Urban segregation and unemployment: A case study of the urban area of Marseille – Aix-en-Provence (France)

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ABSTRACT

In this paper, we study the effects of the spatial organization of the urban area of Marseille – Aix-en-Provence on unemployment there. More specifically, differences in the characteristics of the residential population induce urban stratification with the result that urban structure may affect the probability of employment. In order to evaluate the effects of spatial structure on unemployment, we implement a spatial probit model to reveal the employment probabilities of young adults still living with their parents. Our results support the hypothesis that living in or near a deprived neighborhood decreases the probability of employment.

1. Introduction

Cities around the world are characterized by the existence of different types of neighborhoods: some concentrate wealth while others are much more deprived and accumulate difficulties such as unemployment, insecurity, exclusion, and crime. This phenomenon is known as urban (or spatial) segregation. Studies of urban segregation observe, measure, and analyze the process of segregation through residential location models: individuals sort themselves within a city according to their socioeconomic characteristics. The literature also stresses the problem of reverse causality, “arguing that the spatial organization of cities could explain differences in social and economic outcomes” (Dujardin et al., 2008).

The purpose of this paper is to examine whether the structure of the Urban Area of Marseille – Aix-en-Provence could in itself be a source of unemployment. According to the French statistical institute (INSEE) in 2013, the most deprived neighborhood in the urban area suffered from a surplus of unemployment of around 40 percentage points compared to the mean value of the urban area. Meanwhile, the most favored neighborhood has an unemployment rate 16 percentage points lower than the mean of the urban area. How can such disparities in unemployment at an infra-urban scale be explained?

It is well known that individual characteristics affect employment status. Holding a qualification and level of education both positively influence employment as explained by human capital theory (Mincer, 1958, 1974; Schultz, 1961; Becker, 1964) or signal theory (Arrow, 1973; Spence, 1973). Moreover, discrimination – based on gender, race, immigration status, age, and so on – could intensify the segregation process (see for example Welch, 1975; Altonji and Blank, 1999; and Duguet et al., 2010). Finally, in addition to the intrinsic characteristics of individuals, residential location could also influence employment status. More specifically, such influence could operate through two channels: distance to jobs and local social interactions.

The first channel is mainly appraised through the “spatial mismatch hypothesis” (Kain, 1968): residing in places far from employment centers and poorly connected with them has substantial consequences in terms of wage and unemployment levels. This hypothesis met with lightning success and led to a prolific body of research (see Jencks and Mayer, 1990a; Wheeler, 1990; Holzer, 1991; Moss and Tilly, 1991; Kain, 1992; Ilhanfeldt and Sjoquist, 1998; and Gobillon et al., 2003, for surveys). Mechanisms explaining how distance to jobs could be detrimental include:

i. Efficiency of job search decreases with distance2;
ii. Incentives for intensive job hunting are too low for individuals who live far from jobs;
iii. The search area is relatively restricted around the residential location because of the marked increase in transport costs with distance;
iv. Poor transport networks by road and/or scarcity of public transport may impede job searching and raise transport costs. This amplifies the effects mentioned in the three previous points;
v. Employers may be reluctant to hire employees who live far from their job because long journeys make them less productive and less flexible.6

The second channel of influence of residential location on employment outcomes is the local social interactions. As underlined by Topa and Zenou (2015), interactions are generally easier and more frequent between people who are geographically close because of the increasing costs of interactions with distance. Such interactions may be direct or indirect.

Direct interactions correspond to “peer effects”: individuals are directly influenced by the behavior of their peers, i.e. family, friends, neighbors, classmates, or work colleagues. Mansky (1995, 2000) distinguishes three types of interactions: (i) endogenous interactions: the probability of an agent acting varies with the behavior of his reference group; (ii) contextual interaction: the probability of an agent acting varies with the exogenous characteristics of the members of his reference group; (iii) correlated effects: agents of the same group tend to act in a similar way because of their similar individual characteristics or because of an analogous institutional environment. Mansky (1995) emphasized that the first two types of interactions express distinct ways that agents might be influenced by social environment, while correlated effects express a non-social phenomenon.

