Cultural dynamics, social mobility and urban segregation[☆]

Emeline Bezin [a,∗], Fabien Moizeau [b]

[a] Paris School of Economics (PSE), 75 014 France; IRES, Université Catholique de Louvain (Belgium)
[b] CREM (Condorcet Center), Université de Rennes 1 and Institut Universitaire de France, 35 000 France

A B S T R A C T

We consider the relationship between cultural dynamics, urban segregation and inequality. To this end, we develop a model of neighbourhood formation and cultural transmission. The tension between culture preservation and socioeconomic integration drives the pattern of segregation in the city. We study the dynamics of culture and urban configurations. In the long run, the city may end-up segregated or integrated depending on cultural distance and the initial cultural composition of the population. We also show that segregation fosters the influence of family background on economic fate. Finally, segregation has ambiguous effects for long-run efficiency.

© 2017 Elsevier Inc. All rights reserved.

1. Introduction

During recent decades, most Western democracies have become more ethnically and culturally diverse. The average proportion of foreign-born individuals in OECD countries rose from 9.5% in 2000 to 13% in 2014 (OECD International Migration Outlook, 2016). This movement is likely to continue, given demographic and migration trends. Increasing diversity challenges social cohesion and puts issues of social integration and national identity at the forefront of the political debate.

In the host country, ethnic minorities often live in the less affluent neighborhoods of metropolitan areas. Living in ethnic enclaves produces both benefits and costs for inhabitants suggesting that the choice of place of residence results from a variety of incentives. It responds to the desire to live close to the native population in order to acquire the mainstream culture and become socially-integrated, but also both the wish to cluster with peers and retain the cultural attitudes of the country of origin, sometimes at the expense of social integration.

Understanding how residential segregation affects the incentives to socially integrate and preserve the home-country culture is essential for the understanding of potential policies to reduce the ethnic gap.

This paper analyzes the interdependency between cultural transmission, urban segregation and economic inequality. Our framework allows us to consider, on the one hand, how segregation influences the way in which cultural traits are passed on from one generation to the next and, on the other hand, how cultural transmission drives the incentives to segregate. We are thus able to answer the following questions: How does segregation contribute to cultural diversity within the society? How does the existence of diverse cultures regarding personal achievement affect segregation and urban inequality? How can we design public policies to affect both segregation and cultural transmission in order to improve societal economic performance?

It is well-documented that urban segregation interacts with culture (regarded as preferences, beliefs and social norms). Urban segregation influences ethnic identity, although there is no consensus on the sign of this relationship (see Bisin et al., 2011a; Constant et al., 2013). Segregation of ethnic minorities in poor neighbor-

hoods creates a 'culture of poverty' by socially isolating individuals from mainstream norms of behavior (see Wilson, 1987; Anderson, 1999; Lamont and Small, 2008). The choice of the social arenas in which children interact such as schools or neighborhoods is also a concern for parents who care about the transmission of desired cultural traits (see, for the particular case of school choice, Ioannides and Zanella, 2008, or Tinker and Smart, 2012).

Following on from this empirical evidence, we develop a theoretical model based on the following three blocks.

First, the population consists of two different cultural types: the culture of the majority (say that of natives) and the minority culture (say that of the foreign-born). We assume that agents who adopt different cultures do not have the same prospects of economic success (*i.e.* being educated), with the majority culture performing better as it produces better knowledge of the codes of behavior and the functionings of the schooling system.

Second, cultural traits are transmitted intergenerationally following a process *à la* Bisin and Verdier (2001). Interactions within the family and within society are involved here, and parents have an incentive to socialize children into their own culture.

Third, parents choose the place where they wish to live. This choice is not only motivated by the desire to transmit one own's culture but also by the existence of local peer effects in children's education (see, for instance, Bénabou, 1993, 1996a, 1996b). Local spillovers matter as, whatever their cultural trait, all parents value having educated children.

To capture the influence of culture on socioeconomic outcomes, one crucial feature of our model is that the (subjective) benefits of education and the gain associated with the transmission of cultural traits are linked. More precisely, for mainstream parents, we consider that the benefit of having an educated child rises when the child has acquired the parents' own culture (*i.e.* the mainstream culture). The mainstream cultural trait and education are thus complements. For minority families, we consider two cases: complementarity or substitutability. Under substitutability, having the minority cultural trait reduces the benefits of education. These two cases capture the cultural distance between mainstream and minority groups. Complementarity for both groups reflects *cultural proximity*. While substitutability for the minority group corresponds to *cultural polarization*. There is empirical support that cultural distance matters for differences in socioeconomic outcomes (for the impact of religion on economic decisions, see Weber, 1958, or Botticini and Eckstein, 2005, 2007, for the influence of cultural origin on social integration of immigrants, see Domingues Dos Santos, Wolff, 2011, for french evidence, or Gang and Zimmermann, 2000, for german evidence, and Borjas, 1995, for US evidence, for the influence of oppositional identities see Akerlof and Kranton, 2002; Fryer and Torelli, 2010; Battu and Zenou, 2010, and Battu et al., 2007).

