

Center for Demography and Ecology

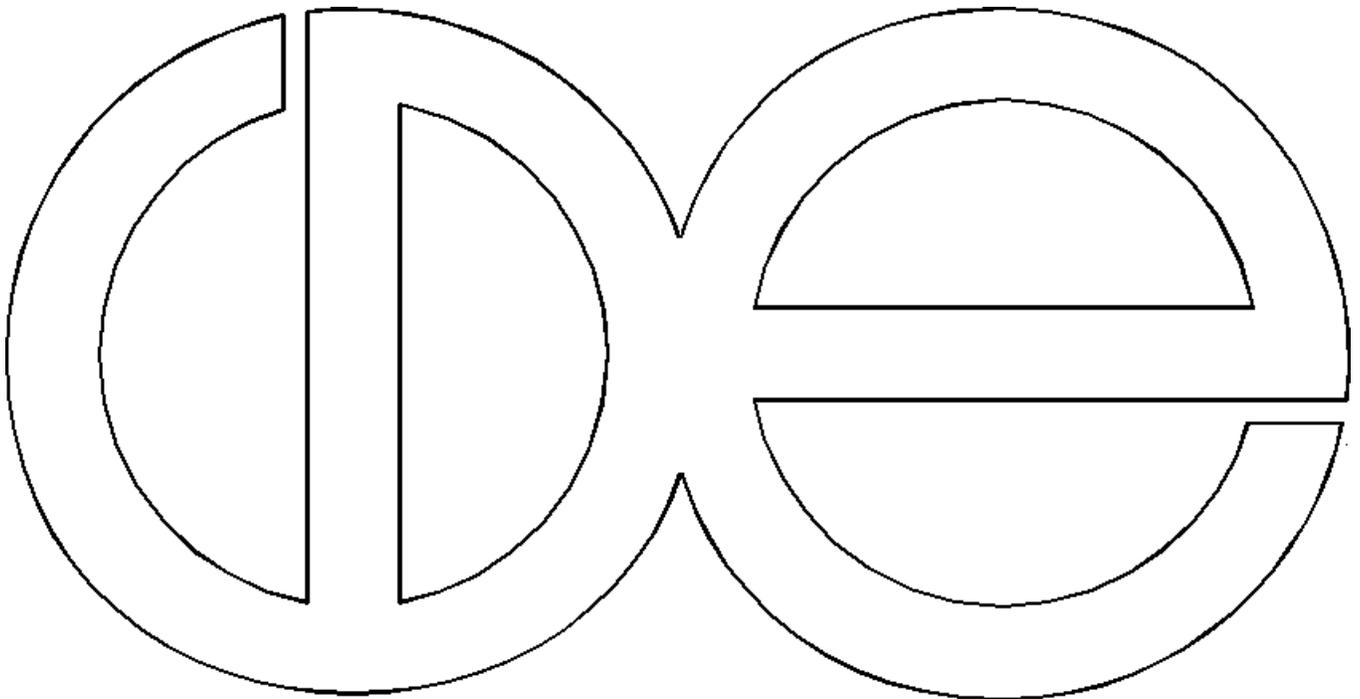
University of Wisconsin-Madison

**Metropolitanizing Nonmetro Space: Population
Redistribution And Emergent Metropolitan Areas, 1965-90.**

James R. Elliott

Marc J. Perry

CDE Working Paper No. 96-02



**METROPOLITANIZING NONMETRO SPACE: POPULATION
REDISTRIBUTION AND EMERGENT METROPOLITAN AREAS, 1965-90.**

*James R. Elliott
Department of Sociology
University of Wisconsin-Madison*

*Marc J. Perry
Department of Sociology
University of Wisconsin-Madison*

This research was supported by a pre-doctoral training grant from the National Institute on Child Health and Human Development (5T32HD07014-22). Research was carried out using facilities of the Center for Demography and Ecology at the University of Wisconsin-Madison, which receives core support from a center grant from the National Institute on Child Health and Human Development (P30-HD058760). Portions of this paper were presented at the 1996 annual meeting of the Population Association of America, New Orleans, LA. Correspondence should be directed to Marc Perry, Department of Sociology, University of Wisconsin-Madison, 1180 Observatory Drive, Madison, Wisconsin 53706 or to perry@ssc.wisc.edu.

