

# Transport and the labour market

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# Transport and labour market:

Why is this a relevant topic?  
(and not only for me)

# Why is the labour market relevant for transport?

- Transport demand is derived demand.
- Labour market is an important generator of transport activities:
  1. Commuting;
  2. Business travel (ignored today).
- Hence, it is *quantitatively* important.
- A necessary, but insufficient condition!

# The labour market is peculiar

- Labour market has peculiar characteristics:
- Unemployment, vacancies, *search behaviour*, wage bargaining, unions;
- Commuting is not coming from a standard competitive market, but through:
  - A market with *search imperfections*;
  - *It takes time and effort to find a job.*

# Search imperfections

- Essential to modern labour market literature.
- Nobel prize winners in economics (Diamond, Pissarides).
- Job search due to:
  - Imperfect information:
    - About vacancies (for jobseekers);
    - About jobseekers (by firms with vacancies).
  - residential and job moving costs.

# The competitive market

- In competitive markets:
- it is reasonable to assume that
  - prices of goods approximately reflect costs of goods;
  - individuals make decisions such that they are in their “optimal” situation.
- Is the commute optimally chosen by workers?

# Is the commute optimally chosen?

- Commuting length is determined by residence and workplace locations.
- Are workers able to minimise commute? “wasteful commuting literature”
- About 50% of the length of the commute is above the theoretical minimum value
- Minimum value: full information about jobs and in the absence of moving costs.
  - Evidence based on aggregate data, bank tellers, comparison between self-employed and employees.

## Other evidence

- Positive effect of commuting length on (monthly) probability of any on-the-job search activities:
  - 0.10, if commuting time is negligible;
  - 0.15, if commuting time is one hour.
- Hence, strong indirect evidence of search imperfections.
- Workers prefer shorter commuting times, but cannot find these jobs due to search costs.



# A standard research question

- Let us suppose the commuting distance is reduced by 1 km (due to infrastructure improvement).
- How much is this reduction valued by workers in the long run?
- Standard stated preference methods ignore:
  - Workers change job (or residence) in the future.

# Empirical strategy

- Suppose you are able to estimate:
  - the (positive) effect of current commuting distance on job search;
  - the (negative) effect of current wage on job search.
- The ratio of those two effects can be interpreted as:
- Marginal willingness to pay for commuting distance.
- How much are you willing to pay when your current commuting distance is decreased (e.g. by 1 km)?
- long-run interpretation
- Similar idea possible given data on job mobility

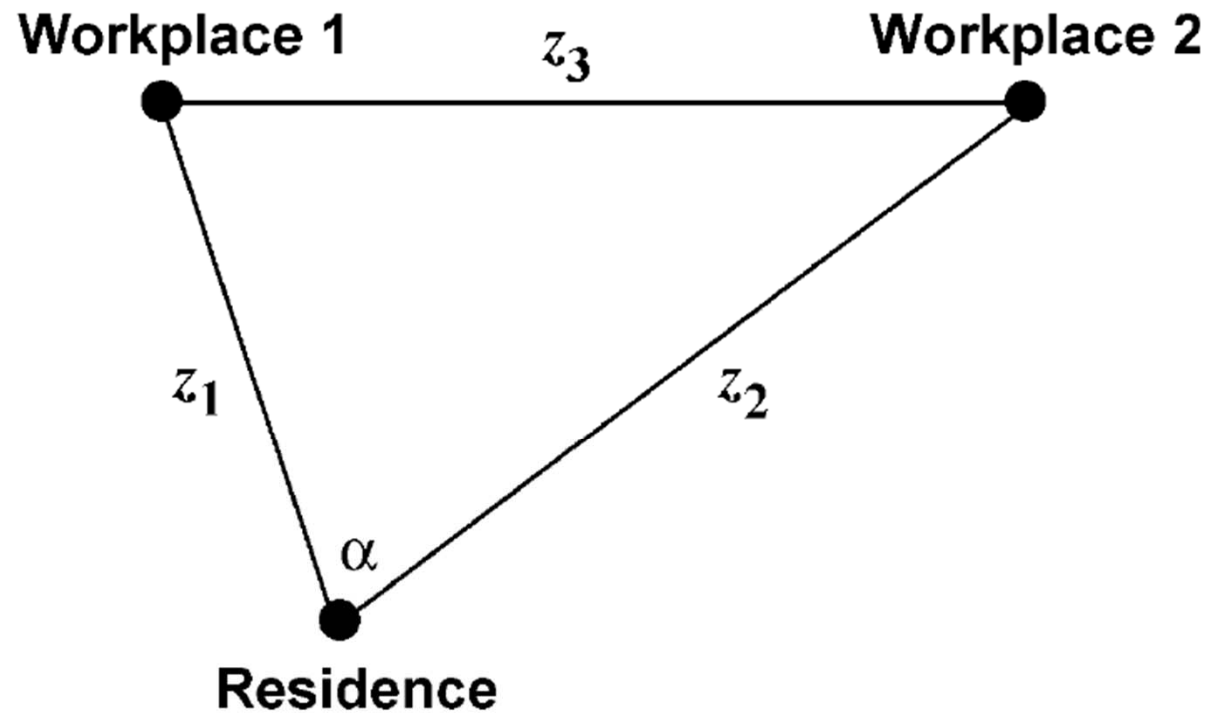
# Applications

- Main conclusion of empirical studies based on job mobility and job search.
- (long-run) values are quite high.
- Higher than typical stated-preference methodologies.
- In line with recent study (Peer et al., 2015).

