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Intra-Metropolitan Migration and Inter-Jurisdictional Fiscal Externalities in the United States

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This study considers inter-jurisdictional fiscal externalities between a central city and suburbs, rigorously examines, and empirically tests the suburban-exploitation-of-central-cities hypothesis. Using micro-migration data, households' intra-metrapolitan migration between 1985 and 1990 is examined based on a random utility model. It is found that efficient population distribution between a central city and suburbs can be achieved when local governments take into account inter-jurisdictional externalities. External aids from the Federal and state governments should be given to public services such as education, welfare, health, and employee retirement services, if they intend to arrest central city decline. Regional tax sharing can be another way of dealing with these externalities.

Key words : intra-metropolitan migration, fiscal externality, ordered probit model, central city, population decrease, suburban-exploitation-of-central-cities hypothesis

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1. Population Decrease in Central Cities and the Fragmented Local Government System in the United States.

Population decrease in central cities in U.S. Metropolitan Areas (MA's) began in the 1950s and was exacerbated by the flight of the white or middle income group in the 1960s. Though population decrease in central cities partly results from income increase and transport costs decrease (Margo, 1992 ; Mills and Price, 1984; Muth, 1969 ; Kain, 1967 ; Mills, 1967), it can be denied that population decrease in central cities hinges on the inability of various levels of government to appropriately respond to local needs. Federal government housing policy (Ginzberg 1993), federal corporate tax rules (Salins, 1993), federal water and sewer construction subsidies (Salins, 1993), and federal massive investment in the interstate highway system (Ginzberg, 1993) can be attributed to population decrease in central cities. The current fragmented local government system is also responsible for population decrease (Voith, 1996a; Van der Veer, 1994). As the U. S. Bureau of Census definition of a central city shows,[1] central cities and suburbs in MA's are economically linked to each other. Central city government should thus provide or produce more public goods and services for daytime population which includes residents in central cities and the suburbs. As a result, residents in central cities tend to bear a higher tax burden while residents in suburbs bear a relatively lower tax burden. Heilbrun (1974, 1972), Fitch (1973) and Neenan (1970) define this phenomenon as the suburban-exploitation-of-central-cities hypothesis.

The purpose of this paper is to rigorously examine and empirically test

1) According to the U.S. Bureau of Census, the largest city in each MA is designated a "central city." Additional cities qualify if specified requirements are met concerning population size and commuting patterns.

the suburban-exploitation-of-central-cities hypothesis. For intra-MA's migration analysis, this paper considers inter-jurisdictional fiscal externalities between a central city and the suburbs. Using micro-migration data, households' intra-metrapolitan migration between 1985 and 1990 is examined based on a random utility model where utility maximization leads households to choose a residential place where they can enjoy the highest utility level.

2. Local Government Fiscal Impacts on Migration

Migration research can be grouped into two categories with respect to local government fiscal impacts on migration. First, urban economists tend to view population decrease in a central city as a result of income increase and transport costs decrease ; a natural evolution perspective. For the reason, fiscal variables are excluded in migration studies (Berger and Blomquist, 1992 ; Gabriel, Shack-Marquez, and Wascher, 1992 ; Clark and Cosgrove, 1991 ; Greenwood and Stock, 1990 ; Greenwood and Hunt, 1989 ; Izraeli and Lin, 1984 ; Porell, 1982 ; Nakosteen and Zimmer, 1980 ; Graves, 1979 ; Graves and Linneman, 1979). Other economists maintain that more important determinants of migration are economic factors such as economic incentives (Kaluzny, 1975), the availability of jobs such as new hires, quits, and layoffs (Fields, 1979), and regional wage or income differentials (Borjas, Bronars, and Trejo, 1992 ; Nakosteen and Zimmer, 1980 ; Kohn, Vedder, and Cebula, 1973 ; Pack, 1973 ; Gallaway, Gilbert, and Smith, 1967).

