Dynamics of social norms in the city ☆

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ABSTRACT

We study how in a city either opposite social norms remain or a particular code of behavior spreads and ultimately prevails. We develop a multicommunity model with overlapping generations. When young, an individual chooses a certain level of educational effort. The crucial feature is that the decision is influenced by peers living in the area who favor a social norm either valuing education or discrediting it. As an adult, an individual who cares about both her offspring's expected income and the social norm, chooses the family's location. Endogenous location leads to different patterns of social norms in the city. We identify two types of urban equilibrium: a *culturally-balanced* city where social norms are distributed evenly among urban areas and where the rate of education is the same in each urban area and a *culturally-divided* city where urban areas oppose on their prevailing social norm and exhibit different rates of education. We then study the dynamics of social norms. We show that there are multiple long-run patterns of social norms. A particular steady state is achieved depending on the initial distribution support for social norms in the population. Finally, we show that a public policy promoting social integration can lead, in the long run, to a population unanimously discrediting education. Enforcing social integration can obtain less education than allowing the culturally-divided city to arise.

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1. Introduction

The striking fact about urban inequality is that social problems such as criminal activities, unemployment, school drop-out rates, and teenage childbearing, are concentrated in urban areas, for instance the inner-city areas in the US and the suburbs in Europe. Ethnographic and sociological studies have documented that the concentration of social problems in depressed communities may entertain a culture of poverty which opposes the mainstream culture and traps their inhabitants into poverty (see among others Wilson, 1987; Anderson, 1999 and the survey of Lamont and Small, 2008). The concentration of social problems in some depressed communities is thus a threat for social cohesion and raises the issue of the design of public policies aiming to fight against urban inequality.

The purpose of this paper is to understand why, in some urban areas, subcultures favoring standards of behavior which prove to be detrimental for their inhabitants emerge and perpetuate over time. We focus on

particular neighborhood effects, which are social norms followed by peers. Youth decisions are driven by the concern to follow some social norms because obedience to the code of behavior prescribed by a particular social norm generates reputation benefits while disobedience incurs stigmatization costs.

There is now a widespread consensus on the influence of social interactions on behavioral and economic outcomes. In particular, the youth while taking decisions appear to be strongly influenced by their local environment. For instance, Gaviria and Raphael (2001) find strong evidence of peer-group effects at the school level for drug use, alcohol drinking, cigarette smoking, church going and the likelihood of dropping out of high school. Furthermore, there is evidence that these peer-group effects may be the result of peer pressure. At school level, it has been widely documented that pupils engage in harassment and other types of peer pressure in order to enforce norms of behavior (see Bishop, 2003, for a broad review of ethnographic and psychological studies on this issue and also for the study he conducted from the Educational Excellence Alliance's Survey of Student Culture).[1] One explanation of the racial achievement gap in education lies in 'acting white' peer externality which refers to the stigmatization exerted by

[1] Studying peer effects in the workplace, Mas and Moretti (2009) find evidence of the influence of coworkers' productivity on work effort. This influence is stronger for coworkers with whom interactions are frequent, corroborating that social pressure is a way to internalize free-riding externalities.

peers if one invests in the behavioral characteristic of whites (see Fryer and Torelli, 2010). Furthermore, using data from the 'Moving to Opportunity' experiment, Kling et al. (2007) find modest peer effects in education for the male youth. They explain this result by saying that the experimental male group may have responded to peer pressure to signal that they have not abandoned their original neighborhood culture by returning to the original neighborhood.

These local interactions may help explain why socioeconomic opportunities vary with the place of residence (see for instance the surveys of Durlauf, 2004; Ioannides, 2013; Topa and Zenou, 2014). The recent work of Chetty et al. (2014) provides new evidence that patterns of social mobility differ significantly across space. Using data from the federal income tax records over the period 1996–2012, they study a measure of absolute upward mobility defined as the mean income rank of children with parents in the bottom half of the income distribution. They divide the US into 741 Commuting Zones. They obtain that for commuting zones in the top decile the income rank is above the 52nd percentile while it is below the 37th percentile in the bottom decile. This difference translates into substantial differences in children's incomes. Furthermore, Chetty et al. (2014) find that upward social mobility is significantly correlated to observable characteristics of commuting zones. In particular, they find a strong negative correlation with segregation by race or income and a positive correlation with quality of the K-12 school system (measured by lower drop-out rates, higher test scores and smaller class sizes). This study stresses that local environment may be key to explain the spatial variation of social mobility although it does not prove any causal relationship.[2]

