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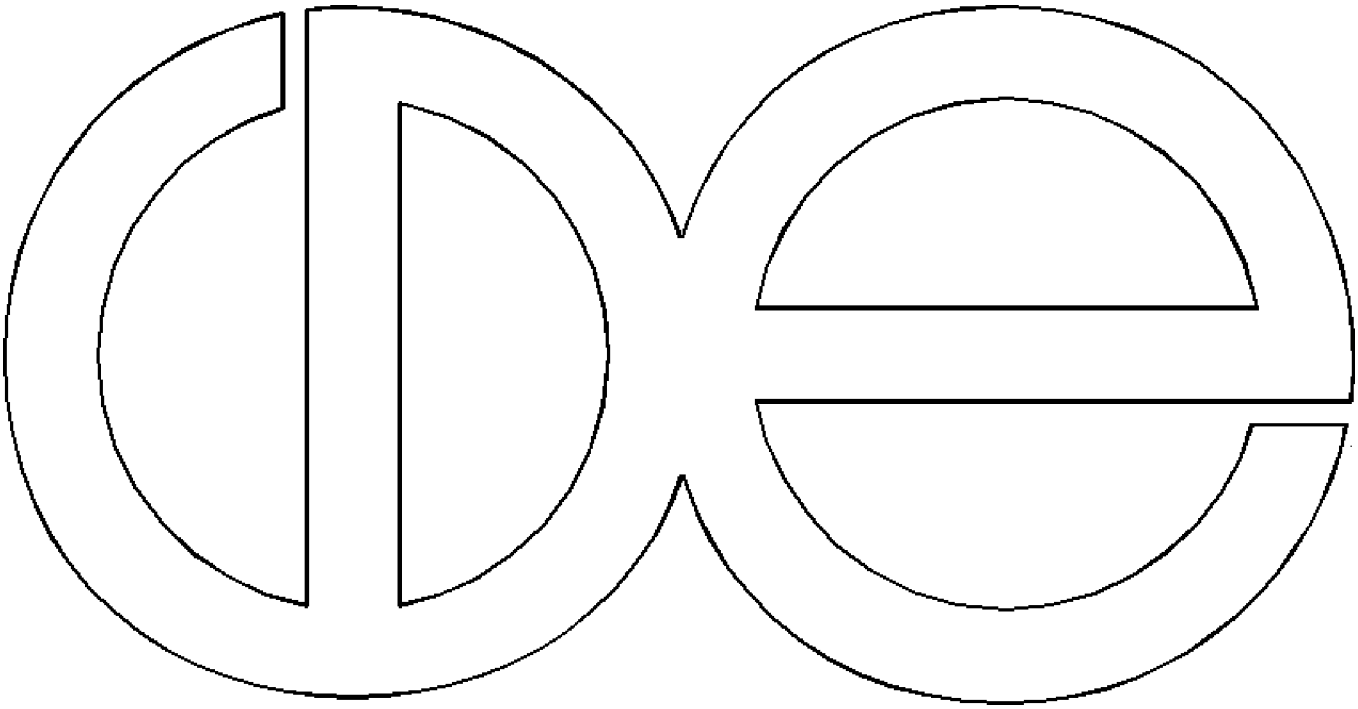

CYCLES WITHIN THE SYSTEM: METROPOLITANIZATION AND INTERNAL MIGRATION IN THE U.S., 1965-1990

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Abstract

This paper uses a typology of local metropolitan development to examine population redistribution trends in the U.S. over the past three decades. Theories of systemic maturation and urban life-cycles are discussed. Subsequent analysis of population and inter-county migration data reveals that Deconcentration has become an increasingly common subprocess of local metropolitanization but that this subprocess cannot be adequately explained by a "life-cycle" model of metropolitan development. More importantly, results indicate that metro-based migration varies significantly with local patterns of metropolitanization. The nature of this variation implies that declining metro areas tend to redistribute migrants to relatively distant, nonmetro territory in a manner consistent with extended processes of decentralization.

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Introduction

During the 1970s a "migration turnaround" saw proportionately more Americans move from metro to nonmetro counties than vice versa. Geographers Hall and Hay (1980, p.12) proclaimed it "one of the major demographic puzzles in the contemporary United States." Since then, the enigma has only grown. As theoretical explanations for this historic reversal began to emerge, evidence from the 1980s revealed a return to more traditional patterns of metropolitan concentration. Now it appears that even this trend may be short-lived. Evidence from the early 1990s now indicates that the U.S. might be experiencing its second "turnaround" in twenty years (Beale and Fuguitt, 1990; Johnson, 1993; Johnson and Beale, 1994).

While it is still premature to draw conclusions about this latest "rural rebound," its emergence underscores the importance of ongoing efforts to theorize contemporary population redistribution trends. Lately, scholars have suggested that recent fluctuations might reflect a national metropolitan system that is approaching saturation. The fact that nearly three-quarters of all Americans now live in metro areas, however, does not mean that the national settlement system has ceased to develop. Under conditions of saturation, a metropolitan population may still continue to cluster in a smaller number of "megapolises" or, alternatively, begin to disperse among a greater number of medium- and small-size places (Korcelli, 1983). While traditional urban theory suggests the former, evidence from the past twenty-five years argues for the latter.

In this research, I use population and inter-county migration data from the past thirty years to examine whether local subprocesses of metropolitanization correspond to distinct geographic patterns of population redistribution. A central hypothesis is that as metro areas "mature," they begin to send disproportionate shares of migrants to more distant, nonmetro territory in a manner

consistent with extended metropolitan decentralization. In this case, maturation is conceptualized in terms of a three-stage typology of intra-metropolitan development and is observed at both the local and national levels. Subsequent empirical analysis addresses three related questions: First, over the past three decades, has the U.S. metro system "matured" in manner consistent with increasing incidence of localized deconcentration? Second, if so, does this trend derive from the systematic progression of individual metro areas through a common urban "life-cycle," one which begins with centralization and proceeds to suburbanization and eventual deconcentration of the local population? Third, and most importantly, do metro areas that exhibit different stages of local demographic development also tend to exhibit distinct patterns of internal migration, particularly to nonmetro territory?

