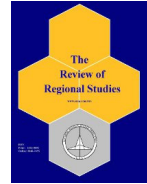




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Social Interactions and the Effectiveness of Urban Policies*

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Abstract: Why does the implementation of urban policies with similar characteristics achieve disparate results? Why do the same policies work in certain social and economic environments, but not in others? What are the reasons explaining the varied outcomes? This presentation claims that social interactions, including neighborhood and network effects, may play a key role at explaining the effectiveness of urban policies. It is argued that the availability of new and better information, such as recent data obtained from social experiments, might provide new insights on how non-market interactions may condition policy interventions in an urban setting.

Keywords: social interaction, urban, place-based, people-based, MTO

JEL Codes: R28, R38, P46

1. INTRODUCTION

The debate on the effectiveness of different urban policies is far from over. Advocates of people-based policies are on one side, and those for place-based policies are on the other. In the case of housing assistance programs, for example, those in the first group tend to favor implementing programs that move families from high- to low-poverty communities, while those in the second group tend to defend investment in affordable housing for distressed areas. The outcomes of such policies, however, are varied, to say the least. Here, I revisit the discussion, but focus on one of the many factors that may condition the effectiveness of urban policies—social interactions. Even though they are an essential element in the policy debate, the role of social interactions is not always fully understood nor taken into account when evaluating the relative performance of policies. The main message of this presentation is that in order to accurately assess the effectiveness of urban policies and explain the sources of variation in policy outcomes, it is critical to recognize the role played by the “social space” and uncover how it defines individuals’ behaviors. It might now be possible to identify such effects since new and better data has recently become available.

* The views expressed are those of the author and do not necessarily represent official positions of the Federal Reserve Bank of Richmond, or of the Federal Reserve System.

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Economic agents operate in a “social space.” The emergence of social space is endogenous, as it arises as the outcome of individuals’ interactions and, at the same time, it influences and conditions their behaviors. Social space is both hard to define and quantify. Research that studies social interactions generally relies on neighborhood-level data. This approach implicitly assumes that the influence of social networks mainly develops through the communication between individuals residing in close proximity. In principle, and to the extent that the cost of expanding social interactions increases with physical distance, such approach is appropriate. Moreover, researchers face the problem of data limitations: Neighborhood-level data are much more prevalent than are detailed micro-data that capture all social interactions across individuals.

Regardless, neglecting the impact of networks that take place in the social space, defined more broadly, could lead to misleading implications. Evidence shows that the outcomes of certain policies that share similar features are mixed. The latter is observed not only in the case of the housing assistance programs mentioned earlier, but also for downtown revitalization projects. While some of the programs are effective in certain areas, they are not successful in others. There are many reasons why this could happen, but this presentation argues that the social context in which those policies are implemented might help explain some of the variation. Specifically, policies may not work as expected precisely because they have neglected or undermined the role played by networks. This presentation emphasizes the notion that the social space is not exclusively defined by the physical proximity of individuals. In fact, distinguishing between the physical and the social space and their differential impact on individuals’ behavior becomes relevant in certain social contexts.¹ Recent empirical studies that rely on survey data and data collected through the implementation of controlled randomized social experiments could provide new insights into the impact of social interactions on policy outcomes. Of course, the appropriate identification of such effects remains challenging.

2. WHAT IS THE PROBLEM?

Living conditions, as measured by several indicators including wages and unemployment, vary greatly across regions and cities even in the wealthiest economies. To the extent that factors of production and households are mobile, living conditions should equalize across regions. But evidence shows this tends not to be the case. Some spatial variability remains after controlling for region- and city-specific characteristics (see, e.g., Kline and Moretti, 2013).

