

Economic Studies 153



Ina Blind
Essays on Urban Economics

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ECONOMICS AT UPPSALA UNIVERSITY

The Department of Economics at Uppsala University has a long history. The first chair in Economics in the Nordic countries was instituted at Uppsala University in 1741.

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-

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Abstract

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This thesis consists of four self-contained essays.

Essay 1 (with Olof Åslund and Matz Dahlberg): In this essay we investigate the impact of commuter train access on individual labor market outcomes. Our study considers the exogenous introduction of a commuter train linking locations in the northern part of Uppsala County (Sweden) to the regional employment center, considerably decreasing commuting times by public transit to the center for those living close to the pre-existing railroad. Using difference-in-differences matching techniques on comprehensive individual panel data spanning over a decade, our intention-to-treat estimates show that the reform had mainly no impact on the earnings and employment development among the affected individuals.

Essay 2: In this essay I look into the role of public transit for residential sorting by studying how the introduction of a commuter train linking locations in the northern part of Uppsala County (Sweden) to the regional employment center affected migration patterns in the areas served. Using a difference-in-difference(-in-difference) approach and comprehensive individual level data, I find that the commuter train had a positive effect on overall in-migration to the areas served and no effect on the average out-migration rate from these areas. With regards to sorting based on labor market status, I find no evidence of sorting based on employment status but some evidence that the train introduction increased the probability of moving out of the areas served for individuals with high labor incomes relative to the probability for individuals with lower income. Considering sorting along other lines than labor market status, the analysis suggests that people born in non-western countries came to be particularly attracted towards the areas served by the commuter train as compared to other similar areas.

Essay 3: In this essay I look into the relation between housing mix and social mix in metropolitan Stockholm (Sweden) over the period 1990-2008. Using entropy measures, I find that although the distribution of tenure types over metropolitan Stockholm became somewhat more even over the studied period, people living in different tenure types still to a large extent tended to live in different parts of the city in 2008. The degree of residential segregation was much lower between different population groups. I further find that the mix of family types, and over time also of birth region groups and income groups, was rather different between different tenure types in the same municipality. The mix of different groups however tended to be similar within different tenure types in the same neighborhood. While the entropy measures provide a purely descriptive picture, the findings thus suggest that tenure type mix could be more useful for creating social mix at the municipal level than for creating social mix at the neighborhood level.

Essay 4 (with Matz Dahlberg): The last decade's immigration to western European countries has resulted in a culturally and religiously more diverse population in these countries. This diversification manifests itself in several ways, where one is through new features in the cityscape. Using a quasi-experimental approach, essay 4 examines how one such new feature, public calls to prayer, affects neighborhood dynamics (house prices and migration). The quasi-experiment is based on an unexpected political process that led way to the first public call to prayer from a mosque in Sweden combined with rich (daily) information on housing sales. While our results indicate that the public calls to prayer increased house prices closer to the mosque, we find no evidence that the public calls to prayer served as a driver of residential segregation between natives and people born abroad around the mosque in question (no significant effects on migration behavior). Our findings are consistent with a story where some people have a willingness to pay for the possibility to more fully exert their religion which puts an upward pressure on housing in the vicinity of a mosque with public calls to prayer.

Keywords: Infrastructure investment, commuting, job access, public transit, labor market outcomes, migration, residential sorting, residential segregation, housing mix, tenure type mix, mosques, call to prayer, house prices, neighborhood dynamics

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Toulouse, August 2015
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Introduction

In 2014, 54 percent of the world's population lived in urban areas (United Nations, 2015). While urban areas potentially can offer many advantages – economic, social and environmental – they also present a lot of challenges. Apart from fundamental factors such as the provision of clean water and preventing the spread of diseases, other issues are for example transport infrastructure, equality and social cohesion within cities. All people in urban areas are not equally well off. Furthermore, while spatial proximity between people lies in the definition of an urban area, people with for example different incomes and different origins still tend to be segregated to some degree. As most of the countries in the world continue to urbanize (United Nations, 2015), a better understanding of the workings of cities thus seems important. This is the main aim of the research conducted within urban economics.