Before assessing these questions empirically, I first briefly review two dominant perspectives on population redistribution in the contemporary U.S. and then move to consider alternative perspectives regarding systemic maturation and urban life-cycles. I then offer a three-stage typology of metropolitanization and explain how it will be used in subsequent analysis to examine connections between local metropolitan development and broader spatial patterns of internal migration.

Dominant Perspectives: Deconcentration versus Regional Restructuring

In an early attempt to theorize the "puzzle" of the migration turnaround, Wardwell (1977, 1980) argued that the U.S. had entered a new era of social and economic development--one characterized by the "convergence" of urban and rural space (see also Hawley and Mazie, 1981; Kasarda, 1980; J. Long, 1981). Wardwell asserted that as this era of convergence progressed, internal migration would become increasingly random with respect to origin and destination. The implication was that larger metro areas would continue to deconcentrate as technological

developments and rising personal affluence allowed an increasing number of households and firms to "select from a wide range of city sizes without incurring increased production costs, reduced marketing gains, or fewer life-style options" (Wardwell, 1980, p.89).

While this "deconcentration perspective" tapped the importance of recent transportation and communication innovations, as well as longstanding residential preferences for low-density environments, conceptually, it could account neither for the timing of the initial turnaround nor for its subsequent reversal during the 1980s. Moreover, research has since established that subnational "turnarounds" occurred at the divisional level as early as 1940, which suggests that Wardwell's "era of convergence" was not, in fact, new in origin (Wilson, F., 1986). Related studies now suggest that metro-based migration might instead reflect ongoing processes of decentralization that extend outward from established urban agglomerations (Hawley et al., 1964; Kasarda and Redfearn, 1975). For example, Morrill (1980) found that the rate of growth and the contribution of net migration to growth have both declined consistently in the north and midwest regions of the U.S. since the late 1930s. This transition occurred first in central counties and then in suburban counties, which suggests that decentralization may occur in continuous waves from historical points of urban-industrial agglomeration.

In contrast to the deconcentration perspective, the "regional-restructuring" perspective has recently come to the fore by stressing global transitions in industrial organization and the changing functions that American metropolises perform within a "new" international division of labor (Bluestone and Harrison, 1982; Castells, 1985; Frey and Speare, 1988; Noyelle and Stanback, 1984). Drawing from research into the deindustrialization of the U.S. economy, this perspective asserts that recent fluctuations in internal migration reflect the selective depopulation of metro areas that depend heavily upon traditional manufacturing. The implication for metro-based migration is that areas which function as headquarter sites and/or exporters of producer

services will continue to grow, while smaller metro and nonmetro areas engaged in routine production face almost certain decline. From this viewpoint, then, recent migration turnarounds reflect a contemporary restructuring of select metro economies, not a fundamental convergence of metro and nonmetro space.

Certainly, little doubt can remain that large metro areas have experienced profound social and economic changes since the late 1960s. Yet undue emphasis on recent events has tended to blind researchers to the fact that metropolitan development in the U.S. has depended upon processes of decentralization since at least the 1920s. Moreover, these processes have always involved dynamic changes tied to technological innovation, land-use conversion, segregation, population growth and redistribution (Schnore, 1957). While the concept of decentralization has traditionally referred to demographic shifts between central cities and their suburbs, this research extends this concept to consider whether local patterns of metropolitan development correspond to systematic movements of people to more distant, nonmetro territory. To understand how and why this correspondence might occur, we now turn to recent thinking pertaining to ideas of systemic maturation and urban life-cycles.

Systemic Maturation

In contrast to both the deconcentration and regional-restructuring perspectives, the idea of "systemic maturation" contends that individual metro areas co-evolve as both cause and consequence of longstanding migratory processes that bind national settlement systems. In a recent article, Geyer and Kontuly (1993) assert that these processes are best conceptualized at the national level in terms of three successive stages of "differential urbanization" (Geyer, 1989; 1990). During the first stage, which they call *primate-city expansion*, economic activity and demographic growth is presumed to concentrate in a relatively few urban centers. An important

aspect of this initial concentration is that it depends not only upon local developments but upon strengthening social and economic ties with other places. In theory, as these primate centers continue to develop, so too do these ties, which in turn foster the development of new centers at lower ranks within an emergent urban system.

As these new centers continue to develop, the urban system is presumed to mature into territorially organized subsystems which are characterized by overlapping processes of local concentration and regional dispersion. Geyer and Kontuly call this second stage of differential urbanization *intermediate-city growth*. As these dual processes of concentration and dispersion continue, the metropolitan system is presumed to enter a third stage of differential urbanization, which the authors call *small-city growth*. During this stage, a growing number of primate- and intermediate-cities are presumed to begin experiencing "concentrated dispersion" to smaller urban centers (Richardson, 1980). As this stage progresses, Geyer and Kontuly assert, the national settlement system eventually experiences counter-urbanization, whereby proportionately more people move from larger to smaller places than vice versa.

The key point for this research is that after an initial period of primate-city expansion, we might reasonably expect national settlement systems to exhibit countervailing processes of concentration and dispersion. Although the authors present no empirical evidence for the U.S., recent migration turnarounds coupled with the continued designation of new metro areas suggest that the country might now be experiencing a stage of small-city growth. From this perspective, then, we might draw two hypotheses. First, over the past several decades the established metropolitan system should exhibit increasing incidence of concentrated dispersion, or localized deconcentration. Second, this concentrated dispersion should involve the redistribution of local metro residents down the urban hierarchy to smaller, more distant places, including those located in nonmetro territory.

At the local level, scholars have suggested that processes of systemic maturation might derive, in part, from the orderly development of individual metro areas through a common urban "life-cycle," one which begins with centralization and proceeds to suburbanization and eventual deconcentration of the local population (Hall and Hay, 1980; Korcelli, 1983; Morrill, 1992; Van den Berg et al., 1982).