The Tiebout model, on the other hand, provides a sound theoretical foundation for significant local government fiscal impacts on migration (Tiebout, 1956). According to this model, central city problems including central city government financial problems cause middle class out-migration (Brueckner, 1983 ; Grubb, 1982 ; Bradford and Kelejian, 1973). While earlier studies found less significant effects of fiscal variables such as tax and expenditures on migration (Sommers and Suits, 1973 ; Cebula, Kohn, and Gallaway, 1973a ; Gallaway, et. al., 1967), numerous studies thereafter show significant and considerable fiscal impacts on migration. Among state and local government fiscal variables, the effects of welfare benefits on migration (Cushing, 1993 ; Cebula and Koch, 1989 ; Chao and Renas, 1976 ; Cebula, 1975 ; Glantz, 1974 ; Cebula, 1974 ; Dejong and Donnelly, 1973 ; Kohn, et. al., 1973 ; Cebula, Kohn, and Gallaway, 1973b ; Pack, 1973) have been frequently tested. The effects of various fiscal variables such as income tax, property tax, and other public spending on migration are also examined (Cushing, 1993 ; Day, 1992 ; Cebula, 1990 ; Fox, Herzog, and Schlottman, 1989 ; Shaw, 1986 ; Grubb, 1982 ; Cebula, 1974b ; Pack, 1973). In general, the welfare magnet hypothesis that high welfare levels attract in-migration of the poor is confirmed.

What is missing in migration literature is the spillover effect of local public services over jurisdictional boundaries. In other words, existing studies tend to separately examine residential choice decisions of central city residents and suburban residents. To take into account the spillover effect, intra-MA's migration study should include residential choice decisions of both central city residents and suburban residents. In the following sections, population distribution between a central city and the suburbs is examined when there are externalities in the production and provision of public goods and services.

3. Intra-Metropolitan Population Distribution with Fiscal Externalities

Suppose a region is divided into two parts : a central city and suburbs. Suppose again that the central city and suburban governments spend T^c and T^s for the production of G^c and G^s so that $G^c = G^c(T^c)$ and $G^s = G^s(T^s)$

where T^c denotes central city government expenditures, T^s denotes suburban government expenditures, G^c denotes the level of public goods produced by the central city government, and G^s denotes the level of public goods produced by the suburban government. By choosing x^c, x^s, lr^c, lr^s, N^c, N^s, T^c, and T^s, the planner should solve the following maximization problem where x denotes the consumption of a composite commodity, lr denotes the consumption of land, L denotes land area, and N denotes population size.[2)]

$$(1) \quad \Psi = U^c (x^c, lr^c, G^c, G^s) + \lambda_1 (U^s (x^s, lr^s, G^c, G^s) - U^c (x^c, lr^c, G^c, G^s)) + \lambda_2 (N - N^c - N^s) + \lambda_3 (L^c - N^c lr^c) + \lambda_4 (L^s - N^s lr^s) + \lambda_5 (w N - x^c N^c - x^s N^s - T^c - T^s - LR)$$

The first condition in equation (1) allows free mobility between a central city and suburbs, the second condition is the labor market clearing condition while the third and fourth conditions are respectively land market clearing conditions in a central city and suburb, and the last condition is added to close the model so that the value of total production equals the sum of total consumption, government taxes, and the landlords rent revenue. For simplicity, the government tax structure is not specified in detail. The above five constraints are enough for analysis of the market allocation of population while being able to increase residents' utility at the expense of the imaginary absentee landlord (Haurin ,1980).