**METROPOLITANIZING NONMETRO SPACE: POPULATION
REDISTRIBUTION AND EMERGENT METROPOLITAN AREAS, 1965-90.**

Abstract

The recent volatility of population redistribution trends in the U.S. continues to stimulate the demographic imagination. This research sheds new light on this subject through an examination of newly designated metro areas, which collectively constitute the largest source of national metropolitan growth in two of the past three decades. Results show that over this period new metro areas have consistently drawn the majority of migrants from inter-state exchanges with existing metro territory and that these exchanges are greatest from census divisions that achieved metropolitan dominance prior to 1920. Employment data also reveal a strong positive association between Finance, Insurance, and Real Estate (FIRE) activities and net in-migration. Together, these findings suggest that traditional processes of urban concentration, while present, now play a secondary role in the development of new metro centers, thus challenging conventional theories of metropolitanization where we might most expect them to apply.

Introduction

Despite the volatile nature of population redistribution trends over the past thirty years, metropolitan growth remains one of the few constants in U.S. demographic history. Data from the 1990 census reveals that roughly 78 percent of the U.S. population now resides within metro territory, up 5.3 percent from 1970. Behind this rising percentage lie three distinct subprocesses of metropolitan expansion: (1) demographic change within established metro boundaries; (2) territorial expansion of existing metro centers through the addition of peripheral counties; and (3) the emergence of new metro areas (see Fuguitt et al. 1988). While historical events have focused a great deal of attention on the first two subprocesses, relatively little is known about the conditions under which new Metropolitan Areas (MAs) emerge. We find this gap surprising, since emergent MAs account for the bulk of national metropolitan growth in two of the past three decades (see Table 1).

(Table 1 about here)

In this study, we begin to fill this gap by examining the demographic and economic processes that underlie the emergence of new MAs over the past three decades. For our purposes, an emergent MA is defined as a nonmetro county (or group of counties) that has been reclassified as a free-standing, officially recognized Metro Area. Our underlying argument is that these newest members of the U.S. metropolitan system can offer fresh insight into current and puzzling patterns of population redistribution by illuminating an often ignored subprocess of metropolitanization. Of particular interest is whether new MAs continue to emerge in a manner consistent with classical models of urban-industrialization, or whether they now emerge through processes of ongoing geographic dispersion of the existing metropolitan population.

In addressing these issues, the present study moves beyond prior research that has relied

on crude measures of population change to consider how migratory streams connect new MAs to the rest of the U.S. settlement system. In addition, we use local employment data to probe the extent to which recent patterns of metropolitan emergence coincide with the traditional growth of manufacturing activities versus the growth of producer services such as finance, insurance, and real estate.

Background

Traditionally, researchers have dismissed metropolitan emergence as inconsequential to our understanding of population redistribution trends. One reason for the dismissal is historical. Until recently, metropolitanization and the growth of large urban centers simply did not diverge, and so there was little interest in studying changes at the perceived margins of the redistribution process. Another reason likely rests with the ambiguity that surrounds conceptualization and measurement of metropolitan status. According to the U.S. Census Bureau, “The general concept of a metropolitan area is one of a large population nucleus, together with adjacent communities that have a high degree of economic and social integration with that nucleus [nuclei]” (U.S. Bureau of the Census 1994).

At present, official criteria require that this “large population nucleus” be either a legally incorporated place with a population of at least 50,000 or an Urbanized Area with a total metro population of at least 100,000. This definition, however, is not without controversy. Beale (1984) and others have challenged the conceptual validity of these criteria on the grounds that many new metro areas are not truly “metropolitan” in character: Some lack traditional central cities, and others can claim no television station, or even a Sunday newspaper. Counter-arguments contend that the current criteria are consistent with assumptions about the nation’s

ongoing transition to a more diffuse settlement system. For our purposes, whether a specific area fits some idealized notion of a “true” metropolis is less important than improving our knowledge of the demographic and economic processes that underlie its transition from nonmetro to metro status.

