '*Death of Cities*; 1975 - New York on brink of bankruptcy; 1982 - European Commission & 'urban decline'
- But resurgence: New York, London, Amsterdam, Madrid;
- Several reasons
- Growth sectors show increasing payoff to highly skilled
- In Britain university graduates increase 4-fold: proportion of age cohort from less than 10% to over 40% in 40 years: proportion of LF who are graduates doubled from 1993
- ➢ But payoff to a university degree has **hardly changed: and increased for top universities**
- More skilled implies more urban; additional payoff to 'power couples': live in large city

Demographics and Economic Re-structuring

- Demographics favoured urban living: smaller families – more workers per dependent;
- Big increase in proportion of educated and working women;
- Reduces demand for space; increases demand for more central living
- …Increased demand for urban culture and services:
  - the things that make cities fun – restaurants, nightlife, music venues, galleries...
- And growing activities have stronger agglomeration economies – so advantage of urban location increases;
- And less land intensive/congestion sensitive compared to declining manufacturing; so cost of urban location less
- **Plus** negatives of city living – crime, pollution – fallen

So – NATIONAL URBAN DEVELOPMENT POLICY?

- To state the obvious: effective Urban Policy must:

1. Be based on a sound **diagnosis of causes** of problems it seeks to address;

2. Address issues where policy **at the urban level** can be effective;

3. Not slavishly follow markets ['*market failure*'] but **work with the grain of market forces.**

4. **Evidence challenges a lot of conventional policy wisdom**

1. Social Integration

- Chile '*with a Gini coefficient of 0.494… is the OECD country with the greatest inequality*'…
- It follows that I take fundamental issue with Section on Social Integration;
- Seems to confuse causes & consequences of residential segregation. **Problem/cause: societal inequality**
- **=>** So - 'mixed communities' and public investment in poor neighbourhoods (open space; public facilities; improved transport): waste of resources: actively make problem worse.
- Cost real resources but displaces poor and reduces facilities, accessible to poor serving their needs;
- The problem is poverty not 'distressed neighbourhoods'

➢ **Policy should treat poverty** – some local interventions
  - ➢ Extra educational resources in poor schools; & training;
  - ➢ Pre-school help; welfare services;
  - ➢ Extra policing resources in high crime areas.

2. Economic Development (1)

- This Section deals with both direct economic development issues and land use planning/regulation as well as land value capture. Much to commend in the recommendations but…
- Agglomeration economies and costs increase with city size;
- So a key role for urban policy in context of economic development is to **facilitate urban growth** while **reducing costs of size**. Two policies work together.

1. **Land policy** needs to ensure plentiful supply of land;

- Planning is centrally an economic activity: determines supply (urban space) of a scarce resource.
- Therefore MUST take account of price effects;
- Land prices vary with accessibility; **but** do price differences between adjoining zones reflect **value to society** of restricting supply?
- If not: presumption for development. Can translate to practical policy (see Cheshire *et al.*, 2014)

2. Economic Development (2)

- Endemic problems of *market failure* in land markets

1. Value of every parcel depends on uses of all neighbouring parcels – so external costs & benefits;
2. Provision of public goods such as open space or cityscape;
3. Can be issues of monopoly e.g. land assembly or via controls on supply reducing competition in land markets.

=> So strong economic case for planning (regulation).

- But plentiful land supply critical for economic and social success of cities; keeps down costs of housing & space.
- Exact location has strong influence on productivity in many activities esp. offices and retail; presumption businesses more efficient at selecting location than planners – but still may need to control in public interest; [protect habitats etc]
- Space in and for housing critical for welfare: as people get richer they seek more space. Not more beds but bigger beds, more bedrooms, more space for the kids.

2. Economic Development (3)

- **Congestion** and Pollution – both classic problems of market failure: involve major element of external costs.
- Congestion: economists - had a clear solution since 1964!
- Price it! [Para. 2.8.1] Congestion pricing technically easy but politically difficult;
- If priced people pay for the costs they impose on others and existing infrastructure used more efficiently;
- In largest cities – invest in mass transit.
- In evaluating schemes take full account of agglomeration benefits (e.g. London's CrossRail scheme used WEBS)
- Agglomeration economies arise from volume of potential productive interactions. Reduce interactions costs => increase agglomeration benefits – so:
  - Better transport,
  - Reduced congestion,
  - Even vertical agglomeration benefits in tall buildings.
  - But: promote 'polycentricity' [2.8.5] – Why? Evidence?