Along with these five constraints, the necessary conditions for the problem are as follows.

$$(2) \quad \partial \Psi / \partial x^c = (1 - \lambda_1) (\partial U^c / \partial x^c) - \lambda_5 N^c = 0$$

$$(3) \quad \partial \Psi / \partial x^s = \lambda_1 (\partial U^s / \partial x^s) - \lambda_5 N^s = 0$$

2) The approach here is consistent with Myers and Papageorgiou (1993). The subscript and the superscript, c and s, represent a central city and suburbs, respectively.

$$(4) \quad \partial \Psi / \partial lr^c = (1-\lambda_1)(\partial U^c / \partial lr^c) - \lambda_3 N^c = 0$$

$$(5) \quad \partial \Psi / \partial lr^s = \lambda_1 (\partial U^s / \partial lr^s) - \lambda_4 N^s = 0$$

$$(6) \quad \partial \Psi / \partial N^c = \lambda_2 + \lambda_3 lr^c + \lambda_5 x^c = 0$$

$$(7) \quad \partial \Psi / \partial N^s = \lambda_2 + \lambda_4 lr^s + \lambda_5 x^s = 0$$

$$(8) \quad \partial \Psi / \partial T^c = (1-\lambda_1)(\partial U^c / \partial G^c)(\partial G^c / \partial T^c) + \lambda_1 (\partial U^s / \partial G^c)(\partial G^c / \partial T^c) - \lambda_5 = 0$$

$$(9) \quad \partial \Psi / \partial T^s = (1-\lambda_1)(\partial U^c / \partial G^s)(\partial G^s / \partial T^s) + \lambda_1 (\partial U^s / \partial G^s)(\partial G^s / \partial T^s) - \lambda_5 = 0$$

From (2) and (4), MRS x^c lrc is derived.

$$(10) \quad MRS\ x^c\ lr^c = (\partial U^c / \partial lr^c) / (\partial U^c / \partial x^c) = \lambda_3 / \lambda_5$$

MRS x^c lr^c is the marginal rate of substitution between land and the numeraire good in a central city. Further, utility maximization for central city residents requires MRS x^c lr^c = r^c.

From (3) and (5), MRS x^s lr^s can be derived.

$$(11) \quad MRS\ x^s\ lr^s = (\partial U^s / \partial lr^s) / (\partial U^s / \partial x^s) = \lambda_4 / \lambda_5$$

MRS x^s lr^s is the marginal rate of substitution between land and the numeraire good in suburbs. Further, utility maximization for suburb residents requires MRS x^s lr^s = r^s.

From (5) and (10), equation (12) is derived.

$$(12) \quad x^c + MRS\ x^c\ lr^c \times lr^c = -\lambda_2 / \lambda_5$$

Equations (6) and (11) lead to equation (13).

$$(13) \quad x^s + MRS\ x^s\ lr^s \times lr^s = -\lambda_2 / \lambda_5$$

Using $(1-\lambda_1) = \lambda_5 N^c / (\partial U^c / \partial x^c)$ and $\lambda_1 = \lambda_5 N^s / (\partial U^s / \partial x^s)$, (7) and (8) can be modified as follows.

$$(14) \quad N^c (\partial U^c / \partial G^c)(\partial G^c / \partial T^c) / (\partial U^c / \partial x^c) + N^s (\partial U^s / \partial G^c)(\partial G^c / \partial T^c) / (\partial U^s / \partial x^s) = 1$$

$$(15) \quad N^c (\partial U^c / \partial G^s)(\partial G^s / \partial T^s) / (\partial U^c / \partial x^c) + N^s (\partial U^s / \partial G^s)(\partial G^s / \partial T^s) / (\partial U^s / \partial x^s) = 1$$

If no inter-jurisdictional fiscal externalities exist, $(\partial U^s/\partial G^c)$and $(\partial U^c/\partial G^s)$ are equal to 0. Thus, the second term on the left-hand side in (14) and the first term on the left-hand side in (15) become zero, which leads to the standard Samuelson condition in each jurisdiction. If inter-jurisdictional fiscal externalities do exist, equations in (14) and (15) show that the provision or production of public goods and services in each local government should consider those externalities. This is almost impossible under the fragmented local government system, which in turn leads to inefficient population allocation between a central city and suburbs. Population size in a central city and suburbs can be calculated using (14) and (15).