Metropolitanization and Internal Migration

When considering internal migration, it is helpful to recall that even as a society reaches advanced stages of metropolitanization, its settlement system can continue to evolve along one of two general paths: (1) the population can cluster in successively larger MAs in a manner consistent with traditional patterns of urban agglomeration; or (2) the metropolitan population can disperse to a larger number of small centers in a manner consistent with population dispersion (Korcelli 1983). With respect to metropolitan emergence, we will refer to the first trajectory as the “concentration hypothesis” and to the second as the “dispersion hypothesis.” Although the two are not mutually exclusive, they do suggest distinct processes of population redistribution, as we explain below.

The “Concentration Hypothesis.” Traditional urban theory dating to Christaller’s pioneering work on central places posits that local metropolitan development begins as a regional population concentrates in an urban core at the expense of surrounding hinterlands. This process of population concentration is presumed to provide businesses with advantages of economic agglomeration and residents with subsequent job opportunities and easier access to diverse goods and services. As a growing division of labor interacts with technological and organizational innovations, this concentration is presumed to foster conditions under which particular industries flourish, often with employment opportunities outpacing local population growth. If geographic and historical circumstances are conducive, it is generally believed that the local population will

continue to grow and, along with relative decreases in transportation costs, contribute to territorial expansion. This expansion, in turn, can lead to further social and economic integration of surrounding communities.

Because cities arise at different times and experience different rates of concentration and expansion, however, traditional urban theory also posits the development of an “urban hierarchy.” In short, the concept of an urban hierarchy invokes the idea that individual places are embedded within larger spatial systems which actively structure not only flows of goods and services but also flows of people across the national landscape. Historically, these flows have tended to carry migrants from smaller to larger places, that is, “up the urban hierarchy” (Frey and Speare 1988; Wilson 1984). According to central-place theory, this tendency stems from the fact that larger urban centers dominate more expansive regional markets and, as a consequence, tend to pull migrants from wider geographic fields. Thus, from this perspective we might hypothesize that emergent MAs will tend to gain migrants from nearby nonmetro territory and to send migrants to larger metro centers in a manner consistent with traditional processes of urban agglomeration. We might also hypothesize that new MAs are most likely to emerge in regions with high proportions of nonmetro residents, since this condition would mean that, *ceteris paribus*, more nonmetro residents are available to migrate up the urban hierarchy to the newly emergent metropolis.

If confirmed, this hypothesis would suggest that historic processes of population concentration still drive metropolitanization at lower tiers of the national urban system, even if they can no longer explain internal migration trends at the top of the urban hierarchy.

The “Dispersion Hypothesis.” In contrast to the concentration hypothesis, some researchers have recently argued that the U.S. population is now filtering *down* the urban hierarchy, away from larger, established MAs toward smaller urban centers. This perspective

gained particular favor during the early 1980s, after researchers revealed that for the first time in the industrialized history of the U.S., proportionately more Americans were moving from metro to nonmetro territory than vice versa. In a seminal work on this topic, Wardwell (1977; 1980) argues that this “migration turnaround” signaled a new era of social organization in advanced industrial societies, one characterized by a socio-economic “convergence” of metro and nonmetro space. According to Wardwell, recent technological developments and rising personal affluence are making space incidental to processes of social organization. Consequently, people and firms are now increasingly free to move down the urban hierarchy to less densely settled communities “without incurring increased production costs, reduced marketing gains, or fewer life-style options” (Wardwell 1980:89).

While events of the 1980s challenge the validity of this perspective, data from the early 1990s offer renewed support (Johnson and Beale 1994; Johnson 1993; Beale and Fugitt 1990). Upon examining population estimates for 1990 and 1992, for example, Johnson and Beale (1994:665) conclude that “diminished nonmetro gains for the 1980s were just a pause—due to period effects.” The latest trend, they argue, “is consistent with the argument that nonmetro and metro areas have entered a period of equilibrium.”

A complementary interpretation of these trends, known loosely as the “regional restructuring” perspective, agrees that movement down the urban hierarchy is now a dominant force underlying contemporary metropolitanization, but it disagrees about the causes and consequences of this movement. Frey (1987: 241) argues that “recent population shifts reflect a spatial representation of shifts in the organization of production and in the functions that the affected areas perform within the new organization.” In other words, regional restructurists argue that space is not becoming incidental to social organization so much as it is being reorganized by “post-industrial” production strategies. The implication is that migration down the urban

hierarchy is a selective process that involves movement out of older, industrial centers into new service-based economies located elsewhere.

