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# Essays on the Labor Market Effects of Place-Based Policies: Dissertation Summary

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# Essays on the Labor Market Effects of Place-Based Policies

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This thesis consists of three chapters, two of which study the impacts of spatially targeted government subsidies on individuals' residential location choices and on local labor market outcomes. The first chapter studies the effects of disaster-relief programs on the rebuilding and resettlement choices of New Orleans homeowners following Hurricane Katrina. The second chapter studies the incidence and efficiency of round I of the federal urban Empowerment Zone program, a set of subsidies targeted to businesses operating in six chronically poor neighborhoods in large U.S. cities beginning in the early 1990s. The third chapter develops and estimates a model of college basketball teams' optimal strategies across game states and uses the model to reassess the findings of a highly visible study in forensic economics that interpreted skewness in the distribution of favorites' winning margins as evidence of pervasive illegal point shaving.

## *Chapter 1*

### **The Impact of Rebuilding Grants and Wage Subsidies on the Resettlement Choices of Hurricane Katrina Victims**

The first chapter studies the effects of disaster-relief programs on the rebuilding and resettlement choices of New Orleans homeowners following Hurricane Katrina. As with other social insurance programs, policymakers designing disaster relief packages face a trade-off between effectiveness and efficiency. The desire to assist disaster victims must be weighed against the fear that subsidizing people to live in dangerous areas will generate moral hazard with regard to location decisions. The size of the economic distortion caused by this type of moral hazard depends on the extent to which individuals' and households' location choices are influenced by financial incentives. If each household is nearly indifferent between many different residence locations, then disaster policies that subsidize residence in a particular location will generate large distortions. If most households strictly prefer one location, then it is possible for disaster relief programs to increase the welfare of residents in disaster-affected areas without generating large distortions. A full appraisal of the impact of disaster-relief policy on social welfare must consider the direct impact of disaster relief on victims' welfare in the aftermath of disasters and the extent to which the expectation of future postdisaster bailouts distorts location decisions.

The largest post-Hurricane Katrina government transfer to Louisiana homeowners occurred through a federally funded and state-administered grant program known as the Louisiana Road Home. The Road Home program addressed two policy objectives. First, the program compensated homeowners for their losses; it made grant payments both to homeowners who chose to rebuild and to homeowners who chose to relocate. Second, the program encouraged households to rebuild by providing more generous net grant packages to those who rebuilt than to those who relocated. Households who agreed to rebuild received a grant equal to the difference between rebuilding costs and payments from existing insurance arrangements, while households who chose to relocate received a less generous net compensation package. The program rolled out slowly, with about half of the grants dispersed two years or more after Katrina. However, the program eventually dispersed about \$10 billion in grant payments to Louisiana homeowners, making the Louisiana Road Home the largest housing recovery program in U.S. history.

To assess the impact of the Road Home program, I develop and estimate a dynamic discrete choice model of New Orleans homeowners' post-Hurricane Katrina resettlement choices. In the model, households make choices regarding residential locations, home repairs, home sales, and amounts to borrow or save. The model's parameters describe households' preferences over consumption and residence locations, and describe households' ability to borrow. The model is identified by variation across households in the financial incentive to rebuild provided by the Louisiana Road Home program and by variation in the relative labor wages available in New Orleans versus away from New Orleans for workers in different occupations. I use the estimated model to measure the impact of post-Katrina relief programs on households' short-term resettlement choices and to quantify a key component of the deadweight loss associated with a guarantee of future relief.

In order to estimate the model, I create a unique data set that combines information from the recently fielded Displaced New Orleans Residents Survey with administrative records from the Orleans Parish property database. The Displaced New Orleans Residents Survey (RAND 2010) interviewed a representative sample of pre-Katrina New Orleans residents about four years after Katrina regardless of the respondents' locations at the time of the interview. The interviews collected information about respondents' demographic background traits, storm-related home damage, insurance coverage, and migration choices. The administrative property records contribute data describing any post-Katrina home sales and a sequence of annual property appraisals that I use to construct measures of the timing of home repairs.