# Two-earner households

- Two-earner households have more difficulties adjusting residence and workplace locations.
- Strong evidence for Denmark.

# Two-earner households



**Fig. 1.** The workplace and residential locations of a two-earner household

# Commuting and labour supply

- Commuters are productive through the labour market.
  - Productivity = income.
  - Income is an important component of welfare, as given a certain level of income we consume goods.
  - Income = productivity per hour\*labour supply.
- Labour supply = number of hours worked.
- Transport market policies affect labour supply.
- and therefore welfare.

# Why does it matter that commuting affects labour supply?

- Labour income is heavily taxed.
  - labour supply is reduced:
  - (likely) below optimum.
- Increase in commuting cost, results in *further* reductions in labour supply
- Road tax may not improve welfare!
- Why not?
  - Gains in the transport market
  - Losses in the labour market
- Solution: revenue recycling! Public transport!?

# Fiscal policy: fringe benefits

- Transport-related fringe benefits:
  - Company cars (40% of new cars in the EU);
  - Employer-paid parking (80% of car commuters);
  - Commuting subsidies.



# Fringe benefits

- Workers receive:
  - Wages;
  - Transport-related fringe benefits;
  - Other fringe benefits (e.g. health care, pension).
- Fringe benefits are consumption goods:
  - they don't increase productivity directly.
- Policy induced: taxation and subsidies.
  - Tax rates for (monetary value of) fringe benefits is lower than of tax rates for wages.

# Employer parking

- "For employees, employer-provided parking is much more important than curbside parking."
- about 80% of the Dutch car commuters use employer parking.
- almost all employer parking is provided for free to the employee.
- "Free lunch?"

# Why free employer parking?

- employer parking is *not taxed* as a fringe benefit in kind.
- inducing employers to offer parking spaces to employees for free.
- Main consequences:
  - Overconsumption of parking (labour/urban economist);
  - Too much travel (transport economist).

# Welfare loss due to non-taxation.

- Overconsumption of office parking
- Annual welfare (deadweight) loss:
  - about €90 per parking place (12% of supply costs);
  - Likely exceeds external cost of additional travel.
- There are many parking places in Europe...
- Welfare loss: about €5 billion per year.

# Welfare loss due to minimum parking

- Minimum parking restrictions on office buildings:
- In the US: supply about 30% above peak demand (Shoup, 2005).
- welfare loss of \$30 billion per year.

# Company car

- 40% of new cars in the EU:
  - About 12% of all cars.
  - About 18% of all cars on the road.
- Company cars are popular, because:
  - Low tax rates (e.g. Netherlands 30% subsidy);
  - Developed leasing market.

# Effect due to implicit subsidies

- Overconsumption :
  - Car expenditure (e.g. size of the car): very strong effect (price elasticity of demand = -1, or maybe even more negative).
  - Commuting distance : +12%
  - Number of cars in the household: +20%
  - Travel time by car in the weekend: +10%
  - Travel time by car on holidays: no evidence
  - Travel time by car after work: absent

# Welfare losses

- Overconsumption per company car (order of magnitude):
  - Car expenditure : €500 per year
  - Additional travel: €100 per year
  - Externalities: €100 per year
  - Total €700 per year



# More research needed

- Wages and commuting.
- Absenteeism and commuting.
- Commuting preferences.
- Commuting and happiness.

# Wages and commuting

- Wage bargaining (in Denmark)
- Do firms compensate workers with longer commutes by paying higher wages?
- Evidence on firms that relocate:
- Firms pay *higher* wages (0.15% for each one-way kilometre).
- Implication for road pricing/ infrastructure: firms partially reimburse travel costs.
- More research needed!

# Absenteeism and commuting

- Absenteeism
- Are workers with longer commutes more absent from work?
- Evidence on German data.
- One hour commute: about one day a year more absent
- Shirking or ill?
- More research needed!

# Commuting preferences

- Suppose you used to live in an environment with long commutes. And then you move:
- Evidence for the US: then you tend to choose long commutes
- Also true for Europe?
- More research needed!

# Commuting and happiness

- Convincing evidence:
- long commuters are less happy. : ((
- Two explanations:
  - Bad luck (search theory)
  - Difficulties understanding the implication of long commuting times.
- More research needed !

# Transport and the labour market

- *Search imperfections*: consequences for studies about value of transport improvements.
- *Labour supply* is affected by transport policy.
- Transport-related fringe benefits:
  - Employer parking
  - Company cars