2. Economic Development … Environmental Balance

- **Pollution** at urban level is mainly particulates and NO_2
- There are technological fixes; so can:-
- **Regulate and Price**
- Road traffic – particulates and NO_2
  - Serious health threats – but fixable
- Industrial emissions – fixable
- And cycling and green space – external benefits and fixable!
- But [3.5.3] Eliminating informal settlements? The poor have to live somewhere! - help them afford decent houses => supply land.
- Cities' contribution to **carbon footprint**?
- Cities are a **positive** – countries with lowest carbon emissions per unit of GDP – Hong Kong & Singapore;
- Policy on energy efficiency in new buildings, retrofitting old, helps. Problem very serious but real solutions **global** not **urban**.

5. Institutionality & Governance

2 basic points:

1.Spatial boundaries are relevant for policy:

- National, Urban region and Local/neighbourhood.
- Helps to have policy developed and implemented for the boundaries that contain both the costs and the benefits.
- For example:
- **National** policies for major infrastructure, redistribution, education and health; redistribution;
- **Urban regions** for local economic development, strategic land use and intra-urban transport. Government for *functional urban region* helps growth (Cheshire & Magrini, 2009; OECD, 2014)
- **Local** for street cleaning, refuse, local traffic management, provision and care of local open spaces.

➢ Chile benefits from a tradition of defined '*urban regions*'

5. Institutionality & Governance (2)

2. Transparency and simplicity:

- Complex rules, overlapping responsibilities and discretionary decision-making => recipes for failure:

- Compare 'Development Control' [UK] and 'Master Planning' [Europe]
- Master Planning or Zoning (coupled with clear building and environmental regulations) minimises transactions costs, risks and deadweight losses (e.g. lawyers' fees)

- Over complexity, potential for 'politicisation of decisions' and conflicting lines of responsibility seem a danger in Sections 5.1 and 5.4

Conclusions (1)

Cities important: so we need to understand better before we impose policy: be cautious & flexible

- We know enough to know we really must understand the **sources of agglomeration economies** better
- We know enough to know – so should focus on developing/ applying urban policies that reduce the costs of urban size
  - Congestion – congestion pricing;
  - Space costs – no containment or general height controls;
  - Pollution – alternative technologies;
  - Crime???? But urban crime is falling all over OECD
- We also know that cities are vital and becoming more important: yet we still understand so little about how they

Conclusions (2)

- Evolved in quasi-evolutionary process: adopt what works; drop what does not:
- Imposing uniform policy => hubris; especially given imperfect understanding.
- Policy needs to tackle problems but also needs to encourage flexibility, experiment and facilitate change.
- Future for cities bright – especially for larger cities specialising in advanced services:
  - IF we do not let policy get in the way...
- Policy-makers need to view changes as opportunities not just threats; learn to 'ride the wave'

- Policies need to manage change – especially decline:
  - Because cities do not stand still