In addition to yielding substantive results, the paper makes several methodological contributions. The estimated

model is the first dynamic structural model of migration to formally include asset accumulation choices and the possibility of borrowing constraints, an important extension to recent structural migration models in the literature (see, for example, Kennan and Walker [2011]). Borrowing constraints will affect the migration choices of any population that faces large up-front costs to moving. In the disaster context, those costs reflect the price of home repairs. The model would be equally well-suited to investigate migration choices, for example, among homeowners with negative mortgage equity, or other populations that face up-front costs to moving.

This paper also contributes to the structural migration literature by estimating a dynamic structural migration model using directly observable sources of variation in location-specific financial incentives. Other studies in this literature have relied heavily on variation in the individual-location match component of workers' wages, which must be inferred statistically from panel wage data, to identify the influence of earnings opportunities on migration. Because I replicate several key findings of the existing literature using a different and more transparent source of identification, my study provides an out-of-sample validation for the main conclusions of the existing literature.

The estimated model finds that households in this population have a strong preference for living in New Orleans on average, and large population subgroups face borrowing constraints. Simulations using the estimated model find that the Louisiana Road Home program increased the fraction of homes rebuilt during the first four years following Katrina by 11 percent. This impact occurred primarily by relaxing borrowing constraints for households that would have strongly preferred to rebuild even in the absence of the subsidy if the associated costs could have been smoothed. The strength of households' location attachments and the prevalence of financing frictions suggest that effectively administered disaster relief programs have the potential to substantially increase social welfare.

Further, the model finds that the deadweight loss associated with disaster-related location subsidies is smaller than one might anticipate. This result is driven by the estimated model's finding that there is substantial heterogeneity in the strength of preferences for living in New Orleans. Most households are far from the margin with respect to their preferred location, and as a consequence, a location subsidy induces only a small number of households to change their location choices. Simulations find that a guarantee of relief in the event of a future disaster generates a deadweight loss that is at most 3 percent of the policy's expected cost. This finding suggests that the efficiency loss from disaster-related subsidies is substantially smaller than would be predicted by a model in which agents share homogeneous location preferences.

## *Chapter 2*

### **The Incidence and Efficiency of a Prominent Place-Based Policy**

The second chapter, written jointly with Matias Busso and Patrick Kline, studies the incidence and efficiency of round I of the federal urban Empowerment Zone program (EZ). The EZ program is one of the largest programs in a growing class of policies that targets transfers toward particular geographic areas rather than groups of individuals.

Round I EZ designation was awarded to areas in Atlanta, Baltimore, Chicago, Detroit, New York, and Philadelphia. Prior to designation, each EZ was characterized by chronically high rates of poverty and local unemployment. Beginning in 1994, firms operating in EZs became eligible for a credit of up to 20 percent of the first \$15,000 in wages earned in that year by each employee who lived and worked in the EZ. These tax credits were available to a business for as long as 10 years, with the maximum annual credit per employee declining over time. For reference, the average EZ worker only earned about \$16,000 in wage and salary income in 1990, so this subsidy comprised a substantial portion of the wages of local workers. Each EZ also became eligible for \$100 million in Social Services Block Grant funds, which could be used for such purposes as business assistance, infrastructure investment, physical development, training programs, youth services, promotion of home ownership, and emergency housing assistance.

Economists have traditionally expressed little support for spatial subsidies of this sort, fearing that they will generate large distortions in economic behavior. Indeed, standard models of spatial equilibrium suggest mobile workers and firms will arbitrage the benefits associated with local policies by relocating across the boundaries of targeted areas. Local land prices ought then to rise and offset any welfare gains that might otherwise accrue to prior residents.