The field of urban economics “emphasizes the spatial arrangements of households, firms, and capital in metropolitan areas, the externalities which arise from the proximity of households and land uses, and the policy issues which arise from the interplay of these economic forces” (Quigley, 2008). Within this broad field, the four essays in this thesis are empirical studies that evolve around the questions of households' location choices and whether the location of households matter for other individual outcomes, e.g. in the labor market.

Households' location choices

A standard theoretic model of the spatial arrangements of households is the one developed by Alonso (1964), Mills (1967), and Muth (1969). In this model, housing and land prices decline with distance from the central business district (CBD) to compensate individuals for longer commutes. In this monocentric urban model, high-income workers consume more land and therefore choose to live where land is cheap, i.e., far from the CBD, while poor workers live close to the CBD.¹

¹ The key condition for this is that the elasticity of land with respect to income is greater than the elasticity of the value of time with respect to income (see Becker, 1965). The validity of this condition has been questioned, see e.g., Wheaton (1977), LeRoy and Sonstelie (1983) and Glaeser, Kahn and Rappaport (2008).

The standard model just described predicts residential segregation by income, in a pattern corresponding to US cities at the time the model was developed. However, it corresponds less well to the spatial pattern of European cities where people with high income tend to live closer to the CBD and people with low income further away (see e.g., Wheaton, 1977). Also, the pattern does not correspond to all US cities (see e.g., Glaeser et al., 2008). The Alonso (1964), Mills (1967), and Muth (1969) model has therefore been developed to include for example multi-centric employment (see e.g. White, 1976), different transport modes (LeRoy & Sonstelie, 1983), housing stock deterioration and redevelopment (Brueckner & Rosenthal, 2009), and amenities (Brueckner, Thisse, & Zenou, 1999).

Further, while the Alonso (1964), Mills (1967), and Muth (1969) model predicts residential segregation by for example ethnicity to the extent that ethnicity and income are correlated, actual ethnic segregation often seems to be larger than what can be explained by differences in income and demographic characteristics (see e.g., Bayer, McMillan, & Rueben, 2004; Hårsman & Quigley, 1995). To explain this, later research has focused on factors such as discrimination on the housing market (see e.g., Ahmed & Hammarstedt, 2008; Yinger, 1998) and preferences for living with people with the same ethnicity as oneself (see e.g., Card, Mas, & Rothstein, 2008; Cutler, Glaeser, & Vigdor, 1999; Schelling, 1971).

Households' locations and other outcomes

While the above mentioned factors help to explain the location choices of households with different characteristics, a related question is whether the location matters for other individual outcomes, such as labor market outcomes and health.

Focusing on labor market outcomes, the literature discusses mainly two channels through which individual residential location may matter for the individual's outcomes. The first channel is through job access, where it is often thought that being closer to jobs has a positive effect on the probability of being employed and labor income. While the Alonso (1964), Mills (1967), and Muth (1969) model includes a relation between job access, i.e., distance to the central business district, and income, the relation is one way. Within the model, the labor market is fully competitive, productivity and wages are given and there is no unemployment. In the middle of the 1990s efforts therefore started to combine urban economic models with labor economic theories and develop models in which workers' location (land market), as well as wages and unemployment (labor market) are determined in equilibrium. One branch of this literature introduces spatial frictions to efficiency wage models (see e.g., Brueckner & Zenou, 2003; Ross & Zenou,

2008; Zenou, 2002, 2009; Zenou & Smith, 1995).² Another branch of the urban labor economics literature introduces spatial frictions to search-matching models (see e.g., Gobillon, Selod, & Zenou, 2007; Smith & Zenou, 2003; Wasmer & Zenou, 2002, 2006).³

The second channel through which it is thought that where an individual lives may matter for other individual outcomes is through neighborhood effects. The idea is that the neighborhood environment, in particular the population composition, may influence the individual, for example through exposure to peer norms or access to resources such as information about job openings (see e.g., Jencks & Mayer, 1990, for an early overview of empirical studies, and Edin, Fredriksson, & Åslund, 2003; Åslund & Fredriksson, 2009, and Ludwig et al., 2013, for more recent empirical evidence.)