Conclusion : best policies not very glamourous

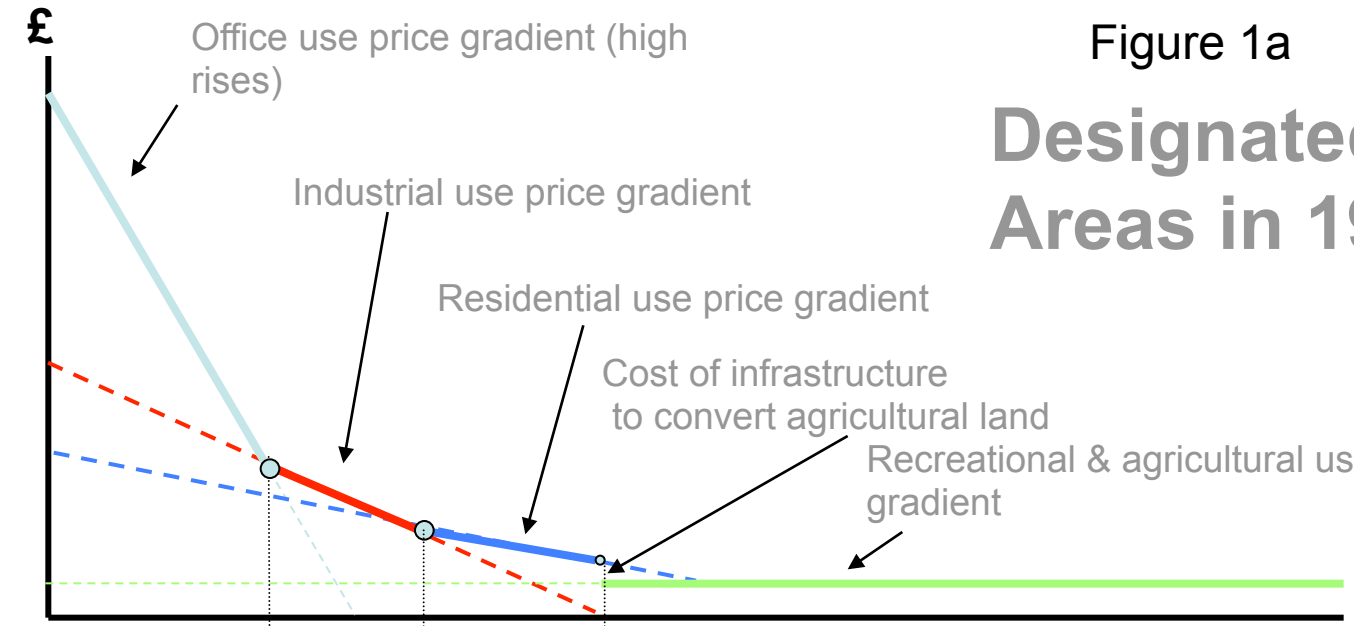
Make cities more attractive as places to live and work

- Work on prices and quality; reduce costs of size rather than try to keep small;
- Focus on efficiency of public administration & decisions;
- Government for metro-region for relevant functions (transport, economic development, strategic planning);
- Local fiscal resources from property taxes: but not for redistribution [definitely National level responsibility].

- Do not try to 'pick winners': learn to nourish success
- => Flexibility and facilitation: not dirigisme
- More concern for people & skills: less for where they live
- Worry about welfare of people **not buildings**
- But do need urban policies; & research evidence to underpin and test them.