Metropolitan Life-Cycles

The concept of an urban life-cycle dates at least to Patrick Geddes's (1915) *Cities in Evolution* and Lewis Mumford's (1938) *The Culture of Cities*, yet it was not until the late 1960s that references to a specifically American urban life-cycle became prevalent (Birch, 1970; Borchert, 1967; Forrester, 1969; Wilson, J., 1966). More recently, in *City Life-Cycles and American Urban Policy*, Norton (1979) argues that the historic development of older metro centers has always depended upon balancing tendencies for dispersion with "market-generated means of economic rejuvenation" (1979, p.120). When these innovative capacities wane, as they appear to be doing in a growing number of U.S. metro areas, centrifugal tendencies characteristic of advanced industrial populations begin to predominate. As a result, processes once endemic to the metropolitan level, namely decentralization, begin to extend over broader spatial scales.

Norton's thesis is important for the study of contemporary population redistribution because it suggests that concentrated dispersion coincides with the historic inability of particular metro areas to overcome enduring tendencies for extended decentralization—the same tendencies that have helped to establish the U.S. metropolitan system over the course of this century. As such, we may view this line of thinking as complementary to the regional-restructuring perspective in that it asserts that recent "pushes" from traditional manufacturing centers spring not only from a "new" international division of labor, but from common and longstanding

tendencies for population decentralization.

Figure 1. Stages of Metropolitan Development

STAGE OF DEVELOPMENT	Classification Type	Population Change Characteristics Over Respective Decade		
		Central City	Suburbs	Metro Area
1. URBANIZATION	a. Absolute Centralization	+ +	-	+
	b. Relative Centralization	+ +	+	+ + +
2. SUBURBANIZATION	a. Relative Decentralization	+	+ +	+ + +
	b. Absolute Decentralization	-	+ +	+
3. DECONCENTRATION	a. Continued Decentralization	- -	+) -	(-) - -
	b. Re-centralization	- (+)	- -	- - (-)

Source: Adapted from Van den Berg, et al. (1982).

To investigate how these tendencies unfold at the local level, this research employs a three-stage typology of metropolitanization that distinguishes between differential patterns of growth and decline in a metro area's central-city and suburban populations (see Figure 1). The inspiration for this typology comes from a recent study of Urban Europe (Van den Berg et al., 1982), in which the authors use similar patterns of differential growth to construct an urban "life-cycle" model of local metropolitanization. During the first stage of the model, Urbanization, growing numbers of people are presumed to concentrate in an urban core (cores) at the expense of surrounding hinterlands. In theory, this concentration provides businesses with advantages of economic agglomeration and residents with job opportunities and access to a growing diversity of goods and services. As increasingly complex divisions of labor interact with organizational and technological innovations, particular industries flourish, often with employment opportunities outpacing urban concentration. These opportunities, in turn, encourage further population growth, which along with relative decreases in transportation costs, contributes to territorial expansion.

As these twin processes of regional concentration and local expansion continue, the metro

area theoretically enters a second stage of development, called Suburbanization. During this stage, competition among land uses within the central city is presumed to generate "spill-over" effects that include the transfer of residences and jobs to the area's periphery. In the U.S., government subsidies and infrastructural improvements in the metropolitan fringe have historically facilitated this decentralization, as have racial fears, traffic congestion, and rising property values (Frisbie and Kasarda, 1988). Over time, this centrifugal drift of people and jobs from the central city is presumed to be reinforced by the direct settlement of inter-regional migrants into newly developed suburbs. Together, both sources of in-migration serve to shift the locus of demographic growth from the central city to surrounding suburbs in a pattern consistent with ongoing decentralization.

As this process of decentralization continues, the ideal-typical metropolis is presumed to pass into a third stage of development, called Deconcentration. During this third stage, people and jobs begin to migrate to areas beyond the local metropolis, which, in turn, leads to *net population decline* for the entire metro area. Note that this stage does not initially require the suburbs to lose population; during early phases, extended out-migration from the central city may simply outweigh continuing suburban growth. With time, however, it is expected that both core and suburban populations will decline as disproportionate shares of migrants move to areas beyond the local metro boundaries.

Table 1. Population change in respective sectors of the Dubuque Metro Area, 1960-90.

	Population Change Over Previous Decade			Stage of
MSA & Decade	Central City	Suburbs	Metro Area	Development
Dubuque, IA: 1960-70	+ 5,703	+ 4,849	+ 10,552	Urbanization
Dubuque, IA: 1970-80	-12	+ 3,157	+ 3,145	Suburbanization

Dubuque, IA: 1980-90	-4775	-2567	-7342	Deconcentration

To understand how I operationalize this typology in the ensuing analysis, consider the data reported in Table 1 for the Dubuque, Iowa metro area. Using constant 1983-metropolitan boundaries, we see that the entire metropolis grew by over 10,000 residents between 1960 and 1970 and that the central city accounted for the bulk of this growth (5,703 versus 4,849). Thus, according to the typology outlined in Figure 1, Dubuque experienced a stage of Urbanization during the 1960s. During the next decade, 1970-80, Dubuque's central-city population remained relatively stable (-12) while its suburbs continued to grow (+3,157). As a result, the entire metro area grew in population and was characterized by a stage of Suburbanization. During the 1980s, however, both sectors declined in population which resulted in a net decline in the metro area's total population. Dubuque, thus, is classified as experiencing a stage of Deconcentration during the 1980s.

In the analysis that follows, I assess the validity of the life-cycle metaphor for each metro area in the U.S. and then relax its evolutionary tenets to examine whether different stages of development correspond to significantly different patterns of internal migration. Although the typology used in this analysis relies upon an admittedly narrow conceptualization of local metropolitan development, it offers three specific advantages for empirical research. First, its dynamic stages discriminate well between distinct subprocesses of intra-metropolitan development. These stages, in turn, serve as surrogates for more fundamental changes in the spatial and organizational structure of American metropolises. Second, its classification procedure possesses the virtues of simplicity and intuitive appeal. A more complex, multi-dimensional scheme would not only render interpretations more problematic, it would likely require significant transformation of available data. Third, its multi-stage design allows us not

only to classify local subprocesses of metropolitanization but to assess their prevalence at the national level over time. This final point is critical, because its means that we may use the typology to examine both systemic maturation and the urban life-cycle model. The underlying hypothesis for both levels of analysis is that local processes of metropolitanization help to structure migratory relations with more distant areas as well as functional relations between central cities and their suburbs.