Our evaluation of the EZ program critically examines this conjecture. We first develop a tractable spatial equilibrium model of EZs with landlords, firms, and mobile workers who make labor supply and commuting decisions. The incidence and efficiency of local subsidies are shown to depend critically upon the distribution of agents' preferences over residential and commuting options. If most agents are inframarginal in their commuting and residential decisions, deadweight loss will be small and local workers will reap the benefits of place-based interventions. If, on the other hand, agents have nearly identical preferences, as in the classic models of Rosen (1979) and Roback (1982), deadweight loss will be substantial and government expenditures will be capitalized into land rents. Using arguments similar to Chetty (2009), we show that our model allows for simple approximations to the incidence and deadweight loss of EZs via a set of reduced-form elasticities quantifying the program's

impact on the wages of local zone workers and commuters, the rental rate of zone housing, and the number of zone jobs for local residents and commuters.

Our empirical work centers on estimating these impacts using confidential microdata from the decennial census and the Longitudinal Business Database (LBD). These data provide us with two independent sources of information on local employment and allow us to adjust for changes over time in the composition of workers and firms. Crucial to our analysis, the Journey to Work component of the census microdata allows us to separate the impacts of EZ designation on zone workers and zone residents. Because EZs usually constitute a small fraction of a city's area, zone residents who work typically do so outside of the zone. Likewise, most zone workers are commuters who live outside the zone. Empowerment Zones subsidize the employment of workers who live and work in the zone, and involve block grants, which may indirectly subsidize commuters. This makes it critical for us to be able to distinguish between these populations across the period of our study—an infeasible task given publicly available data sources.

To identify the causal impacts of EZ designation, we construct a set of control zones based upon previously confidential data obtained from the Department of Housing and Urban Development on the census tract composition of rejected and later round EZs. Since these tracts were nominated for designation by their local governments, they are likely to share unobserved traits and trends in common with first-round EZs, which also underwent a local nomination phase. We demonstrate that, after some basic adjustments, the pretreatment levels and trends in these controls closely mirror those of the EZs. Having demonstrated suitable balance, we assess causal impacts of the EZ program using an adjusted difference-in-differences estimator.

Our analysis finds that EZ designation resulted in substantial increases in zone employment, along with increases in the wages of zone residents working in the zone. These changes in the zone labor market appear not to have been accompanied by dramatic changes in the local cost of living. Population and housing rents remained roughly constant (though evidence on the rental rates of new arrivals to the neighborhood suggests that rents may eventually rise). These results suggest that in this context, location and commuting preferences are sufficiently heterogeneous within the local population that EZs' spatial subsidies accrued to a large extent to local workers with a comparatively small efficiency cost.

### *Chapter 3*

#### **Do Basketball Scoring Patterns Reflect Widespread Illegal Point Shaving?**

The third chapter develops and estimates a model of college basketball teams' optimal strategies across game

states and uses the model to reassess conclusions of previous research (Wolfers 2006) that characterizes right-skewness in the distribution of favorites' winning margins as evidence of pervasive illegal point shaving. Wolfers (2006) applies a test for point shaving that is based on a noneconomic statistical model of the pattern of winning margins one should expect under the no-point-shaving null hypothesis. The model developed in this chapter provides a more formal benchmark of the patterns that should occur under the no-point-shaving null hypothesis with the goal of making more accurate inference about the true prevalence of point shaving.

Measuring corruption is an inherently difficult task because law-breakers cover their tracks. For that reason, empirical studies in forensic economics typically develop indirect tests for the presence of corruption. These tests look for behavior that is a rational response to incentives that only those who engage in the particular corrupt behavior face. The validity of these indirect tests depends critically on the assumption that similar patterns do not occur if agents only respond to the incentives generated by the institutions that govern noncorrupt behavior.

Wolfers (2006) considers the prevalence of illegal gambling-related point shaving in college basketball games. The research design adopted by Wolfers begins with the assumption that the distribution of winning margins is symmetric under the null hypothesis of no point shaving. Point shaving occurs when a player exerts less than full effort so that his team will not "cover" the point spread (while presumably still attempting to win outright). Wolfers shows that point shaving introduces a right skewness in the distribution of winning margins for favored teams, and under the assumption that winning margins are symmetrically distributed under the null the prevalence of point shaving may be inferred from the extent of skewness in the empirical winning margin distribution. This skewness-based test for point shaving finds evidence that the intent to shave points was present in about 6 percent of games in which the point spread is above 12. Wolfers' study garnered significant attention in the popular media, reflecting public surprise that corruption might be so pervasive in amateur athletics.