The non-separability between the benefit of education and the gain associated with cultural-trait transmission means that the incentives parents face to transmit cultural trait and to make their offspring educated are intertwined and influence the integration and segregation forces. The main insight of our theory is then that the urban equilibrium and the cultural composition of the population are co-determined. We show that cultural distance has crucial implications for the nature of the long-run equilibrium.

When there is cultural polarization, the desires to preserve the minority culture and socially integrate are contradictory, making minority parents less willing to pay to live in better-quality neighborhoods. The segregation force is then strong enough so that the city ends-up segregated.

When there is cultural proximity, there are multiple types of long-run urban configurations. We show that the long run urban equilibrium depends on society's initial cultural composition.

We show that the spatial separation of cultural groups adds further glue to the intergenerational transmission of cultural traits.

Consistent with the findings in Borjas (1995) and Chetty et al. (2014), segregation thus strengthens the influence of family background on economic fate.

We show that segregation has ambiguous effects on the long-run level of education. The initial population cultural composition is key to assess the efficiency of the urban equilibrium.

Related literature. Our paper is related to the literature on cultural transmission launched by Bisin and Verdier (2001). The transmission of the traits such as identities, time preferences and beliefs, which impact educational outcomes, has been analyzed theoretically (see Bisin et al., 2011b, for oppositional identities, Doepke and Zilibotti, 2008, for time preferences and the spirit of capitalism, Guiso et al., 2008, for beliefs and trust in other people, and Lindbeck and Nyberg, 2006, for the transmission of working norms). Our paper is relatively close to some theoretical and empirical studies suggesting that assimilation policies can lead to a cultural backlash from the minority (Bisin et al., 2011b; Carvalho, 2013; Fouka, 2016). In the same vein, Verdier and Zenou (2017) shows how cultural distance (defined as the degree of centrality in a network) affects choices of assimilation. None of the previous studies consider location choices and is able to show how cultural choices interact with the degree of segregation.

Our paper also contributes to the literature on neighborhood effects and endogenous socioeconomic segregation explaining how local interactions drive spatial segregation and persistent income inequality (see for instance, Loury, 1977; Bénabou, 1993, 1996a, 1996b, Borjas, 1998, and Durlauf, 1996). In these analyses, the dynamics of income inequality rely on human-capital accumulation, and individual human capital is determined by both that of their parents and local spillovers. In particular, Bénabou's works emphasize that incentives to segregate into distinct communities are driven by the desire to enhance human-capital accumulation. Departing from Bénabou's works, Borjas (1998) introduces ethnic spillovers in the human-capital accumulation process that lead ethnic groups to sort across neighborhoods. In the same vein, we consider that cultural aspects are crucial for the emergence of the urban configuration. Moizeau (2015) also studies the influence of culture on residential choices. His analysis considers how in a city either opposing social norms persist or a particular code of behavior spreads and ultimately prevails. The dynamics of cultural traits follow a particular diffusion process proposed by Akerlof (1980). We differ from these previous works as the cultural composition of the population evolves over time as a result of individual decisions. Our approach allows us to take into account the tension between the desire to preserve one's own culture and the need to integrate in order to improve one's prospect of economic success. To the best of our knowledge, our paper is the first to emphasize how this tension between culture and economic integration impacts cultural diversity and residential segregation in the long run.

Our paper is also related to Card et al. (2007, 2008), who build a model *à la* Schelling where individuals have preferences over the social environment. Unlike most theoretical models of neighborhood composition, they find that tipping dynamics may lead to multiple long-run equilibria, with integration being a stable outcome. Our cultural explanation of multiple long-run urban configurations here relates the degree of segregation to cultural distance, as well as the cultural composition of the population. It is thus consistent with the empirical findings in Cutler et al. (2008) that (i) the cultural distance between an immigrant group and the native population significantly affects the degree of segregation, and (ii) the group share in the population also matters for the urban configuration.

The remainder of our paper is organized as follows. The following section sets out the model. Section 3 then provides a characterization of the segregation that emerges at each date *t*, and looks at