Drawing from either the “convergence” or the “regional restructuring” perspective, we might hypothesize that new MAs are likely to emerge through processes of “concentrated dispersion” (Richardson 1980) from established metro areas, rather than through the concentration of nearby nonmetro populations. If confirmed, this hypothesis would imply that traditional patterns of urban agglomeration no longer play a key role in the emergence of new metro areas and that continued metropolitanization actually masks fundamental processes of metropolitan *dispersion*.

Metropolitanization and Economic Change

In recent decades, expanding markets, information technologies, and the emergence of a “new service economy” have raised new questions about the links between industrialization (as measured in manufacturing employment) and ongoing metropolitanization. In this subsection, we offer two perspectives on what these shifts mean for the emergence of new metro centers. We begin with traditional patterns of urban-industrialization.

In short, classical urban theory holds that metropolitanization and industrialization move in the same direction, which is to say that as local manufacturing employment expands so, too, does the local population (Gras 1922; McKenzie 1933). According to this perspective, new metro areas emerge and grow by encouraging further divisions of labor both within and among local *manufacturing* firms. While recent events at the top of the urban hierarchy challenge this wisdom, research comparing large and small MAs suggests that manufacturing activities still play a key role in the emergence of new MAs. Stanback and Noyelle (1982: 20-26), for example, find that manufacturing quotients for MAs with populations under a quarter million jumped from .92

in 1959 to 1.13 in 1976. In contrast, manufacturing quotients for the largest class of MAs (population over two million) dropped from .99 in 1959 to .90 in 1976. From this perspective, we might hypothesize that a positive relationship still exists between manufacturing employment and net migration to newly emergent MAs, even if this relationship no longer holds for larger metro areas.

In contrast, the aforementioned “regional restructuring” perspective posits a negative relationship between traditional patterns of industrialization and metropolitan emergence. According to this line of argument, economic restructuring over the past few decades has begun to push people and firms out of traditional industrial centers into service-oriented economies located elsewhere (Frey and Speare 1988). The implication is that the emergence of new MAs now depends upon the growth of service industries, particularly producer services like finance, insurance, and real estate (FIRE), rather than manufacturing activities. From this perspective, we might hypothesize that an *inverse* relationship exists between local manufacturing employment and internal migration.

Data and Methods

Any analysis of emergent MAs must first wrestle with problems of definition, since official metropolitan criteria have changed no less than three times since mid-century.¹ While prior research has shown that these changes have little effect on our understanding of national population redistribution trends—i.e., the use of metropolitan definitions current at each decennial census rather than a constant definition applied across time does not drastically alter established findings regarding recent “migration turnarounds” (Fuguitt et al. 1988)—the criteria used to identify emergent MAs are critical because they affect the date and thus the apparent conditions

under which new MAs are said to emerge.

To maximize comparability across all time periods, we apply the most current definition of metropolitan status to all areas. To retroject this definition to earlier periods, we draw from prior research conducted by Richard Forstall of the U.S. Census Bureau, which uses Urbanized Area delineations for smaller cities to identify MAs that would have been reclassified as new MAs in earlier censuses had the current (and more liberal) metropolitan criteria been in effect (see Fuguitt et al. 1988). Because our migration data are confined to five-year time intervals (1965-70, 1975-80, 1985-90), we examine only those MAs that emerged within the three-year window period following each decennial census. Based on this approach, we identify 13 MAs as having emerged in 1970, 22 in 1980, and 10 in 1990.²

Data for internal migration flows come from the 1970, 1980, and 1990 county-to-county migration files compiled by the U.S. Bureau of the Census. This information is based upon the Bureau's sample question concerning place of residence five years ago. To examine flows to and from individual MAs, we subdivide the inter-county migration streams according to adjacency status and whether migrants crossed state and regional boundaries. For cases where an adjacent county is located in a different state, adjacency overrides inter-state status.

Employment data for these areas come from the ES-202 Series in the Regional Economic Information System files, which are compiled and distributed by the U.S. Bureau of Economic Analysis.