$$(16) \quad N^c = \frac{\frac{\partial U^s}{\partial G_s}\frac{\partial G_s}{\partial T^s} - \frac{\partial U^s}{\partial G_c}\frac{\partial G_c}{\partial T^c}}{\frac{\partial U^c}{\partial G}\frac{\partial G_c}{\partial T^c}\frac{\partial U^s}{\partial G}\frac{\partial G_s}{\partial T^c} - \frac{\partial U^s}{\partial G}\frac{\partial G_c}{\partial T^c}\frac{\partial U^c}{\partial G}\frac{\partial G_s}{\partial T^s}} \times \frac{\partial U^c}{\partial x^c}$$

$$(17) \quad N^s = \frac{\frac{\partial U^c}{\partial G_c}\frac{\partial G_c}{\partial T^c} - \frac{\partial U^c}{\partial G_s}\frac{\partial G_s}{\partial T^s}}{\frac{\partial U^c}{\partial G_c}\frac{\partial G_c}{\partial T^c}\frac{\partial U^s}{\partial G_s}\frac{\partial G_s}{\partial T^s} - \frac{\partial U^s}{\partial G_c}\frac{\partial G_c}{\partial T^c}\frac{\partial U^c}{\partial G_s}\frac{\partial G_s}{\partial T^s}} \times \frac{\partial U^s}{\partial x^s}$$

If there are no inter-jurisdictional fiscal externalities, (16) and (17) are simplified to (18) and (19).

$$(18)\quad N^c = \frac{\frac{\partial U^s}{\partial G_s}\frac{\partial G_s}{\partial T^s}}{\frac{\partial U^c}{\partial G_c}\frac{\partial G_c}{\partial T^c}\ \frac{\partial U^s}{\partial G_s}\frac{\partial G_s}{\partial T^s}} \times \frac{\partial U^c}{\partial x^c} = \frac{\frac{\partial U^c}{\partial x^c}}{\frac{\partial U_c}{\partial G_c}\ \frac{\partial G_c}{\partial T^c}}$$

$$(19)\quad N^s = \frac{\frac{\partial U^c}{\partial G_c}\frac{\partial G_c}{\partial T^c}}{\frac{\partial U^c}{\partial G_c}\frac{\partial G_c}{\partial T^c}\ \frac{\partial U^s}{\partial G_s}\frac{\partial G_s}{\partial T^s}} \times \frac{\partial U^c}{\partial x^c} = \frac{\frac{\partial U^c}{\partial x^c}}{\frac{\partial U^s}{\partial G_s}\ \frac{\partial G_s}{\partial T^s}}$$

From (16) and (17), the population ratio between a central city and suburbs can be calculated.

$$(20)\ N^s/N^c = \frac{\partial U^s}{\partial x^s}\left[\frac{\partial U^c}{\partial G_c}\frac{\partial G_c}{\partial T^c} - \frac{\partial U^c}{\partial G_s}\frac{\partial G_s}{\partial T^s}\right] \Big/ \frac{\partial U^c}{\partial x^c}\left[\frac{\partial U^s}{\partial G_s}\frac{\partial G_s}{\partial T^s} - \frac{\partial U^s}{\partial G_c}\frac{\partial G_c}{\partial T^c}\right]$$

Equation (20) shows that a suburban area is over-populated when $(\partial U^s/\partial G^c)\ (\partial G^c/\partial T^c)$ is considerably larger than $(\partial U^c/\partial G^s)\ (\partial G^s/\partial T^s)$. In other words, as Rothenberg (1972, 1970) finds, we have too many residents in suburbs, confirming the suburban-exploitation-of-central-cities hypothesis.