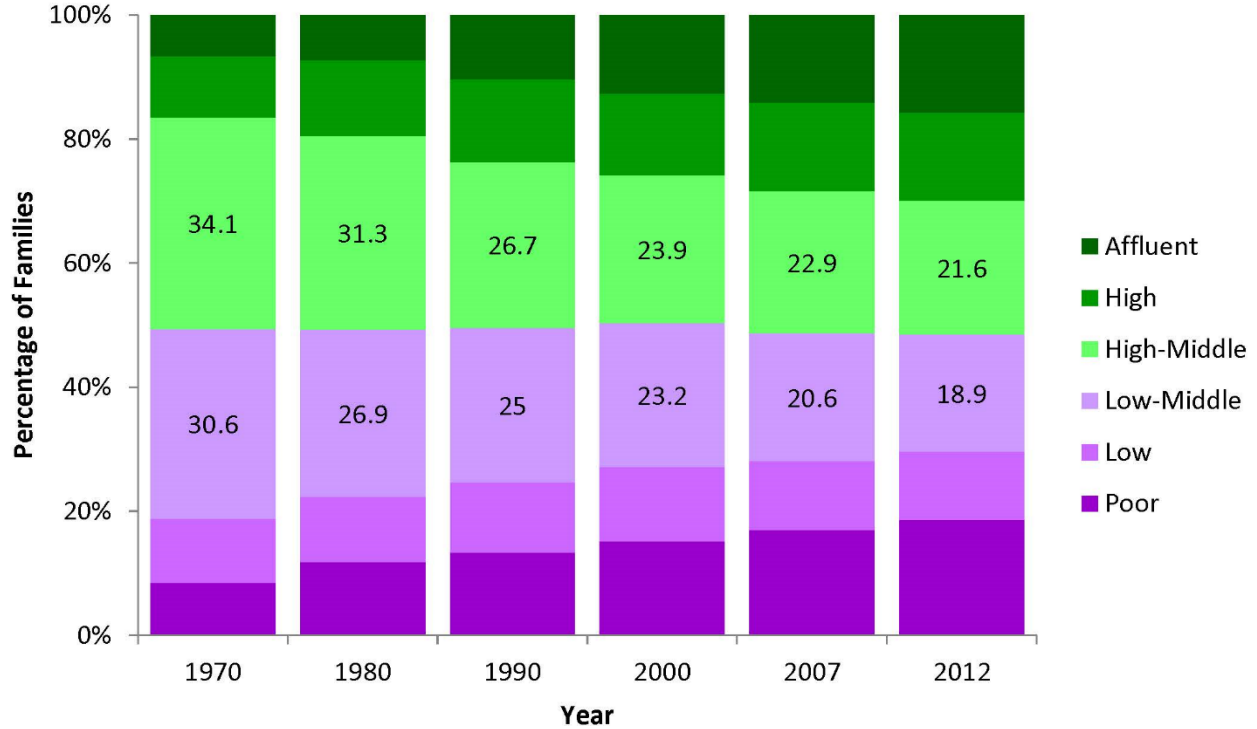
Economic conditions even differ at a more micro level, specifically across neighborhoods within cities. For instance, in the U.S., income across metropolitan areas shows sharp disparities: Average difference in median MSA income between the 75th and 25th MSA during the period 2005–2009 is 24.5 percent. Similarly, within MSAs, the average difference in median income between the 75th and 25th census tract is 54.8 percent (see, e.g., Rosenthal and Ross 2014). The latter is accompanied by an increase in income segregation in U.S. largest metropolitan areas during recent decades. Figure 1 shows the percentage of families in high-, middle-, and low- income neighborhoods, for MSAs with population greater than 500,000, during the period 1970–2012.² While 64.7 percent of American families in large metropolitan areas lived in middle-income neighborhoods in 1970, this percentage declines to 40.5 percent in 2012.

¹ See, for example, Topa and Zenou (2015) for a thorough review on neighborhood and network effects.

² Data are from Reardon and Bischoff (2016).

Income differences across neighborhoods are also remarkably persistent over time. Such phenomena can be shown by using a transition matrix as per Rosenthal and Ross (2014),

Figure 1: Percentage of Families in High-, Middle-, and Low-Income Neighborhoods. MSAs with Population Greater Than 500,000, 1970–2012



Source: Reardon and Bischoff (2016)

replicated in Table 1. This transition matrix illustrates changes in the economic status of neighborhoods within MSAs in the US, from the 1950 to 2000.