Methodology

This research uses data from the 1960, 1970, 1980, and 1990 U.S. Censuses of Population and Housing to identify stages of development for each Metropolitan Statistical Area (MSA) in the continental U.S. over the past three decades. Utilizing county-level data, each MSA was reconstructed according to constant 1983-MSA boundaries in an effort to adhere to a basic principle of demographic analysis: Measure historical change for the same territorial units for all periods. The resulting universe consists of 293 MSAs, which include 47 Primary Metropolitan Statistical Areas (PMSAs). This number falls short of the official count of 327 MSAs for four reasons. First, the use of New England County Metropolitan Areas (NECMAs) results in the "loss" of fourteen MSAs that were originally defined using Minor Civil Divisions. Second, five MSAs are merged with other metro areas to maintain historically consistent boundaries. Third, eleven MSAs lack consistent data for all three decades and so are excluded. Fourth, four MSAs lack a central city and so are also dropped.

Because available data preclude the maintenance of constant central-city boundaries, I rely upon historically specific population counts to compare central-city and suburban populations. This approach means that changes in an MSA's central-city population may reflect territorial as well as demographic changes that have occurred between decennial censuses. (In all cases, the

suburban population refers to local metro residents residing outside the respective central city.) The potential bias that this study introduces varies among cases and depends upon historical changes in central-city boundaries due to annexation. For older areas that experienced little or no boundary fluctuations in recent decades, there is no effective bias. For newly designated or expanding areas, however, historically specific central-city definitions may over-estimate changes in the "core" population over time and, hence, the incidence of Urbanization within the national metropolitan system. Preliminary examination of the data, however, indicates that suburban growth has been sufficient enough in recent decades to effectively minimize problems of classification resulting from central-city annexation.

For analysis of metro-based migration trends, data is drawn from Inter-County Migration (ICM) files compiled by the U.S. Census Bureau for three five-year periods: 1965-70, 1975-80, and 1985-90. To examine flows to and from individual MSAs, I subdivide inter-county migration streams according to adjacency status and whether migrants cross metropolitan, state, and regional boundaries. For cases where an adjacent county is located in a different state, adjacency status overrides inter-state status. Moreover, all geographic sectors designated in the following analysis are designed to be mutually exclusive, which means that migration counts for "inside region" exclude those for "inside state," "inside state" exclude those for "adjacent county," and so forth. I have partitioned the migration flows in this way in order to highlight the successive distance of each "migration field" from the reference MSA. This approach, in turn, enables a clearer assessment of whether metro-based migration conforms to patterns of extended decentralization.

To aid analysis, net migration statistics are employed as both descriptive tools and dependent variables in Ordinary Least Squares (OLS) regression equations to determine whether the three subcategories of metropolitanization outlined earlier correspond to distinct patterns of

internal migration. In addition, I use the concept of migration "efficiency" in Table 6 to assess the relative redistribution of particular metro-based exchanges. Statistically, an efficiency measure is simply the ratio of net migration to gross migration between two areas, I and j. A relatively high measure (in either a positive or negative direction) indicates that the migratory stream is an "efficient" redistributor of people from one area to another; a low measure indicates that the two areas tend merely to swap local residents, with little net redistribution occurring (see Galle and Williams, 1972; Gober, 1993; Shryock and Siegel, 1971).

Findings

A central objective of this study is to determine whether identifiable patterns of local metropolitanization help to explain recent fluctuations in population redistribution within the U.S. In pursuit of this aim, the following analysis focuses upon three related questions raised at the outset. First, does evidence support the idea that the U.S. metropolitan system is maturing in a manner consistent with increasing incidence of concentrated dispersion? Second, if so, can this evidence of systemic maturation be explained by the orderly progression of individual metro areas through a common demographic life-cycle? Third, and most importantly, do different stages of metropolitanization correspond to distinct patterns of internal migration and suggest ongoing processes of extended decentralization? These questions will be addressed, in order, in the following subsections.

Systemic Maturation. Before we consider recent migration trends, we must first establish whether the U.S. metropolitan system is in fact "maturing." In this study, systemic maturation is approximated by the number of MSAs exhibiting Deconcentration (net population loss) over each of the past three decades. Data reported in Table 2 reveal that the percentage of MSAs experiencing Deconcentration has, in fact, increased over the past three decades, from 8

to 9 to 21 percent of the entire metropolitan universe. This pattern suggests that the U.S. metropolitan system is, in fact, "evolving" in a manner consistent with systemic maturation. Percentages for MSAs experiencing Urbanization, however, present a curious twist. As expected with a constant metropolitan universe, the incidence of Urbanization drops from 31 percent during the 1960s to 26 percent during the 1970s; however, during the 1980s, this percentage rebounds to 31 percent. If Geyer and Kontuly (1993) are correct, it is plausible that migration down the urban hierarchy toward newly established MSAs has contributed to this recent upturn in Urbanization. Examination of metropolitan "ages" for Urbanizing MSAs (see Table 5), however, reveals that a growing proportion of these MSAs actually reached central-city populations of 50,000 prior to World War I (13 percent of all Urbanizing MSAs during the 1960s; 16 percent during the 1970s; and 23 percent during the 1980s). This pattern indicates that these MSAs are not newly emergent. Therefore, more likely explanations for the fluctuating incidence of Urbanization include selective gentrification and heightened immigration during the 1980s. (A third possibility —that some MSAs embarked upon a second or third passage through the life-cycle —will be considered shortly.)

A more refined assessment of the systemic-maturation thesis also considers the regional location of individual MSAs, since previous studies have established that local processes of metropolitanization continue to reflect the inter-regional diffusion of urban-industrialism within the U.S. (Morrill, 1980; Wilson, 1988). Results generally affirm this expectation. Information in Table 3 reveals that during the 1960s and 1970s, "core" regions of the Northeast and Midwest consistently accounted for the smallest proportion of MSAs experiencing Urbanization and the largest proportion experiencing Deconcentration. Moreover, the percentage of these "core" MSAs that experienced net population decline has continued to increase over the past thirty years: from 8 percent in 1960-70, to 19 percent in 1970-80, to 33 percent by 1980-90. With

respect to the other two stages of development, we find that western MSAs consistently accounted for the highest percentage of Urbanizing areas, with this stage characterizing over half of all western MSAs during the 1980s (as compared to 24 percent of northern MSAs and 31 percent of southern MSAs). Suburbanization, on the other hand, appears to be an increasingly southern phenomenon, accounting for a majority of all southern MSAs in each ten-year period.