The essays in this thesis

The first essay in this thesis connects to the urban labor market literature and the issue of whether households' location matters for labor market outcomes. More precisely, it examines if living close to good public transit infrastructure has any effect on individuals' labor income and employment status.

The other three essays aim at providing a better understanding of households' location choices. In Essay 2, I examine which types of people choose to live close to public transit infrastructure. In Essay 3, I look into the relation between the distribution of different tenure types over a city and the social mix within the city. Finally, in Essay 4, the importance of new religious attributes in the cityscape for households' location choices is examined. More specifically, it is examined if the start of public calls to prayer from a Mosque in the Stockholm region affected households willingness to live in the neighborhoods close to the Mosque and whether this changed the migration patterns of natives and foreign-born in the neighborhoods. The essays are described in more detail below.

Public transit infrastructure

The importance of job access through public transit for improving the functioning of the labor market and strengthening the economic position especially for marginal workers is a topic receiving considerable political attention. The infrastructural investments required are substantial and relatively easy to compute. The gains are harder to estimate and knowledge about how

² For the initial efficiency wage model see Shapiro and Stiglitz (1984).

³ For the initial search-matching model see Mortensen and Pissarides (1999) and Pissarides (2000).

improvements in public transit affects firms and workers is limited (see e.g. Gibbons & Machin, 2006, for a literature review on transport and labor market linkages). Recent theoretical work however points to the importance of transport modes for generating differences in economic outcomes across groups (Gautier & Zenou, 2010) and some studies argue that availability of public transport is a key determinant for residential sorting (Glaeser et al., 2008).

To investigate these issues (in Essay 1 and Essay 2), I take advantage of the introduction of a commuter train on a pre-existing railroad in Sweden, considerably decreasing commuting times by public transit from the areas served to the local employment center (Uppsala). The studied case, *Upptåget*, was introduced in the early 1990s and connected locations north of Uppsala city to the local center and further to the greater Stockholm area. The institutional features suggest that the case is well suited for overcoming many of the methodological challenges typically present in this type of research (e.g. endogeneity and reversed causality). The stretch of *Upptåget* was governed by already existing railroad tracks and the timing was related to a legal change. Further, the train altered commuting opportunities and travel times by public transit in some areas, while leaving conditions unchanged for other similar areas on the same local labor market that can thus be used for comparisons.

In Essay 1 (written with Matz Dahlberg and Olof Åslund), to study the impact of commuter train access on individual labor market outcomes, we compare the development of labor market outcomes for individuals living in treated and non-treated areas just before the introduction of *Upptåget*. That is, we conduct an intention-to-treat (ITT) analysis. To control for observed and unobserved differences between the group of treatment and control individuals unrelated to the commuter train, the analysis is conducted using a difference-in-differences matching estimator. Of importance here is that we can follow each individual over a long time period, both before and after the introduction of the commuter train, which enables us to match on past outcomes. For the study we rely on population-wide longitudinal register data, compiled for research purposes by Statistics Sweden, and held by the Institute for Evaluation of Labour Market and Education Policy (IFAU). Among other things, the data contain rich and detailed information on demographic characteristics, income, employment, and education as well as detailed geographic information on the workplace and residential location of each individual. We find that the introduction of the commuter train essentially had no significant effects on the employment probability or labor earnings for those individuals that lived in the treated area before the commuter train was introduced.

In Essay 2, to look into the role of public transit infrastructure for residential sorting, I use a difference-in-differences(-in-differences) type of analysis to compare migration patterns in the areas treated with commuter train ac-

cess to the migration patterns in non-treated areas before and after the introduction of Upptåget. The primary focus in the study is whether there is sorting between people with different employment status and labor income, but I also consider sorting based on education level, age, sex, and birth region. For the study I rely on the same type of comprehensive individual data as in Essay 1, which allows me to separately identify in-migrants, out-migrants and stayers. I find that the commuter train Upptåget had a positive effect on overall in-migration to the areas served and no effect on the average out-migration rate from these areas. With regards to sorting based on labor market status, I find no evidence of sorting based on employment status but some evidence that the train introduction increased the probability of moving out of the areas served for individuals with high labor incomes relative to the probability for individuals with lower income. Considering sorting along other lines than labor market status, the analysis suggests that people born in non-western countries came to be particularly attracted towards the areas served by the commuter train as compared to other similar areas.