Indirect interaction takes the form of a “neighborhood effect” (see Durlauf, 2004; Jencks and Mayer, 1990b for surveys). It shows the influence of residential neighborhood composition on individual behavior. First, it may serve as a disincentive to look for work because there are so many other unemployed people around. For example, Weinberg et al. (2004) point out that a one standard-deviation increase in employment is associated to a rise of 9.5% of the annual hours worked. Popkin et al. (1993) and Kaufman and Rosenbaum (1992) reveal the relationship between well-off neighborhoods and employment outcomes through evaluations of policy interventions in residential relocation from deprived neighborhoods to low-poverty neighborhoods.

Of course, mimetic behaviors and peer pressure amplify these different factors. For example, an individual surrounded by unemployed people will tend to give up applying for jobs or will consider unemployment as a fatality. Some studies argue that this is why deviant behaviors such as delinquency and crime are observed.7

Such phenomena have received considerable attention in the North American context, but have come in for less study in European settings (exceptions are Fieldhouse, 1999, on London; Gobillon and Selod, 2007, on Paris; Dujardin et al., 2008, on Brussels). In Urban Economics, location models explain the spatial organization of cities.

These models are based on land rent: land use is the result of an agent’s trade-off between accessibility and size of housing under the constraint of income. Housing is an essential good for which consumption increases with income and households tend to move away from the city center so as to benefit from larger living areas. As a result, poorer households are located in city centers in less spacious housing, while richer households reside on the outskirts. This pattern is observed in most US cities but not most European cities. European cities mainly display the opposite pattern: poorer households are to be found in the suburbs and richer ones in city-centers. The existence of a historical center and associated amenities (museums, restaurants, theaters, etc.), providing a rich and diverse cultural life, attracts high-income households and therefore pushes the low-income households out to the suburbs (Brueckner et al., 1999; Thissen et al. 2003). US and European cities are very different in their spatial organization so that it is important to determine the mechanisms of segregation in the European context to identify the areas of convergence. In the French case, the focus is on Paris but other major cities exhibit segregated structures. Consequently, we take an interest in France’s second largest city (“Marseille”) and the France’s third urban area namely the urban area of Marseille – Aix-en-Provence. Moreover, this urban area provides an additional opportunity to study a highly specific case: it was built around its trading port and has experienced successive waves of immigration. At last, while the two cities constitute today a contiguous urban area, the two cities are very different by their history, economic development and population attractiveness. As a consequence, the spatial organization of the urban area is interesting to study segregation.

We follow the methodology presented in Dujardin et al. (2008). They are interested in the connection between urban segregation and unemployment. The causal effect of the spatial organization of Brussels on the propensity to unemployment is highlighted. However, we go a step further. In their approach, they ignore the interactions with neighboring districts. More specifically, living in a deprived district surrounded by deprived districts is similar to living in a deprived district surrounded by wealthy districts. The literature emphasizes that a deprived neighborhood does not offer the same job opportunities depending on whether it is surrounded by other poor neighborhoods or by wealthy neighborhoods (Bénabou, 1993). We claim that the geography of spatial units has to be taken into account.

As a consequence, we implement our analysis with the tools of spatial econometrics. LeSage (2008, p. 20) defines spatial econometrics as “a field whose analytical techniques are designed to incorporate dependence among observations (regions or points in space) that are close geographically. Extending the standard linear regression model, spatial methods identify cohorts of ‘nearest neighbors’ and allow for dependence between these regions/observations”. These tools are the appropriate methods for handling interdependencies in space taking into account geography and the interaction between census tracts (Anselin 1988; Arbia, 2006).

The paper is organized as follows. In Section 2, we present the study area and the data used to perform the analysis. Section 3 analyzes the spatial structure of the study area. In Section 4, we present the results.

2. Data and study area

2.1. Study area

The study focuses on the urban area of Marseille – Aix-en-Provence. The notion of “urban area” results from urban zoning and is defined by the French statistical institute (INSEE) as “a set of municipalities, continuous and without enclaves, consisting of an urban pole (urban unit) of more than 10,000 jobs, and rural munici-
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