To summarize, then, temporal trends lend initial support to the idea of systemic maturation by showing that local Deconcentration was not an anomaly of the 1970s but rather an increasingly common process of metropolitanization since the 1960s. Regional trends help to refine this picture by demonstrating that northern, or "core," MSAs have been most likely to experience concentrated dispersion, followed by southern MSAs and then western MSAs. To determine whether these proximate patterns of systemic maturation derive from the systematic development of local MSAs, we now turn to a descriptive assessment of the urban "life-cycle" model.

Metropolitan Life-Cycle. The central question behind the life-cycle model is whether individual MSAs tend to develop in a manner consistent with the typology of local metropolitanization presented earlier. At an aggregate level, it appears that they do. Considering all MSAs together, we find that fully 86 percent of the metropolitan universe either "evolved" to the next developmental stage or remained in the same stage between 1960-70 and 1970-80. This percentage increased to 90 percent between 1970-80 and 1980-90.

According to Norton's (1979) work on city life-cycles, we might expect the percentage of Deconcentrating MSAs to increase with age, since the propensity for extended decentralization presumably increases as an MSA ages. To assess this expectation empirically, I provide a cross-classification of MSAs by metropolitan "age" and stage of development (see Table 4). For the

purposes of this study, metropolitan "age" is defined as the census-year in which an MSA's central city (cities) first reached a population of 50,000 —a common indicator in the urban studies literature. To facilitate interpretation, these years are partitioned into three historical epochs: pre-World War I (1790 to 1910); post-World War I to pre-turnaround (1920 to 1960); and turnaround to the present (1970 to 1990). A fourth category, "not yet," is also included and refers to MSAs where the central-city population had yet to reach 50,000 by 1990. As expected, results in Table 4 show that the incidence of Deconcentration tends to increase with age, while the incidence of Urbanization tends to decrease. With respect to Suburbanization, we find that the "not yet" category consistently accounts for the highest proportion of areas experiencing this stage over the past three decades. This finding is relatively unsurprising, since the same small central-city population that accounts for an MSA's "not yet" categorization must, by definition, be surrounded by a relatively large suburban population in order for the area to achieve metropolitan status.

At the aggregate level, then, findings lend initial support to the life-cycle model of local metropolitanization. Thorough assessment, however, must eventually include a focus upon the development of individual MSAs over time, in addition to composite shifts in the entire metropolitan universe. Along these lines, evidence reported in Table 5 raises a skeptical brow. For instance, while sixteen percent of MSAs that experienced Suburbanization during the 1960s "evolved" to a stage of Deconcentration by the 1970s, twelve percent experienced "reverse transitions" to Urbanization. Although similar inter-stage transitions between 1970-80 and 1970-80 offer a kinder assessment, results still indicate that MSAs in the latter two stages of development were more likely to move backward, rather than forward, through constituent stages of the life-cycle. These findings run counter to the evolutionary tenets of the life-cycle model and raise serious questions regarding its validity.

Together, then, these aggregate and local trends provide mixed support for the urban life-cycle model. A critical stance underscores the fact that a nontrivial percentage of MSAs exhibited reverse transitions through the hypothesized life-cycle over the past three decades. A more generous appraisal highlights the fact that no less than 86 percent of all MSAs exhibited transitions consistent with the life-cycle model and that older MSAs, as expected, were more likely to experience Deconcentration than younger ones. In light of this evidence, I submit that even if we were to remain cautious and reject the life-cycle model, it is still plausible that different stages of local metropolitanization correspond to distinct patterns of internal migration. The aim of the next section is to assess this possibility through an examination of metro-based migration involving specific geographic sectors.

Local Stages of Metropolitanization and Internal Migration. Consensus now holds that two distinct patterns of deconcentration have driven fluctuations in U.S. population redistribution since the late 1960s: (1) the continued growth of settlements within commuting range of established MSAs; and (2) a more recent growth in remote rural and small urban places (Fuguitt, et al., 1981; Richter, 1985; Long and DeAre, 1982; Long, 1981; Fuguitt and Beale, 1984; Fuguitt, 1985). In this section, I use inter-county migration data for 1965-70, 1975-80, and 1985-90 to examine both types of flows and whether they have varied significantly by stage of local metropolitanization over the past three decades. Of particular interest is whether such variation conforms to patterns suggestive of extended decentralization.

To begin, net migration values for respective inter-area flows are reported in Table 6 and reveal a consistent pattern of net out-migration from Deconcentrating MSAs to nonmetro territory during the late 1970s and 1980s. This finding indicates that although the U.S. metropolitan system began to re-concentrate during the 1980s in manner consistent with traditional patterns of urban agglomeration, a growing number of Deconcentrating MSAs continued to redistribute

population to all sectors of nonmetro America. Moreover, counter to common "spill-over" explanations, we find that net out-migration from declining MSAs has tended to increase steadily with geographic distance, regardless of the metro or nonmetro classification of receiving counties.

While this initial evidence supports the idea that metro-based migration varies by stage of local demographic development, a common criticism of net migration statistics is that they hide the size of gross flows used for their calculation. For example, a net migration value in Table 6 informs us that between 1975 and 1980 Urbanizing MSAs typically gained 428 migrants from nonmetro counties located outside their respective region. This statistic, however, obscures the fact that it took an average of 21,400 migrants moving between these two sectors to produce this net change. In other words, only about 2 percent of gross migration between Urbanizing MSAs and nonmetro counties located in other regions resulted in net population redistribution (net migration/gross migration= 428/21,400= .02). This percentage is called an "efficiency measure" because it tells us how efficient, or nonrandom, a given exchange is in redistributing population.