Housing mix and social mix

Another factor that might influence households' location choices is the spatial distribution of different types of housing. In Sweden like in many other countries, policies to create neighborhoods with mixed housing have been advocated as a means to obtain socially mixed neighborhoods. There is however little empirical evidence on the relation between housing mix and social mix. The aim of Essay 3 is to study this issue.

I focus on metropolitan Stockholm over the period 1990-2008 and the mix of housing with different tenure types. Stockholm is interesting in this respect for several reasons. First, in Sweden, socially mixed neighborhoods was stated a national housing policy goal in the mid-1970s, and housing mix a primary mean advocated to achieve it (see e.g. Holmqvist, 2009). Second, the goal has a general feature that it is partly motivated by the wish to counter overall residential segregation and to obtain social equality (see e.g. Bergsten & Holmqvist, 2007; Holmqvist, 2009). In their interviews with municipal planning departments and housing companies, Bergsten and Holmqvist (2007) find that the understanding and practice of the social mix policy in Sweden have been rather consistent since it was introduced as a national housing policy goal in the middle of the 1970's, with social mix policy remaining a general policy for counteracting socioeconomic segregation rather than ethnic segregation and with age groups and family types as other categories frequently cited as desirable to mix. Third, the tenure types of buildings are rather fixed in Sweden, where some buildings almost exclusively contain apartments inhabited by tenant-owners, other buildings exclusively contain apartments inhabited by renters, and private houses to a large

extent are owner-occupied. To the extent that different population groups tend to be over-represented in different tenure types, it thus seems reasonable to assume that the distribution of tenure types could affect the distribution of different population groups.

For the study, I rely on population-wide register data, compiled for research purposes by Statistics Sweden, and held by the Institute for Housing and Urban Research (IBF) at Uppsala University. Among other things, the data contain detailed information on demographic characteristics and income of each individual. Important for this study, the data also contain detailed geographic information on the residential location of each individual as well as information on the real estate the individual lives in. From information on legal form of ownership and housing type, it is possible to classify people into tenure types.

Using entropy measures on the data described above, I first calculate the degree of residential segregation between tenure types and between population groups – birth region groups, income groups, age groups and family types – and then whether on average the population mix is different within different tenures in the same area.

I find that although the distribution of tenure types over metropolitan Stockholm became more even over the studied period, people living in different tenure types still to a large extent tended to live in different parts of the city in 2008. The degree of residential segregation was much lower between different population groups. I further find that the mix of family types, and over time also of birth region groups and income groups, was rather different between different tenure types in the same municipality. The mix of different groups however tended to be similar within different tenure types in the same neighborhood. While the entropy measures provide a purely descriptive picture, the findings thus suggest that tenure type mix could be more useful for creating social mix at the municipal level than for creating social mix at the neighborhood level.

New features in the cityscape

As mentioned above, yet another factor that can affect households' location choices is different types of amenities or features in the cityscape. Essay 4 (written with Matz Dahlberg) examines how a new religious feature, public calls to prayer from a mosque in a Western country (Sweden), affects neighborhood dynamics in terms of house prices and migration behavior. We take advantage of an unexpected political decision that lead way to the first public calls to prayer from a mosque in Sweden (the Fittja Mosque in Botkyrka municipality in the Stockholm region). This allows us to examine the issue at hand by combining the hedonic price theory of house price capitalization with a quasi-experimental approach, yielding a hedonic difference-in-

differences estimator. By using data on housing sales with precise information on the date when an object was sold and where the object was geographically located, we are in a good position to estimate the effect of the public call to prayer events on house prices. Likewise, by using data on monthly in- and out-migration from each neighborhood, we are able to estimate the effects of the public call to prayer events on migration and sorting patterns close to the mosque.

It should be stressed that we do not think that it is the sound of the public calls to prayer in itself that is important for house prices or sorting patterns. There are few public calls to prayer (one every Friday at 1 pm), the loudspeakers are directed away from residential housing, and there is only a limited number of houses in the direct vicinity of the mosque. Instead, we think of the public calls to prayer as an expression of Islam that can be important for some Muslims, whereas some non-Muslims/natives might want to avoid expressions of Islam or Muslims/immigrants.