To construct the transition matrix, census tracts are first grouped into four quartiles, low-income (L), lower middle-income (LM), upper middle-income (UM), and high-income (H), depending on the average household income of the census tract (relative to the average household city income where the census tract is located) for each year under consideration, in this case 1950 and 2000. Each cell $\{i, j\}$ represents the probability p_{ij} of transitioning from a neighborhood of type $i = \{L, LM, UM, H\}$ in 1950 to a neighborhood of type $j = \{L, LM, UM, H\}$ in 2000. For instance, the probability a census tract is in quartile L in 2000 given that it is in quartile L in 1950 is .3421, while the probability a census tract is in quartile H in 2000 given that it is in quartile H in 1950 is .4398. The numbers suggest that the economic status of neighborhoods, particularly those neighborhoods on the extreme of the distribution, tends to perpetuate in time, at least after 50 years. In other words, rich neighborhoods will very likely remain rich and poor neighborhoods very likely remain poor. Note however, that the percentages for those in the middle-income neighborhoods are substantially smaller.

Table 1: Transition Rates, Census Tract Relative Income, 1950–2000

in 1950	in 2000			
	<i>L</i>	<i>LM</i>	<i>UM</i>	<i>H</i>
<i>L</i>	34.21	28.31	23.84	13.64
<i>LM</i>	17.90	26.42	32.12	23.56
<i>UM</i>	17.86	26.04	26.94	29.15
<i>H</i>	16.36	18.17	21.50	43.98

Source: Rosenthal and Ross (2014)

Note: *L*: low-income; *LM*: low middle-income; *UM*: upper middle-income; *H*: high-income.

3. TYPES OF POLICIES

Driven by some of the reasons described above, different levels of governments feel compelled to design and implement regional and urban policies. There is a major debate about which policies are more effective. Broadly speaking, regional policies aimed at dealing with distressed areas are generally classified as being either people- or place-based.³

People-based policies are designed to directly assist low-income households regardless of their place of residence. These “spatially blind” policies intend, among other things, to enhance low-income households’ economic opportunities and ultimately facilitate their relocation to areas that offer better prospects. Examples include income support programs (such as the Earned Income Tax Credit in the U.S.), education assistance programs, job training programs, and some types of housing programs, such as the Moving-to-Opportunity program that is discussed later.

Place-based policies are usually divided into pure place-based and place-based people interventions. In both cases, the policies target resources to specific geographic areas previously identified as distressed. While pure place-based policies are intended to develop or revitalize a specific region, place-based people strategies are directed to benefit a specific group of households residing within the area. Programs that seek the revitalization of the central business district, for example, would qualify as pure place-based policies, and enterprise-zone programs, which are aimed at attracting jobs to areas where poor households reside and job opportunities are lacking, are examples of place-based policies targeted to people.

A few remarks are worth emphasizing at this stage. In first place, there is no doubt that all policies should be designed to raise the quality of people’s lives. In other words, the ultimate goal of policies is to raise the well-being of people. We still, of course, need to determine and agree on which mechanisms or strategies are appropriate in each circumstance at reaching the desired outcomes. The latter may include the use of people- and/or place-based policies. In second place, policy interventions, in addition to the many effects traditionally studied in the literature, may have an impact on how people interact, generating endogenous social responses. The consideration of such effects, especially those arising after large policy interventions, makes it extremely challenging to anticipate and predict the possible outcomes. And in third place, evidence shows that policies that share similar characteristics do not always achieve the same results. The fact that such policies are implemented in different social contexts may be part of the explanation.

³ See Ladd (1994) for a detailed classification of policies.

4. SOCIAL INTERACTIONS

Nonmarket interactions may help understand the large variability in observed outcomes. Models that incorporate social interactions are known to generate both social multipliers and multiple equilibria. The concept of social multiplier incorporates the idea that the actions of an individual are affected not only by the direct change in fundamentals, but also by the change in the behavior of those that belong to the individuals' social network. The latter may include neighbors or, in general, anyone connected through the network to the individual.

It is also well-known that models that include network effects are prone to multiple equilibria. Models with multiple equilibria characterize an environment in which different outcomes are observed for the same set of fundamentals. The emergence of multiple equilibria has both negative and positive consequences. On the negative side, it can be argued that a model that offers many alternative solutions is incapable of revealing new insights since anything is possible. On the positive side, such a model is considered rich enough to explain a wide range of outcomes. To some extent, this is precisely the type of theoretical framework that is needed to explain, understand, and evaluate the impact of regional policies: A theory capable of explaining different outcomes resulting from the implementation of policies that theoretically share similar characteristics.