Similar efficiency measures were calculated for each exchange reported in Table 6 and absolute values greater than or equal to 20 percent are underlined. From these measures, we gain two additional insights into recent population redistribution. First, while national patterns of internal migration have exhibited marked fluctuation since the late 1960s, the vast majority of metro-based exchanges have remained relatively "inefficient" during this period. Exceptions are found exclusively among Deconcentrating MSAs and indicate that, in contrast to growing metro areas, declining MSAs tend to experience consistent and efficient out-migration to counties located beyond their respective regions. In other words, local Deconcentration involves systematic out-migration to more distant counties, rather than an accumulation of strictly random, or inefficient, exchanges. Second, exchanges with adjacent nonmetro counties have remained

relatively inefficient over the three respective five-year periods. This finding indicates that well-documented patterns of exurban growth are more reflective of in-migration from more distant territory than upon systematic "spill-over" from adjacent MSAs. This finding echoes one of Ravenstein's original "laws of migration," which posits that migration efficiency tends to increase alongside distance as a result of the rising social and economic "barriers" that inhibit random movement (Lee, 1966; Ravenstein, 1889).

To summarize to this point, net statistics and efficiency measures suggest that metro-based migration varies according to local stages of metropolitanization. To assess whether this variation is statistically significant, I estimate a series of Ordinary Least Squares (OLS) regression equations, which take the following general form:

$$\text{Net Migration}_{i\text{-}j} = \alpha + \beta_1(\text{Suburb.}) + \beta_2(\text{Decon.}) + \epsilon$$

Where $\text{Net Migration}_{i\text{-}j}$ refers to the respective metro-based migration exchange reported in Table 6, and the beta coefficients refer to dummy variables used to identify each MSA's stage of metropolitanization for the respective time period. (For all equations, Urbanizing MSAs serve as the omitted, or reference category, against which comparisons are made.) Because the purpose of these equations is to refine comparisons of net migration values across stages of local metropolitan development, rather than to "explain" as much variance as possible, I opt not to control for other factors, such as regional location and metropolitan age. Estimated F-statistics test the null hypothesis that mean net migration values are equal for all stages and are reported, along with individual beta coefficients, in Table 7.

Looking first at the F-statistics, we see that for roughly half of all metro-based exchanges reported for respective five-year periods (13 of 24), we can reject the null hypothesis. That is,

net migration values vary significantly across the three stages of metropolitanization. This statistical variation is especially persistent for exchanges involving adjacent nonmetro counties and counties located in regions other than that of the local MSA. The fact that these flows exhibit significant variation across all three decades suggests that a certain structural regularity underlies recent national-level fluctuations and that this regularity may be linked to local patterns of metropolitan development.

To determine whether this regularity conforms to patterns of extended decentralization, it is necessary to consider the individual beta coefficients reported in Table 7. From this information, two significant patterns emerge. First, comparing Urbanizing and Suburbanizing MSAs, we find that over the past three decades the only significant difference between these two types of metropolitanization lies in their migratory exchanges with nonmetro counties located within state (see columns for "Adj." and "Non-Adj. In State" reported in Table 7) . In other words, for exchanges with counties located beyond respective state boundaries, there has been no significant difference between the migratory experiences of Urbanizing and Suburbanizing MSAs. These coefficients also reveal that, as we might expect, Urbanizing MSAs typically experience positive net migration from these nearby counties, whereas Suburbanizing MSAs tend to experience negative net migration. The second significant pattern in Table 7 indicates that differences between Urbanizing and Deconcentrating MSAs typically spring from flows to and from counties located in other regions, particularly nonmetro counties. Again, the tendency is for Urbanizing areas to experience positive net migration from these distant areas and for Deconcentrating MSAs to experience negative net migration. Together, these two patterns suggest that statistical regularities in metro-based migration over the past three decades do, in fact, conform to patterns of extended decentralization.

To help visualize these patterns, Figure 2 graphs estimated net migration values for the

select nonmetro exchanges reported in Table 7. The respective panels, which chart migration trends for MSAs at different stages of development, merit three final comments. First, we see that after the late 1960s, nonmetro flows contributed relatively little to overall metropolitanization, regardless of a local MSA's particular stage of development. This finding implies that traditional images of a nonmetro hinterland concentrating within a regional metropolis no longer conform to the realities of U.S. metropolitan development, even among Urbanizing MSAs. Second, despite growing scholarly attention to metropolitan "spill-over" to adjacent nonmetro counties, this type of metro-based migration has remained a relatively small piece of the puzzle over the past three decades. This trend confirms that growth of adjacent nonmetro counties depends more upon inter-regional exchanges than upon the redistribution of nearby metropolitan populations. Third and finally, the panel for Deconcentrating MSAs underscores the fact that net out-migration to nonmetro counties has tended to increase consistently with distance over the past two decades. While substantial absolute differences distinguish patterns for 1975-80 from 1985-90, overall trends indicate that declining MSAs tend to send disproportionate shares of local migrants to more distant nonmetro counties.

To recap, descriptive and statistical analyses appear to support the idea that metro-based migration varies significantly by local stage of development. This variation is especially significant for flows to and from the nearest and farthest categories of nonmetro counties, which implies that these types of metro-based exchanges are somehow linked to local processes of metropolitanization. Furthermore, examination of regression coefficients supports the idea that these links reflect longstanding tendencies for decentralization that extends outward from declining MSAs.

Summary and Conclusion

To summarize, this research began with the "puzzle" of recent population redistribution trends in the U.S. and then proceeded to employ a three-stage typology of local metropolitan development to establish whether patterns of local metropolitanization underlay apparent fluctuations in metro-based migration. Results show that local deconcentration, or "concentrated dispersion," has in fact increased over the past thirty years in a manner consistent with theories of systemic maturation. Moreover, an examination of regional variation supports the idea that the U.S. settlement system is deconcentrating outward from older, more established metro regions. These findings are important because they challenge traditional theories of urban agglomeration by demonstrating that local deconcentration was not an anomaly of the 1970s but, rather, has become an increasingly common subprocess of metropolitanization over the past thirty years. Assessment of the urban life-cycle model, however, reveals that this rising incidence of deconcentration cannot be adequately explained by the systematic progression of individual MSAs through a common demographic sequence, one which begins with Urbanization and proceeds to Suburbanization and eventual Deconcentration of the local metropolitan population. Evidence of "reverse transitions" through these proposed stages challenges the validity of the life-cycle model for U.S. metropolitan development and confirms lingering suspicions that local metropolitanization is more complex than such evolutionary models typically imply.