Regarding house prices, estimates from a distance-motivated (i.e., distance from the mosque) difference-in-differences specification indicate that, within Botkyrka municipality, the public call to prayer events made housing closer to the mosque relatively more expensive. Also, estimates obtained through the synthetic control method (Abadie, Diamond, & Hainmueller, 2010; Abadie & Gardeazabal, 2003) indicate that the public call to prayer events had a positive effect on house prices in Botkyrka municipality as a whole. Regarding sorting, we find no indications of either native flight/native avoidance or a relative increase of people born abroad in the neighborhoods close to the Mosque. Given the original character of Botkyrka municipality with 38 % immigrants (the highest share among the municipalities in the Stockholm region) our findings are consistent with a local revitalization story in neighborhoods where native-immigrant sorting has already taken place.

References

- Abadie, A., Diamond, A., & Hainmueller, J. (2010). Synthetic control methods for comparative case studies: Estimating the effect of California's tobacco control program. *Journal of the American Statistical Association*, 105(490), 493-505.
- Abadie, A., & Gardeazabal, J. (2003). The economic costs of conflict: A case study of the Basque Country. *American Economic Review*, 93(1), 113-132.
- Ahmed, A. M., & Hammarstedt, M. (2008). Discrimination in the rental housing market: A field experiment on the Internet. *Journal of Urban Economics*, 64(2), 362-372.
- Alonso, W. (1964). *Location and land use. Toward a general theory of land rent*. Harvard University Press Cambridge, MA.
- Åslund, O., & Fredriksson, P. (2009). Peer effects in welfare dependence quasi-experimental evidence. *Journal of Human Resources*, 44(3), 798-825.

- Bayer, P., McMillan, R., & Rueben, K. S. (2004). What drives racial segregation? New evidence using Census microdata. *Journal of Urban Economics*, 56(3), 514-535.
- Becker, G. S. (1965). A theory of the allocation of time. *Economic Journal*, 75(299), 493-517.
- Bergsten, Z., & Holmqvist, E. (2007). *Att blanda?: En undersökning av planerares och allmännyttiga bostadsbolags syn på planering för en allsidig hushållssammansättning* IBF Research report, 2007:1. Gävle: Uppsala university, Institute for Housing and Urban Research
- Brueckner, J. K., & Rosenthal, S. S. (2009). Gentrification and neighborhood housing cycles: will America's future downtowns be rich? *Review of Economics and Statistics*, 91(4), 725-743.
- Brueckner, J. K., Thisse, J.-F., & Zenou, Y. (1999). Why is central Paris rich and downtown Detroit poor?: An amenity-based theory. *European Economic Review*, 43(1), 91-107.
- Brueckner, J. K., & Zenou, Y. (2003). Space and unemployment: The labor market effects of spatial mismatch. *Journal of Labor Economics*, 21(1), 242-262.
- Card, D., Mas, A., & Rothstein, J. (2008). Tipping and the dynamics of segregation. *Quarterly Journal of Economics*, 123(1), 177-218.
- Cutler, D. M., Glaeser, E. L., & Vigdor, J. L. (1999). The rise and decline of the American ghetto. *Journal of Political Economy*, 107(3), 455-506.
- Edin, P.-A., Fredriksson, P., & Åslund, O. (2003). Ethnic enclaves and the economic success of immigrants - Evidence from a natural experiment. *Quarterly Journal of Economics*, 118(1), 329-357.
- Gautier, P. A., & Zenou, Y. (2010). Car ownership and the labor market of ethnic minorities. *Journal of Urban Economics*, 67(3), 392-403.
- Gibbons, S., & Machin, S. (2006). *Transport and labour market linkages: empirical evidence, implications for policy and scope for further UK research*: Commissioned for the Eddington Study.
- Glaeser, E. L., Kahn, M. E., & Rappaport, J. (2008). Why do the poor live in cities? The role of public transportation. *Journal of Urban Economics*, 63(1), 1-24.
- Gobillon, L., Selod, H., & Zenou, Y. (2007). The mechanisms of spatial mismatch. *Urban Studies*, 44(12), 2401-2427.
- Hårsman, B., & Quigley, J. M. (1995). The spatial segregation of ethnic and demographic groups: Comparative evidence from Stockholm and San Francisco. *Journal of Urban Economics*, 37(1), 1-16.
- Holmqvist, E. (2009). *Politik och planering för ett blandat boende och minskad boendesegregation. - ett mål utan medel? [Policy and planning for social and housing mix and decreased housing segregation. - A goal without means?]*. PhD Thesis, Uppsala university, Uppsala.
- Jencks, C., & Mayer, S. E. (1990). The social consequences of growing up in a poor neighborhood. In L. E. Lynn & M. G. H. McGeary (Eds.), *Inner city poverty in the United States* (pp. 111-186). Washington, DC: National Academy Press.
- LeRoy, S. F., & Sonstelie, J. (1983). Paradise lost and regained: Transportation innovation, income and residential location. *Journal of Urban Economics*, 13(1), 67-89.
- Ludwig, J., Duncan, G. J., Genetian, L. A., Katz, L. F., Kessler, R. C., Kling, J. R., & Sanbonmatsu, L. (2013). Long-term neighborhood effects on Low-income families: Evidence from Moving to Opportunity. *American Economic Review*, 103(3), 226-231.
- Mills, E. S. (1967). An aggregative model of resource allocation in a metropolitan area. *American Economic Review*, 57(2), 197-210.