4. Intra-MA Migration Analysis Using an Ordered Probit Model

1) Model

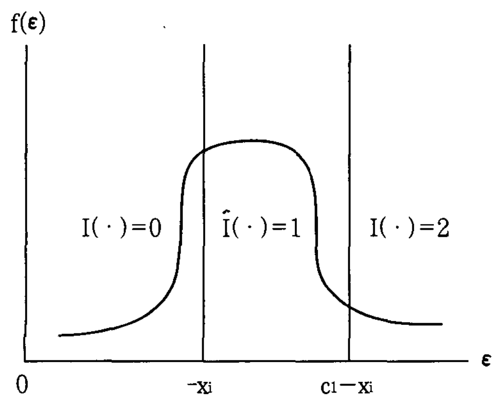
To construct a random utility model, an index function should be constructed. First, this paper defines the utility difference between a central city and suburbs as an index function, $I(\cdot) = \triangle U = U^s - U^c$,

(21) $I(\cdot)$ = 2 (those who moved from a central city to suburbs between 1985 and 1990, i.e., $U^s > U^c$)
= 1 (non-movers in a central city and suburbs between 1985 and 1990, i.e., if $U^s = U^c$)
= 0 (those who moved from suburbs to a central city between 1985 and 1990, i.e., if $U^s < U^c$)

Since the number in the above index function is just a ranking, linear regression estimation commits an error that treats the difference between 0 and 1 the same as the difference between 1 and 2. Figure 1 shows the implications of the index function. The probabilities of three choices follow an ordered probit model shown in (21).

(22)
$$\text{Prob}(I(\cdot)=0) = 1 - \Phi(-x_i)$$
$$\text{Prob}(I(\cdot)=1) = \Phi(c_1 - x_i) - \Phi(-x_i)$$
$$\text{Prob}(I(\cdot)=2) = 1 - \Phi(c_1 - x_i)$$

Figure 1 : Probabilities in the ordered probit model



2) Data and Variables Included

The 1990 Public Use Microdata Samples (PUMS) 1% file is the primary data source from where migration information, household characteristics, and housing characteristics are drawn. This study matches household micro-data to aggregate data for local characteristics from different data sources such as the 1987 Census of Government (Finance Summary File A and File B) and the 1994 County and City Data Book. The characteristics of multiple central cities are averaged to show the average characteristics in those central cities, as in Grubb (1982). The suburbs are defined as outside a central city and within an MA.

For the purpose of this study, it is necessary to identify whether both the current residential place and previous residential place are in a central city or the suburbs. The variable, AREATYPE, in the 1990 PUMS file, indicates whether a housing unit is located in a central city or in the suburbs.[3] In many cases, however, the variable, AREATYPE, in the 1990 PUMS file is not always coded enough to identify whether the current residential place is located in a central city or the suburbs. Further, it is necessary to know whether the previous residential place is in a central city or in the suburbs. In the 1990 PUMS file, four variables provided information about whether the previous residential place was in a central city or in the suburbs ; MIGPUMA, STATE, PUMA, and AREATYPE. The 1990 PUMS file, however, does not always provide information about whether the previous residential place is in a central city or in the suburbs because the variable indicating previous residence, MIGPUMA, is not coded to tract level.[4] This problem

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3) The variable names are identical to those listed in the 1990 PUMS file Data Dictionary.

4) Public Use Microdata Area (PUMA) is state dependent. In general, the first three digits of PUMA indicates county place while the last two digits represents groups of tracts, Block Numbering Area (BNA), etc.

arises because the last two digits of MIGPUMA are always zeroed. Suppose, for example, PUMA 301 represents a central city while PUMA 302 represents outside a central city. In the 1990 PUMS file, PUMA 301 and 302 are coded as 300 for MIGPUMA. Because of this incomplete coding in Public Use Microdata Area (PUMA) and the inconsistency of the boundary definition for MA' s among data sources, only 53 MA' s are selected for the analysis.

Persons included in this study are heads of households, civilians employed with positive wages or salary income in 1989 ; not in the military since 1980 ; not in limited work status ; not in (residence) mobility limitation ; between age 22 to 66 ; and not in group quarters. Central city government variables are drawn from the 1987 Census of Government Finance Summary File A. Fiscal variables for the county are drawn from the 1987 Census of Government Finance Summary File B. Suburban government fiscal variables are defined as entire MA fiscal variables minus central city fiscal variables, so that they represent average fiscal conditions in suburban areas. Use of the 1987 census of government data can be justified since it approximates average fiscal conditions over the five-year migration interval.