Figure 1a

Designated Areas in 1947



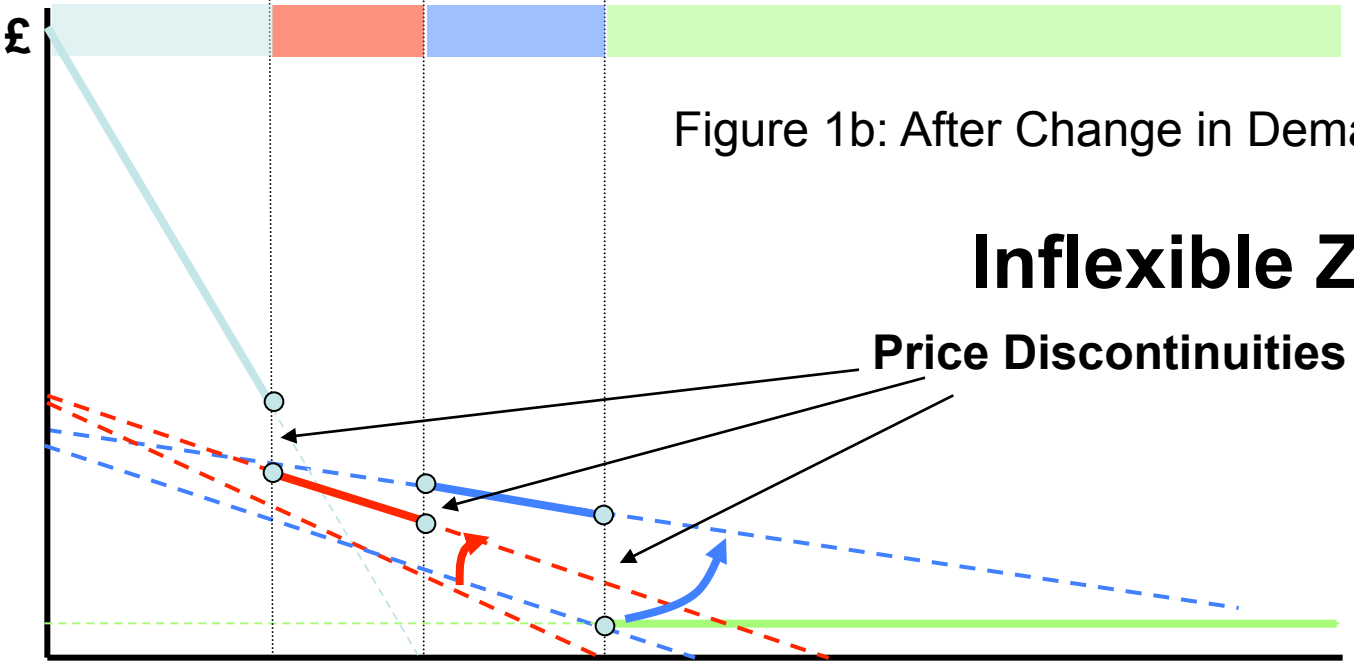
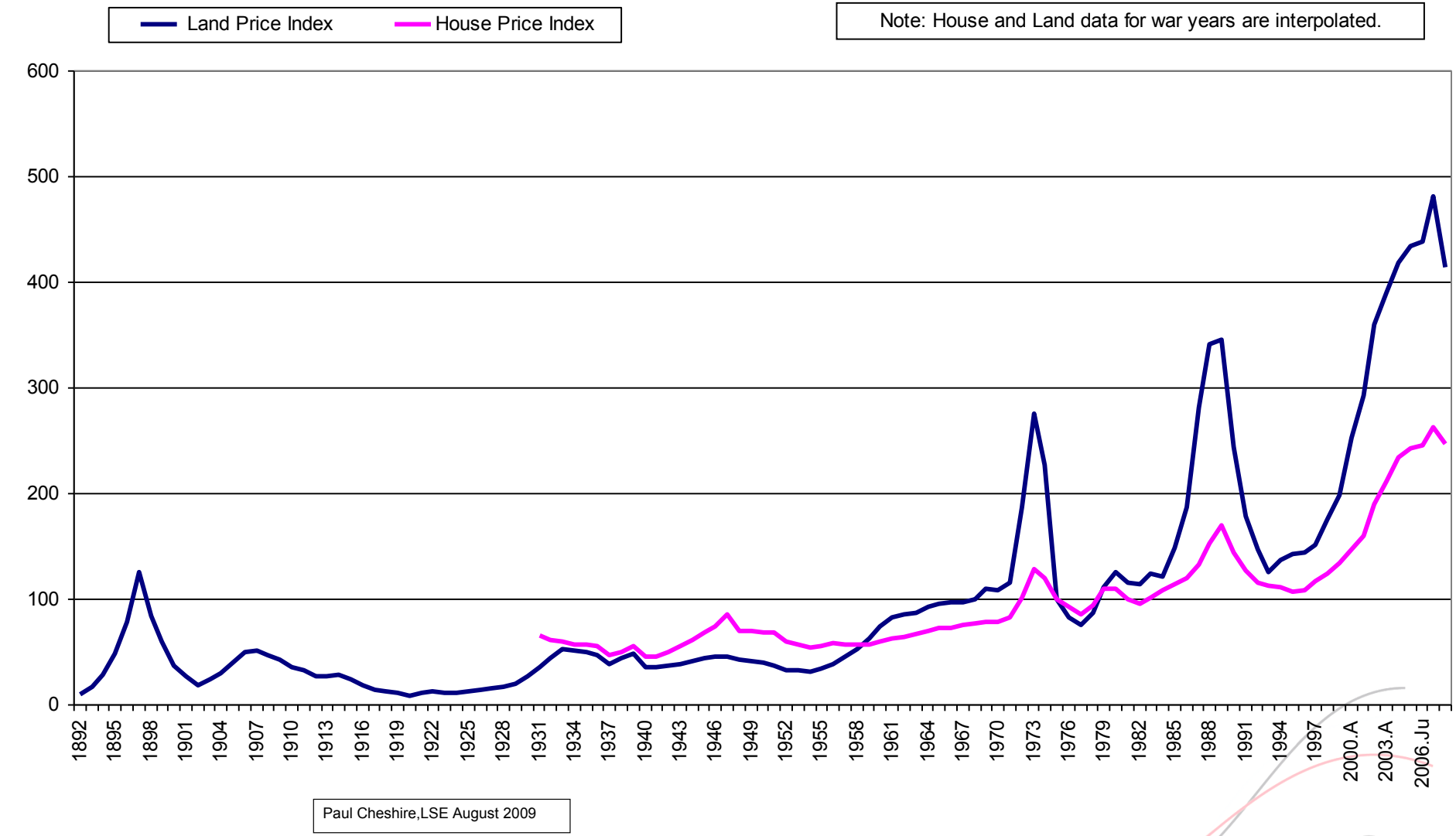