The literature on social interactions is rich and extensive. This presentation focuses on two widely used concepts: neighborhood effects and network effects. Neighborhood effects involve those factors that influence the behavior and outcomes of individuals residing in close proximity. For instance, the composition of a residential neighborhood may affect individual outcomes such as educational achievement, the probability of finding a job, or the propensity to engage in crime.

Models that include network effects assume that the specific structure of social connections shape the behavior of individuals. Network effects may be determined, among other things, by ethnicity, race, age, nationality, tastes, and many attributes other than physical distance.

The two concepts are clearly interrelated and interact with each other. More frequent interactions typically take place among agents in close physical proximity, for example. As a result, the social and the physical space are expected to overlap. But it is important to acknowledge that they may operate and condition the effectiveness of policies in different ways.

5. WHAT DOES RECENT EVIDENCE SAY?

What does recent work have to say about social interactions and their effect on policy outcomes? Access to new and better data, mostly data collected from social experiments and survey information from the National Longitudinal Survey of Adolescent to Adult Health (Add Health), has enabled the development of studies that shed some light on the differential impacts of neighborhoods and social networks on policy outcomes. This section reviews some of the conclusions of recent research efforts that employ this kind of data, including housing voucher programs (both in the U.S. and in other countries), and examples of peer effects on education outcomes.

5.1 Housing voucher programs

One type of social experiment implemented not only in the U.S., but also in other developed and developing countries, involves the use of housing vouchers to assist households relocate from poor neighborhoods to areas that offer better economic prospects. In the U.S., the Moving-to-Opportunity (MTO) for Fair Housing program is, perhaps, the main example of this type of interventions (see, e.g., Chetty, Hendren, and Katz 2016).

Moving to Opportunity. MTO is a random assignment social experiment whose main objective was to examine the extent to which low-income families can benefit from moving from a high-poverty to a low-poverty community. The project collected data during the period 1994–2010 for Baltimore, Boston, Chicago, Los Angeles, and New York.

As part of the experiment, households residing in public or private subsidized housing in central city census tracts with poverty rates above 40 percent were offered housing vouchers. Eligible participants were randomly assigned to one of three groups. Households in the first group were offered a housing voucher they could use in census tracts with a poverty rate less than 10 percent. Those in the second group were offered regular housing vouchers with no geographical constraints. And people in the third group, the control group, initially remained in the current housing project and essentially received no new assistance.

Two types of studies were conducted. The first set of studies analyzed the results from data collected during an interim stage, focusing on the policy outcomes four to seven years after the implementation of the program. The second set of studies evaluates long-term outcomes of the policies, 10 to 15 years after its initiation.

The findings from the interim study are mixed. Households that moved to other neighborhoods felt safer and more satisfied with their new neighborhood. Moreover, mental health and some aspects related to physical health improved for adults and female youth. But evidence suggests that MTO had a negative impact on male youth risky behavior. It did not affect children's achievement in math or reading, and it did not affect labor market outcomes or participation in welfare programs.

Studies that focus on longer-term outcomes also found mixed results. Moving to a better place seemed to improve college attendance rates, increased the likelihood of attending college, and increased earnings of children who were less than 13 years old when they moved. As adults, those children resided in better neighborhoods and were less likely to become single parents. But changing neighborhoods had a negative impact on most of these indicators for children that were 13 years or older when their families moved. Particularly, the program did not affect children's achievement in math and reading, and negatively affected male youths by increasing their risky behavior.

In conclusion, the results show that moving affected positively those children who were younger, but negatively affected those who were older. This suggests that perhaps it takes some time for the positive neighborhood effects to take place. They also seem to indicate that neighborhood relocation may have actually generated a social dislocation problem for some youths, who manifest their rejection to the new environment by engaging in disruptive and maybe hostile behavior.