- Mortensen, D. T., & Pissarides, C. A. (1999). New developments in models of search in the labor market. In D. Card & O. Ashenfelter (Eds.), *Handbook of labor economics* (Vol. 3, pp. 2567-2627). Amsterdam: Elsevier Science.
- Muth, R. F. (1969). *Cities and housing*: University of Chicago press.
- Pissarides, C. A. (2000). *Equilibrium unemployment theory*. Cambridge, MA: MIT press.
- Quigley, J. M. (2008). "urban economics". In S. N. Durlauf and L. E. Blume (Eds), *The New Palgrave Dictionary of Economics*. Second Edition. Palgrave Macmillan. The New Palgrave Dictionary of Economics Online. 13 August 2015. <http://www.dictionaryofeconomics.com/article?id=pde2008_U000035> doi:10.1057/9780230226203.1770
- Ross, S. L., & Zenou, Y. (2008). Are shirking and leisure substitutable? An empirical test of efficiency wages based on urban economic theory. *Regional Science and Urban Economics*, 38(5), 498-517.
- Schelling, T. C. (1971). Dynamic models of segregation. *Journal of Mathematical Sociology*, 1, 143-186.
- Shapiro, C., & Stiglitz, J. E. (1984). Equilibrium unemployment as a worker discipline device. *American Economic Review*, 74(3), 433-444.
- Smith, T. E., & Zenou, Y. (2003). Spatial mismatch, search effort, and urban spatial structure. *Journal of Urban Economics*, 54(1), 129-156.
- United Nations. (2015). *World Urbanization Prospects. 2014 Revision*. New York.
- Wasmer, E., & Zenou, Y. (2002). Does city structure affect job search and welfare? *Journal of Urban Economics*, 51(3), 515-541.
- Wasmer, E., & Zenou, Y. (2006). Equilibrium search unemployment with explicit spatial frictions. *Labour Economics*, 13(2), 143-165.
- Wheaton, W. C. (1977). Income and urban residence: An analysis of consumer demand for location. *American Economic Review*, 67(4), 620-631.
- White, M. J. (1976). Firm suburbanization and urban subcenters. *Journal of Urban Economics*, 3(4), 323-343.
- Yinger, J. (1998). Evidence on discrimination in consumer markets. *Journal of Economic Perspectives*, 12(2), 23-40.
- Zenou, Y. (2002). How do firms redline workers? *Journal of Urban Economics*, 52(3), 391-408.
- Zenou, Y. (2009). *Urban Labor Economics*. Cambridge: Cambridge University Press.
- Zenou, Y., & Smith, T. E. (1995). Efficiency wages, involuntary unemployment and urban spatial structure. *Regional Science and Urban Economics*, 25(4), 547-573.