Introducing both central city and suburban fiscal variables in the migration analysis allows us to incorporate the current fragmented local government system into the analysis and also makes it possible to examine the effects of central city and suburban fiscal impacts on households' migration. The use of MA-wide fiscal variables with the simple aggregation of fiscal variables in a central city and suburbs would obscure the relationship between fiscal variables and households migration decisions.

Among the fiscal variables included, per capita education expenditure in a central city (CEDU) or suburbs (SEDU) and welfare, health, and employee retirement expenditures in a central city (CWF&HH) or suburbs (SWF&HH) have relatively no inter-jurisdictional fiscal externalities because they are expenditures for residence-specific public services. Per capita safety expenditure in a central city (CSAFTY) or in suburbs (SSAFTY) and per

Table 1 : Estimation result for the ordered probit model

Variables	Coefficients
INTERCEPT1	1.19287 ***
INTERCEPT2 (c_1)	-3.40419
Personal and household	
AGE	-0.00515 ***
WHITE	-0.00684
SEX	-0.00258
EDU	0.00997 *
MARRIED	0.07776 ***
SEXMARRD	-0.08445 ***
R18UNDR	0.07863 ***
R65OVER	0.06149 **
RNRLCHLD	-0.00749
US	-0.01487
WORKERS	0.04727 ***
Central city tax & exp.	
CEDU	-0.00018 ***
CSAFTY	0.00165 ***
CINFRA	0.00007 ***
CWF&HH	-0.00046 ***
CPROTX	0.00084 ***
Suburb tax& exp.	
SEDU	0.00029 ***
SSAFTY	0.00153 ***
SINFRA	-0.00028 ***
SWF&HH	0.00021 ***
SPROTX	-0.00007 **
Occupation	
MANAGE	0.04208 **
TECHNICN	0.03912 **
SERVWORK	-0.00607
FARMING	-0.09634 *
CRAFTWRK	0.01258
Other characteristics	
CCRIME	0.00235 ***
SCRIME	-0.01248 ***
CHLDGW	-0.00042
SHLDGW	0.01125 ***
n	84,577
log likelihood	-32,183

Note : * Significant at the 0.10 level
** Significant at the 0.05 level
*** Significant at the 0.01 level

capita infrastructure expenditure in a central city (CINFRA) or in suburbs (SINFRA), on the other hand, are likely to have fiscal externalities since residents of other jurisdictions can benefit from those expenditures.

3) Estimation Results

The estimation results of the ordered probit model specified in (22) are shown in Table 1. The positive estimates can be interpreted as the greater opportunity for households to increase their utility level by choosing suburbs. Similarly, households can increase their utility level when living in a central city if variables have negative coefficients.

(1) Personal and household characteristics

Table 1 shows that households with a highly educated head (EDU), with a married couple (MARRIED), with persons under 18 years of age (R18UNDR), with persons over 65 years of age (R65OVER), and with more than two workers (WORKERS) can increase their utility level when they choose to live in the suburbs. The negative coefficient of married households with a female head (SEXMARRD) indicates that those households can increase their utility level in a central city. The negative sign of AGE indicates that younger people increase their utility level when they live in a central city. These are consistent with intuition and results from other studies.

Among five occupation dummy variables, MANAGE (managerial and professional specialty occupations) and TECHNICN (technical, sales, and administrative support occupations) have the positive sign, which indicates that people with these jobs tend to live in suburbs. Other occupation groups such as SERVWORK (service occupations) and CRAFTWRK (precision production, craft, and repair occupations) do not show residential preference between a central city and suburbs.

(2) Fiscal variables

Table 1 shows that higher CEDU and CWF&HH make a central city a more attractive place to live while higher CSAFTY and CINFRA make the adjoining suburbs a more attractive place.[5] In short, higher CEDU and CWF&HH tend to be beneficial to only central city residents while suburban residents can enjoy benefit both from higher CSAFTY and CINFRA. As expected, higher per capita property tax in a central city makes a central city a less desirable place.