With respect to recent population redistribution, results of this study demonstrate that, despite the questionable validity of the proposed urban life-cycle, metro-based migration has, in fact, varied significantly with local patterns of metropolitanization over the past three decades. This is particularly true for exchanges involving the closest and farthest categories of nonmetro territory. In addition, results show that the only consistent difference in the migratory experiences of Urbanizing and Suburbanizing MSAs lies in their exchanges with nearby nonmetro countries. Differences between Urbanizing and Deconcentrating MSAs, on the other

hand, derive from exchanges with nonmetro counties located in other regions. Together, these patterns imply that distinct patterns of local metropolitanization correspond to broader spatial patterns of internal migration and that these patterns reflect longstanding tendencies for extended decentralization from declining metro areas.

In conclusion, this research has shown that migratory flows between metro and nonmetro areas are not as chaotic as most national-level studies lead us to believe. While results presented here do not tell us why individual MSAs experience particular stages of development at any given time, they do suggest that the U.S. metropolitan system is likely to continue to experience relatively high incidence of local deconcentration in years to come and that this deconcentration is likely to involve the redistribution of local metro populations to more distant, nonmetro territory. These findings are important to ongoing efforts to theorize population redistribution trends because they imply that contemporary economic restructuring is not the only force driving metro-based migration. Historic and enduring processes of decentralization continue to play a significant role in what remains of "one of the major demographic puzzles in the contemporary United States."

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Table 2. Percentage of MSAs at each stage of development, 1960-1990

Stage of Development	1960-70	1970-80	1980-90
Urbanization	31%	26	31
Suburbanization	61	65	48
Deconcentration	8	9	21
(N=293)	100%	100%	100%

Note:

Urbanization: Entire MSA grew in population during prior decade and the central city accounted for the majority of this net growth.

Suburbanization: Entire MSA grew in population during prior decade and the suburbs accounted for the majority of this net growth.

Deconcentration: Entire MSA declined in population during prior decade.

Table 3. Percentages of MSAs at each stage of development by census region (N=293)

Decade & Region[1]	Stage of Development				
	n	Urban.	Suburban.	Decon.	Total
1960-70					
North	(131)	25%	67	8	100%
South	(112)	33	59	8	100%
West	(50)	40	56	4	100%
1970-80					
North	(131)	18	63	19	100%
South	(112)	31	68	1	100%
West	(50)	32	66	2	100%
1980-90					
North	(131)	24	43	33	100%
South	(112)	31	56	13	100%
West	(50)	52	42	6	100%

Note:
1. North consists of both the Northeast and Midwest census-regions.

Table 4. Percentages of MSAs in each stage of development by metropolitan age (N=293)

Decade & Age[1]	n	Urban.	Suburban.	Decon.	Total
1960-70					
1790-1910	(87)	13%	80	7	100%
1920-1960	(120)	40	49	11	100%
1970-1990	(47)	55	43	3	100%
"Not Yet"	(39)	13	82	5	100%
1970-80					
1790-1910	(87)	16	63	20	100%
1920-1960	(120)	33	60	7	100%
1970-1990	(47)	36	62	2	100%
"Not Yet"	(39)	10	90	0	100%
1980-90					
1790-1910	(87)	23	52	25	100%
1920-1960	(120)	38	44	18	100%
1970-1990	(47)	47	34	18	100%
"Not Yet"	(39)	13	67	20	100%

Note:
1. Age is approximated by the census-year in which an MSA's central-city population reached 50,000. The "Not Yet" category refers to MSAs in which the central city had not reached a population of 50,000 by the 1990 census.

Table 5. Percentage of MSAs at each stage of development by type of progression during subsequent decade (N=293).

Decade & Stage	During Subsequent Decade, Percentage That:				
	(n)	Remained Stationary	Evolved[1]	Devolved[2]	Total
1960-70	1960-70 to 1970-80				
Urban.	(90)	44%	55	1	100%
Suburb.	(181)	72	16	12	100%
Decon.	(22)	18	27	55	100%
1970-80	1970-80 to 1980-90				
Urban.	(75)	57	31	12	100%
Suburb.	(191)	58	19	23	100%
Decon.	(27)	56	18	26	100%

Note:

1. "Evolved" refers to a one-stage forward-transition through the life-cycle and includes transitions from Deconcentration to Urbanization.
2. "Devolved" refers to a one-stage reverse-transition through the life-cycle and includes transitions from Urbanization to Deconcentration.

Table 6. Mean net flows between MSAs at different stages of development and select geographic sectors, 1965-90

	METROPOLITAN COUNTIES				NONMETROPOLITAN COUNTIES			
Year & Stage	Adj. In State	Non-Adj Region	Within Region	Outside	Adj. In State	Non-Adj. Region	Within Region	Outside
	(N=252)	(N=286)	(N=293)	(N=293)	(N=280)	(N=286)	(N=293)	(N=293)
1965-70:								
Urban.	612	1290	549	2185	668	1862	1649	2045
Suburb.	-1109	-1094	330	1281	228	1100	973	2656
Decon.	-774	-5051	-4999	-5680	278	321	-44	153
1975-80:								
Urban.	1118	919	1213	1411	-332	550	135	428
Suburb.	171	435	2023	6695	-225	-964	-528	-498
Decon.	-10299	-9992	-14556	-37143	-950	-4960	-6908	-7341
1985-90:								
Urban.	-5967	-1897	-1464	-1017	-13	647	570	194
Suburb.	1975	1818	2671	4083	-504	-168	408	358
Decon.	528	-3371	-3345	-6175	-92	-230	-620	-1111

Note: Underlined values have "Efficiency Measures" greater than .20, which means that the net flow reported constitutes at least 20 percent of the gross inter-area flow. This proportion suggests that the particular migration stream is "efficiently" redistributing population from one area to the other, rather than merely exchanging local residents.