This chapter develops a structural model of basketball teams' search for scoring opportunities in order to better understand the scoring patterns that follow from optimal but noncorrupt competition. In the model, teams take turns as the offensive side searching for scoring opportunities. The offensive side faces a sequence of arriving shot opportunities, which vary stochastically in quality. As in actual NCAA basketball games, the offensive side has 35 seconds to attempt a shot before the opponent is automatically awarded the ball. Like a worker in a job-search model, the searching team compares each arriving opportunity with the value of continued search. Because of the fixed horizon, the optimal strategy within a possession is a declining reservation policy where initially only the most advantageous opportunities

are accepted and less advantageous opportunities become acceptable as time goes by.

The optimal reservation policy depends on the current relative score and the time remaining in the game. Especially near the end of the game, a trailing team prefers to hurry by taking short possessions, and the leading team prefers to stall by taking long possessions. The direction of skewness in the distribution of winning margins depends on whether the opportunity cost curve associated with strategic adjustments (measured in foregone expected points per possession) is steeper when a team adopts a stalling strategy or a hurrying strategy. The parameters of the search process determine the opportunity cost of both stalling and hurrying. Skewness in either direction is possible in principle, so the direction of any bias in Wolfers' (2006) test is itself an empirical question.

I derive and implement a maximum likelihood estimator of the model's structural search parameters, and I apply the estimator to a data set containing point-spread records and possession-level play-by-play data from the first halves of 5,258 college basketball games played from 2003 to 2008. The estimated parameters find that in the actual basketball scoring environment, the marginal cost curve associated with hurrying is steeper than the marginal cost curve associated with stalling. This relationship between the slopes of the two opportunity cost curves suggests that optimal strategies will cause the distribution of strong favorites' winning margins to be right skewed, causing the skewness-based test for point shaving to overstate the true prevalence of point shaving.

To quantify the magnitude of the skewness that follows from optimal noncorrupt competition, I use the estimated model to simulate play during the second halves of games. I find that optimal noncorrupt strategic adjustments generate skewness patterns that are statistically indistinguishable from the patterns previously attributed to widespread point shaving. While we know from historical accounts of point-shaving scandals (Porter 2002; Rosen 2001) that the true prevalence of point shaving is not zero, I conclude that point shaving is substantially less prevalent than was thought based on the skewness-based test.

## References

- Chan, Sewin. 2001. "Spatial Lock-in: Do Falling House Prices Constrain Residential Mobility?" *Journal of Urban Economics* 49(3): 567–586.
- Chetty, Raj. 2009. "Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods." *Annual Review of Economics* 1: 451–488.
- Ferreira, Fernando, Joseph Gyourko, and Joseph Tracy. 2010. "Housing Busts and Household Mobility." *Journal of Urban Economics* 68(1): 34–45.
- Kennan, John, and James R. Walker. 2011. "The Effect of Expected Income on Individual Migration Decisions." *Econometrica* 79(1): 211–251.
- Porter, David. 2002. "Fixed: How the Goodfellas Bought Boston College Basketball." Lanham, MD: Taylor Trade Publishing.
- RAND Corporation. 2010. "Restricted Data Files." The Displaced New Orleans Residents Survey. <http://www.rand.org/labor/projects/dnors.html> (accessed September 26, 2012).
- Roback, Jennifer. 1982. "Wages, Rents, and the Quality of Life." *Journal of Political Economy* 90(6): 1257–1278.
- Rosen, Charley. 2001. "The Wizard of Odds: How Jack Molinas Almost Destroyed the Game of Basketball." New York: Seven Stories Press.
- Rosen, Sherwin. 1979. "Wage-Based Indexes of Urban Quality of Life." In *Current Issues in Urban Economics*, Peter Mieszkowski and Mahlon Straszheim, eds. Baltimore: Johns Hopkins University Press.
- Wolfers, Justin. 2006. "Point Shaving: Corruption in NCAA Basketball." *American Economic Review* 96(2): 279–283.