Housing voucher programs in developing economies. Programs like MTO have also been implemented in developing economies. For example, the work by Barnhardt, Field, and Pande

(2015) evaluates a housing program offered by the city government of Ahmedabad, the capital city of the Indian state of Gujarat. The program randomly selected residents from city slums through a lottery system and gave them the opportunity to relocate to better neighborhoods in the city's periphery (seven miles from the center), where they were offered highly subsidized housing.

Two main conclusions emerge from the evaluation of the program, 14 years after its implementation. First, an important amount of households exit the program: One-third of the lottery winners chose not to move and a further 32 percent moved in but then returned to centrally located slums within ten years forgoing, among other things, tenure security. Second, households that relocated did not become better-off (according to different socioeconomic measures) than those that did not win the lottery and remained in the city-slum.

What explains such outcomes? The authors provide additional evidence based on a follow-up survey conducted twenty years after the experiment took place. From the analysis of this information, the authors infer that one implication of the program is that it negatively affected participants' social interactions with their established network of friends and family. For instance, those who moved report they now live substantially further away from their family and experience considerably higher costs of maintaining their connections. Movers also report lower number of risk-sharing practices at the new neighborhood. Specifically, while those that stayed in the city-slums report they received informal assistance (both in-cash and in-kind) from their social network when affected by a negative shock, movers report they did not receive informal support at all. Geographic isolation from their social network has apparently created large economic and social costs for those families participating in the program.

Remarks. A few lessons can be learned from these two housing assistance programs. First, the benefits from relocating to better neighborhoods are not widespread, and, in fact, it might signify a cost for some movers. The programs may be beneficial for those children that were younger when they moved, and, consequently, exposed for a longer time period to the new and better environment. However, relocation entails a social dislocation problem for some youths and, even for some adults. Second, the cost of changing social networks may not be negligible. The design of urban policies, in certain occasions, seems to neglect or underestimate such costs. Third, geographic isolation from the social network may have large economic and social costs. For instance, after relocating to the new neighborhood, households tend to rely less on informal insurance mechanisms. Finally, a few other issues are generally left out when evaluating the overall impact of these programs. For instance, what happens to the original networks? How do residents in the destination neighborhoods react to the inflow of new residents? It has been documented that finding a home in the destination areas was not easy for the incoming families. Landlords in those areas were sometimes reluctant to rent to households participating in housing assistance programs (c.f., Edin, DeLuca, and Owens, 2012). It should be stressed out, however, that the latter does not necessarily imply that these policies are not useful at all. It simply states that they might not be as effective as anticipated.

5.2 Peer effects and education

Policies may also cause the endogenous formation of networks. Individuals may react to certain policy interventions by engaging in a variety of "new" social interactions. As a consequence, policies may become substantially less effective. The work by Carrell et al. (2013) illustrates the emergence of this type of social effects. Their approach is quite novel in the sense

that they use historical pre- treatment data from cohorts of entering freshman at the U.S. Air Force Academy to design an optimal policy, which is later implemented and evaluated in a controlled environment.

The study is conducted in two stages. In first place, using pre-treatment data, the paper identifies nonlinear peer effects.⁴ More precisely, the preliminary analysis indicates that low ability students significantly benefited from high-ability students in the same group. In second place, and based on these results, they sort the incoming freshman class into “optimal” groups. The objective at this stage is to arrange students in groups in a way that maximizes the academic performance of those with low skills. Accordingly, three groups are created: (1) a group of students assigned randomly as in the pre-treatment period; (2) a group that combines high- and low-ability students; and (3) a homogeneous group consisting of students with middling ability.⁵ From the pre-treatment results, this allocation of students across groups is supposed to increase the achievement of low-ability students and keep the performance of high-ability students unchanged, which would lead to a Pareto improvement. But the results of the experiment considerably depart from the predicted outcomes. Specifically, the data show that while the achievement of the high-ability group remains unchanged, the performance of low-ability students significantly declines. Moreover, the achievement of middle-ability students significantly improves.

So, why does this happen? Based on some additional information collected through surveys, the paper explains that, on one hand, high- and low-ability students in the treatment group tend to separate themselves into homogeneous subgroups. Low-ability students, for instance, create study or friendship subgroups with other low-ability students. Since at the end there is not much interaction between students of different skills, the social benefits of combining heterogeneous students within the same group is remarkably lower. On the other hand, students in the middle-ability homogeneous group perform better because they no longer spend their time with low-ability students.