$EM_{ij} = (m_{ij} - m_{ji})/(m_{ij} + m_{ji})$ Where, EM_{ij} = Migration Efficiency
m_{ij} = Migration from region i to region j
m_{ji} = Migration from region j to region i

Table 7. Regression coefficients for associations between MSAs at different stages of development and net migration values for select geographic sectors[1], 1965-80

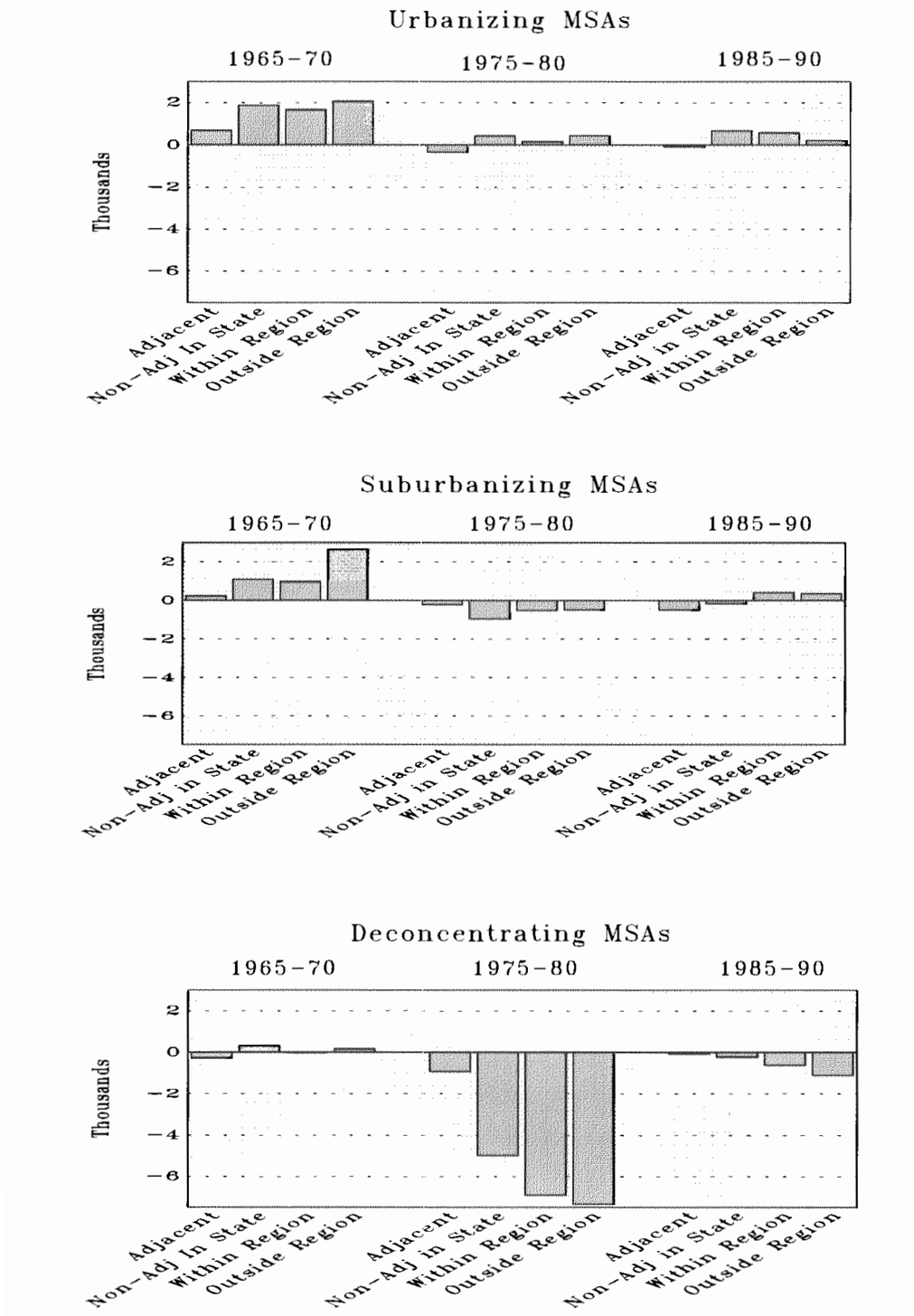
Year & Stage	METROPOLITAN COUNTIES				NONMETROPOLITAN COUNTIES			
	Adj. In State	Non-Adj. Region	Within Region	Outside	Adj. In State	Non-Adj. Region	Within Region	Outside
	(N=252)	(N=286)	(N=293)	(N=293)	(N=280)	(N=286)	(N=293)	(N=293)
1965-70:								
Urban.[2]	612	1290	550	2185	668**	1861**	1649**	2045**
Suburb.	-1721	-2384	-219	-904	-440**	-762	-676	611
Decon.	-1386	-6341*	-5549	-7865	-390*	-1541	-1692	-1892*
F=	0.2	2.8	1.1	1.6	8.5**	1.9	1.6	2.9*
1975-80:								
Urban.[2]	674	883	1213	1411	-355**	412	135	428
Suburb.	-503	-457	810	5284	129	-1376*	-663	-926
Decon.	-10825*	-10874**	-15769**	-38555**	-573*	-5406**	-7043*	-7769**
F=	2.3*	7.4**	18.4**	28.1**	3.8*	10.3**	18.7**	23.0**
1985-90:								
Urban.[2]	-5967	-1815	-1464	-1018	-13	647	570	194
Suburb.	7942	3607	4135	5100	-491*	-816	-161	165
Decon.	6496	-1501	-1881	-5157	-79	-878	-1190*	-1305*
F=	1.9	2.3	5.5**	3.3*	3.5*	0.9	2.3	3.3*

Notes:

1. Each subsequent sector is exclusive of preceding sectors (e.g., “Same Region” excludes counties located within “Same State”).
2. Urbanizing MSAs served as the omitted category for each OLS equation.

*: $p < .05$; **: $p < .01$

Fig 2. Estimated net migration values for select metro-based exchanges by stage of development, 1965-1990.



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