This paper studies the relationship between dynamics of social norms and urban inequality. In order to grasp both the local nature and the dynamic aspect of a social norm influence, we develop a multicommunity model with overlapping generations. Individuals live two periods, childhood and adulthood. As a child, each individual decides which level of educational effort to exert. In accordance with the empirical results mentioned above on the strong evidence of peer influence at school, we assume that the education decision depends on the economic returns to education, the cost of effort and also the reputation benefits and stigmatization costs generated by the adherence to or the deviation from, respectively, the social norm. We consider that a child faces two opposing social norms: one valuing education and prescribing high effort (named the 'education' social norm) and the other one depreciating schooling effort and prescribing low effort at school (named the 'no education' social norm). We assume that children are heterogeneous with respect to their preferences. Individuals are called education believers or non education believers, respectively, when they take care about the costs and benefits of adhering to or deviating from the 'education' or 'no education' social norm. We capture the local nature of a social norm assuming that the stigmatization costs and reputation benefits of a social norm depend on the fraction of inhabitants in the urban area who believe in this social norm. As an adult, an individual chooses the place of residence of the family, comprised of her offspring and herself. In a first step, we assume limited altruism so that parents only care about their child's future income. Hence, the intensity of a social norm is endogenous as it will be determined by the emerging urban equilibrium. The second key feature of the model is that the population of believers in a social norm evolves over time. In this respect, we follow the argument of Akerlof (1980) that a social norm spreads if the number of individuals adhering to the social norm is greater than the number of individuals believing in this social norm. Our model thus allows us to study the interplay between the dynamics of opposite social norms and the dynamics of the organization of the city. At date t, a particular urban equilibrium may emerge depending on the population characteristics, which are the number of believers and non-believers in the population. This equilibrium implies particular incentives to educate in each neighborhood. This will drive a new number of believers which give rise to a new urban configuration at date $t + 1$. As a whole, the social norms dynamics are driven by the urban configuration that arises.

Our results are threefold. First, we identify urban equilibria that arise at each date t and that are characterized by the spatial distribution of believers and non-believers. In particular, a symmetric equilibrium, called 'culturally-balanced', emerges where believers and non-believers are uniformly located in the city leading urban areas to be identical with respect to the social norms mix. It turns out that incentives faced by any child to exert educational effort are independent of their location. Education rates are identical across urban areas. On the contrary, some asymmetric equilibria, called 'culturally-divided', can also arise. They are such that urban areas differ with respect to the prevailing social norm and the implied education rate. Depending on the fraction of believers in the whole population, the 'culturally-divided' city can exhibit two types of cultural clash: either an urban area only inhabited by believers that unanimously promote education and contrast with other locations where both social norms are present, or an urban area only inhabited by non-believers deterring from any education effort and opposing other urban areas with both social norms. The asymmetric equilibria are consistent with the significant variation across space of social mobility found by Chetty et al. (2014). Second, we study the social norm dynamics which arise under either cultural division or cultural integration. We show that social norm dynamics exhibit a contagion process so that once the population of believers in the urban area reaches a threshold, the underlying social norm spreads. In particular, if the number of believers in the 'education' social norm is too low then the urban area can be trapped in a low-education equilibrium while high education is promoted in the rest of the city. Hence, the initial number of believers is key to determine the type of long-run equilibrium that is reached. This model thus highlights how two societies with slight differences in their populations of believers may exhibit very different social norm dynamics and experience varying performances in terms of education. Third, we show that if the culturally-balanced equilibrium is imposed by the government it may reach a low-level equilibrium at the steady state. On the contrary, this same economy would obtain the culturally-divided equilibrium under laissez-faire and would exhibit dynamics reaching a high-level equilibrium. This result corroborates the findings by Cutler et al. (2008) on the positive impact of isolation on better-educated groups.

We then study two extensions of the model. First, we assume that parents are affected by the social norms of the neighborhood. Second, we consider that utility of private consumption is strictly concave. It turns out that the willingness to pay to live in an urban area depends on both social norms effects and income effect. In particular, if their child adheres to the 'no education' social norm, parents are no longer willing to pay to live in the urban area with the strongest incentives for education as her offspring might incur stigmatization by peers. Furthermore, income inequality is also key to determine the highest bidders for a particular urban area. This extended model gives rise to a richer pattern of urban equilibria.

Our paper belongs to three strands of literature. First, it is related to the literature on human capital accumulation with neighborhood effects which has been impulsed by Loury (1977) and Bénabou (1993, 1996a,b). We depart from their work as we focus on particular neighborhood effects, which are social norms, that involve reputation or stigmatization effects which shape incentives to educate and follow the norm. We are thus able to study the dynamics of neighborhood effects and characterize the conditions under which a social norm spreads or, on the contrary, disappears over time. Second, our paper belongs to the economic literature on social norms which has explored how the influence of social norms helps to explain unemployment (see for instance Akerlof, 1980), trade union membership (see Naylor, 1989;

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[2] Spatial variation of socioeconomic success is also observed in France. Using data on public middle schools in Paris, Fack and Grenet (2010) find that performance varies significantly across space. Best public middle schools tend to be located in both the central and western parts of Paris while the worst public schools are in the north-eastern district.