This example reminded me of a “famous” quote attributed not to a philosopher, nor a former secretary of defense, but to a soccer coach from Argentina, Alfio Basile. Basile coached many Argentinean soccer teams. He even coached the Argentinean National Soccer Team twice (1991–1994 and 2006–2008.). At some point, Basile was coaching a team that was not performing very well. When he was asked what his responsibility was regarding the bad performance of the team, he responded: “Well, I correctly line up my players on the field. The problem is that as soon as the game starts, everyone moves.” In fact, we may design and implement the best possible policy. But that policy very likely has unanticipated consequences resulting from the changing interactions among individuals.

6. OTHER CONSIDERATIONS

Several additional factors should be kept in mind when examining the effectiveness of policies, particularly those issues that manipulate the dynamics of social interactions. Some of these factors are considered next.

⁴ The historical data are based on a random allocation of freshman students to different squadrons of approximately 30 students.

⁵ Ability in all cases is measured by students’ SAT scores.

First, it is relevant from a policy perspective to distinguish between neighborhood and network effects. Del Bello, Patacchini, and Zenou. (2014) is one of the few papers that attempt to separately identify these two effects. They use for this purpose the National Longitudinal Survey of Adolescent to Adult Health (Add Health) data on high schools. This dataset is quite interesting, mostly because it contains information on friendship. The information is collected by a series of survey questions in which students are asked to name their best friends from school. Since the data allows the assignment of students to different census blocks, it is possible to identify friends from school and friends from the neighborhood. In addition, students are provided a list of fifteen delinquent activities and asked how often, if any, they participated in those activities during the previous year. The results show that, on one hand, friends at school (those that define the individuals social space) are key for educational outcomes, while friends residing in the same neighborhood (those that determine the geographical space), on the other hand, are the most important determinants of own criminal activities.

Second, some studies intend to evaluate the quantity and quality of information flowing through different types of social connections, generally classified as strong and weak ties. Strong ties usually refer to close and regular relationships, such a friends, family, even close neighbors. Weak ties are random, irregular relationships that may include individuals that do not reside close by. The paper by Granovetter (1983), which is a classic example of the work in this area, reveals that weak ties tend to be superior to strong ties. The justification is straightforward: In a close network, everyone knows each other, and all relevant information is immediately shared and exhausted. The network formed by strong ties quickly becomes redundant. Under these conditions, weak ties emerge as a source of fresh information.

Finally, one of the main challenges in modelling neighborhood and network effects is the identification of causal effects. Many studies that claim to have found evidence for neighborhood effects are likely to be subject to reverse causality. The most severe problem is selection bias resulting from the endogenous sorting into neighborhoods. The empirical strategy employed to identify the causal effects should acknowledge that residential choices are endogenous: mobile households decide where to live after assessing different available alternatives. Moreover, the set of alternatives people can choose from is, in most cases, severely limited. This process ends up sorting households with different characteristics into different (types of) neighborhoods producing and, sometimes reinforcing the patterns of residential segregation discussed earlier.

7. FINAL REMARKS

A few key messages emerge from the previous discussion. First, the cost of changing networks may not be negligible. It has been argued that networks and social interactions help individuals share information and provide informal insurance mechanisms. But an individual may benefit from the social network for different reasons. For instance, she may simply derive satisfaction from belonging to a specific structure of social ties and connections (i.e., the social network becomes an argument of the individual's utility function). So when designing urban policies and assessing their effectiveness it is important to take into consideration how the policies affect or manipulate the social space.

Second, many studies that examine how neighborhood effects shape individuals' behavior do not always incorporate information about social networks, and vice versa. Moreover, it is possible that the two reinforce one another. The task of disentangling the impact of

neighborhoods and social networks is challenging, but extremely relevant from a policy standpoint.

Third, policy interventions can affect how people interact, and “new” social networks may endogenously arise. This endogenous response, especially when considering large policy interventions that ultimately affect existing social interactions, makes it extremely challenging to anticipate or predict policy outcomes.

Finally, establishing the relationship between neighborhood and network effects and the resulting outcomes should precede policy prescriptions. New available data might be useful for this purpose.

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