Figure 1b: After Change in Demand

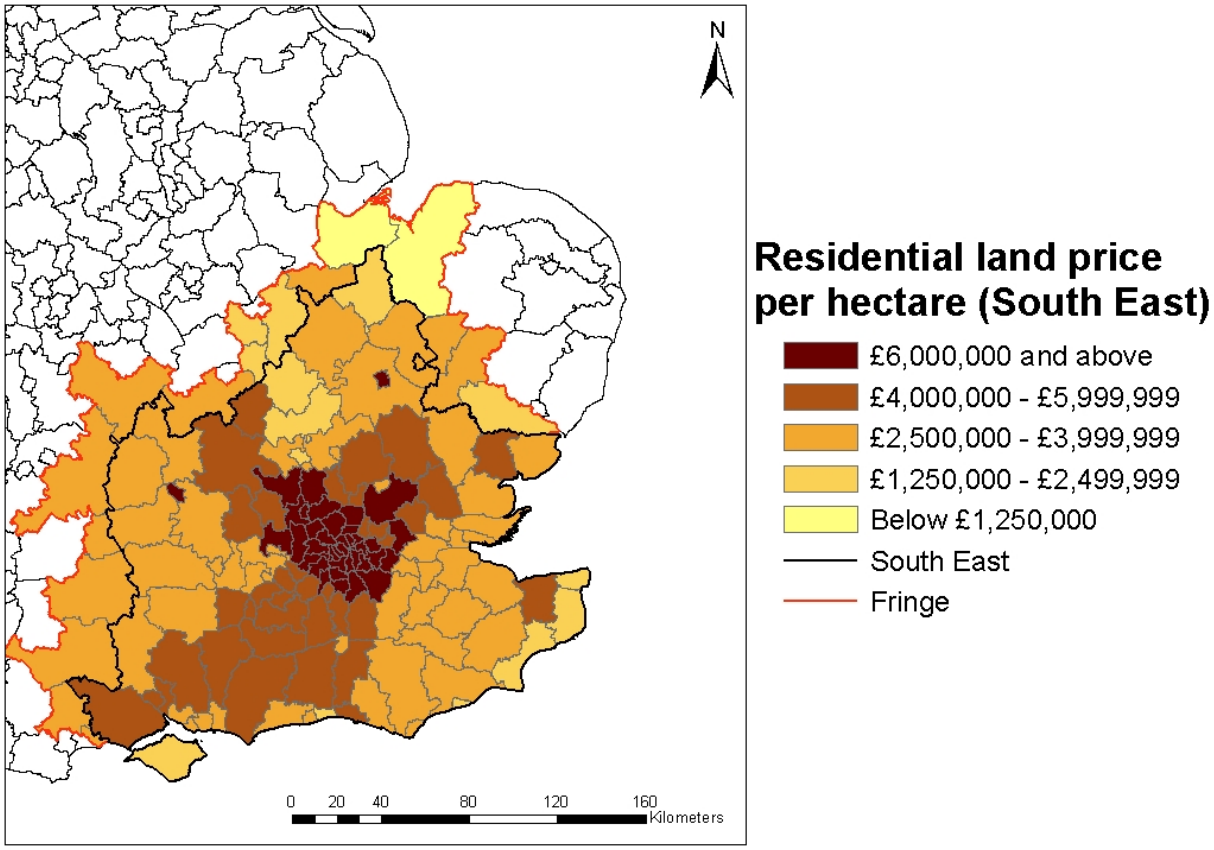
Inflexible Zones

Figure 1: Real Land & House Price Indices (1975 = 100)



Sustainability and Urban containment – "densification"

- Impedes city growth - so loses agglomeration economies: and increases price of housing; and makes housing market more volatile (see OECD Report on UK, March 2011)



Source: Property Market Report (July 2007)

UK been densifying since 1947 - ration land - Result? Price of land & housing rises and land prices represent foregone agglomeration economies!