Table 1 also shows that higher SEDU, SWF&HH, and SSAFTY provide opportunities for households to increase their utility level when they live in the suburbs. The negative coefficient of SINFRA implies the existence of externalities for SINFRA by central city residents. As expected, a higher per capita property tax in suburbs makes suburbs less desirable places to live. In short, Table 1 shows CSAFTY, and CINFRA have spillover effects over suburban jurisdictions.

(3) Other variables

Crime variables show expected and significant coefficients. A large number of crimes in a central city (CCRIME) tends to make suburbs more attractive residential places while a large number of crimes in suburbs (SCRIME) tend to make a central city a more attractive residential place. Finally, it seems that a higher growth rate for households in suburbs (SHLDGW) is positively related to the possibility of households improving their utility level in the suburbs. Though not significant, a higher households growth rate in a central city (CHLDGW) has a negative coefficient. This reveals the tendency for households to have incentives to stay in juris-

5) It was tested to see whether all local government variables were zero. The likelihood ratio statistic is 426.25, which is considerably large enough to reject the joint hypothesis that all local government coefficients are zero.

dictions when the jurisdictions undergo rapid development.

5. Conclusion

This paper finds that residential choice decision is well responsive to inter-jurisdictional fiscal externalities, which leads to too many residents in suburbs. This is because suburban residents benefit from central city expenditures for infrastructure development without paying for those services. Efficient population distribution between a central city and suburbs can be achieved when local governments take into account inter-jurisdictional externalities. This implies the need for burden sharing between a central city and suburbs for infrastructure development.

External aids from the Federal and state governments, another option solving inter-jurisdictional fiscal externalities, should be given to public services such as education, welfare, health, and employee retirement services, if they are to arrest central city decline. If external aids from the Federal and state governments were given to safety and infrastructure development in a central city, they would not deter central city decline, but cause further central city decline. Regional tax sharing as we see in Minneapolis-St. Paul (Voith 1996b) can be another way of dealing with these externalities. The creation of special districts along the range of externalities can be another policy alternative in the provision of safety and infrastructure development.

In Korea, for example, the population in Seoul has continuously declined in recent years, while population in satellite cities has rapidly grown. Since population growth is closely related to the increase in demands for housing and land, fiscal capacities of satellite city governments become stronger and stronger considering the fact that approximately two-thirds of local tax revenues come from housing and land related taxes. On the other hand, population decrease and the tremendous amount of infrastructure expenditures for subway construction are undermining Seoul's fiscal capacity. Currently, Korea may be in the earlier stage of satellite-cities'-exploitation-of-Seoul, it is necessary therefore to empirically test whether or not this is indeed happening.

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국문요약

지방정부서비스의 외부성과 광역도시내 인구이동

조임곤

광역도시내 대도시와 신도시는 경제적인 유기체임에도 불구하고 임의적인 행정구역으로 분할되어 있다. 이 결과 대도시는 신도시 주민들을 위하여 막대한 재원을 투자하여 도시기반시설을 건설하여야 하나, 상주인구의 감소로 재원부족이라는 어려움에 빠지게 된다. 본 연구는 1990년 미국 센서스 1% 자료를 이용하여 53개 광역도시내 인구이동을 분석하여 대도시가 도시기반시설에 투자를 하면 할수록 신도시로 대도시 인구가 빠져나가는 "신도시 주민의 대도시 착취 가설"을 입증하였다. 결국 광역도시내에 상이한 지방정부가 존재하는 경우 지방정부서비스 공급은 티부이론이 제시하는 효율성을 달성하지 못하기 때문에 광역도시내 정부 서비스의 공급은 사무엘슨 방식의 통합적 제공이 필요하다.

핵심단어 : 광역도시내 인구이동, 지방정부서비스 외부효과, 대도시, 인구감소, 신도시의 대도시 착취 가설