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International policy difference and patterns of settlement

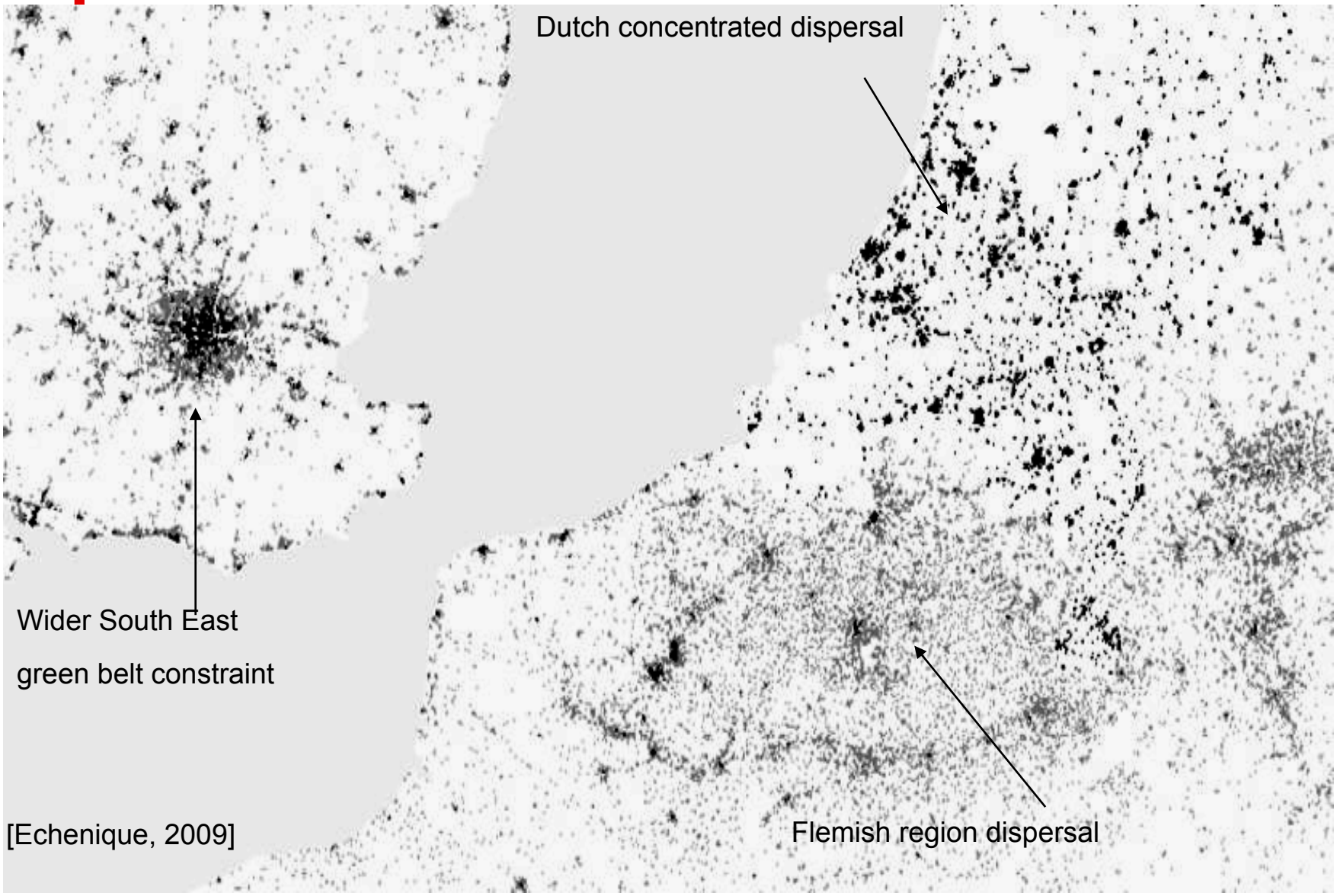
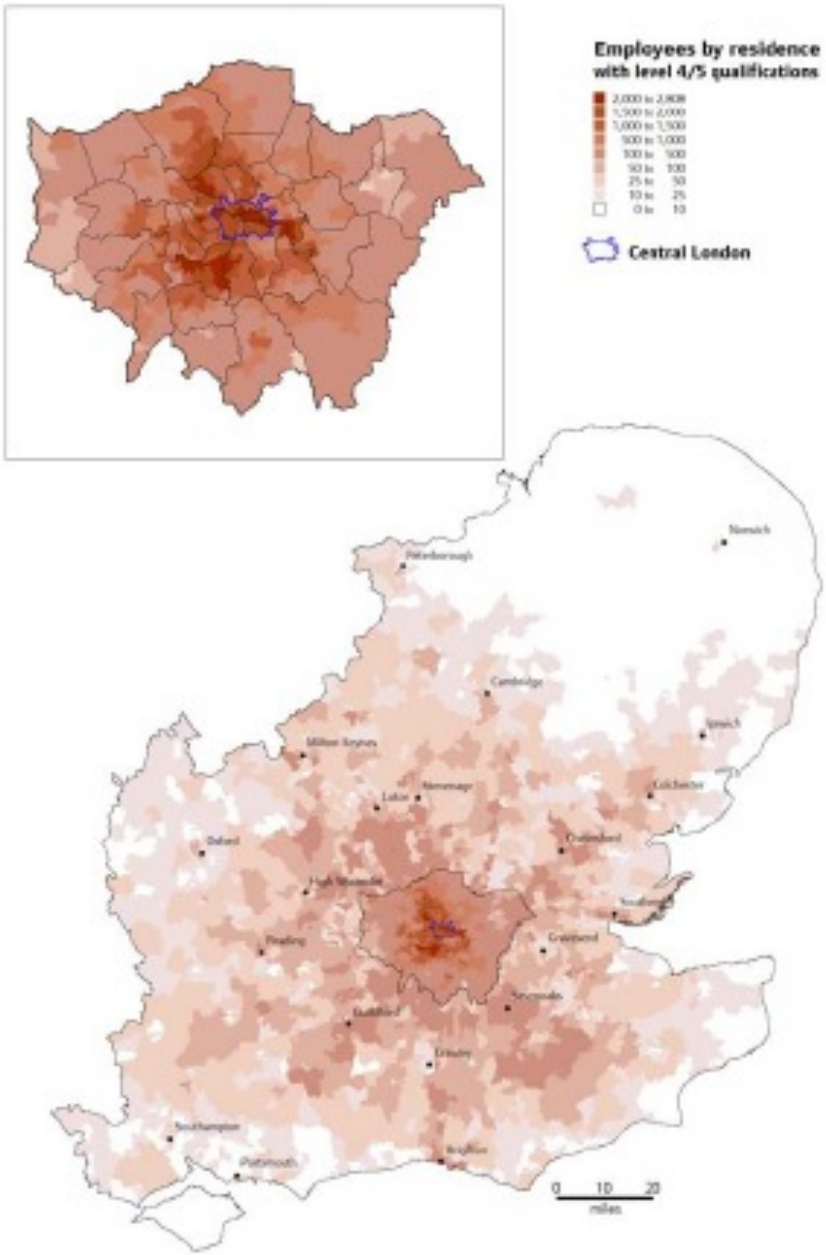


Figure 41: Number of ward residents with Level 4/5 qualifications working in Central London



Source: 2001 Census

In Britain policy pla 'contain' but people to behave in uninte

Highly skilled re-locate beyond the Greenbelt and commute from all over Southern England:
Oxford, Cambridge act as high income 'dormitories'.
London's carbon footprint likely increased compared to Paris.
⇒research!!!
Similar issue likely with planned creation of jobs+residential new settlements

And - Cities are **Green!**

- In US - average car trip emits X 10 carbon compared to average mass transit trip
- People living at 'normal' urban densities emit 1/3 carbon from car use compared to rural dwellers
- In US suburbs average family consumes 27% more electricity than similar urban household
- In US at urban densities more trips by foot and less energy use for home heating
- Why numbers for US? Other countries do not collect necessary data.
- Pollution in cities - mainly particulates and NO_2: a **localised** and **soluble** problem with regulation and appropriate pricing.

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