Results

Table 2 reports mean net migration values and absolute efficiency scores for each cohort of new MAs. From this information we see that for 1965-70, net migration for emergent MAs

(n=13) averaged 2,807 from nonmetro territory and 5,064 from metro areas, which sum to approximately 7,872 in-migrants per MA. This picture contrasts with that for MAs designated prior to 1970 (n=262), which we call “established” MAs. On average, these areas show net in-migration from nonmetro territory (an average of 5,293 persons) but mean *out*-migration to other metro areas. Total net migration for established MAs averaged 5,049 in 1965-70—about two-thirds that of emergent MAs.

(Table 2 about here)

To assess whether observed differences between emergent and established MAs confound smallness of population with newness of designation, we also report migration statistics for a subset of “small established” MAs (populations under 100,000). On average, we find that net migration patterns for these smaller MAs (n=53) were similar to those for (all) established MAs; that is, they tended to gain migrants from nonmetro areas yet lose migrants to other metro areas during the 1965-70 period. These and subsequent findings suggest that the migratory experiences of newly emergent MAs are distinct from those of established MAs, regardless of size.

For the 1975-80 period, net migration to emergent MAs (n=22) increased to 11,191 as a result of significantly higher net in-migration from existing metro areas, which more than offset declines in net migration from nonmetro areas. By contrast, established MAs *lost* an average of 5,335 persons due largely to out-migration to nonmetro counties. This reversal contributed to what we now call the migration, or nonmetropolitan, “turnaround.” Small established MAs, by contrast, continued to experience net in-migration from nonmetro areas but also began to gain significant numbers of in-migrants from other metro areas, 4,258 on average.

Finally, in 1985-90, average net migration for newly emergent MAs (n=10) registered at 8,861, and again most of this gain came from exchanges with existing metro territory. In contrast, established MAs experienced, on average, continuing *out*-migration—albeit at a much

reduced rate from that of the late 1970s. Small established MAs gained migrants from nonmetro areas (1,737 on average), yet in a significant reversal of the situation in 1975-80, they also recorded net out-migration to other metro areas. Clearly, the turnaround was over.

Comparing the three time periods, we see at least three distinct migration processes at work. First, emergent MAs experienced net *in*-migration from both metro and nonmetro sectors in all three decades, with metro flows predominating. Second, established MAs, on average, regularly *lost* migrants to other metro areas and only experienced net *in*-migration from nonmetro territory in 1965-1970. Third, small established MAs exhibit some of the migratory behavior of both emergent and established MAs. Like emergent MAs, they consistently experienced net in-migration from nonmetro areas; however, in interactions with metro areas, small established MAs closely resembled established MAs in both the 1965-70 and 1985-90 periods.

In addition to net migration values, it is instructive to consider the “efficiency” of particular migration streams. An efficiency measure, which ranges between -1.00 and +1.00, is the ratio of net migration to gross migration between any two areas. As values approach zero, the migration process is considered to be increasingly inefficient, or random, since the same amount of gross migration results in less net migration. Thus in this context, “efficiency” refers to the extent to which migration between any two areas is unidirectional, and the sign indicates the direction of net population redistribution.

Results in Table 2 show that migration efficiency has typically been greater, on average, for emergent MAs than established MAs, regardless of size, time period, or metro-nonmetro character of the migration stream. Indeed, for established MAs, most efficiency measures are close to zero, which indicates essentially random migration exchanges with other areas. Migration efficiency is also greater, on average, for nonmetro exchanges, although for 1975-80 the most efficient migration stream was that between emergent MAs and established metro areas.

Adjacency and Core-Periphery Differences

Thus far we have found that over the past three decades emergent MAs have consistently attracted more net migrants from metro than nonmetro territory; whereas, established MAs have tended, on average, to lose migrants to other metro areas. Next, we consider where these new MAs are located relative to established metro territory. Are they located nearby, so that migration to emergent MAs could be considered “spillover”? Or, are they located in other states, suggesting a more complex migratory phenomenon?

To explore these aspects of population concentration and dispersion, we now broaden our analysis to consider adjacency and core/periphery status. Adjacency status informs us whether the migration exchanges to and from a particular MA are localized in nature, while core-periphery status provides insight into the regional context in which these flows are embedded.³

Beginning with the 1965-70 period, Table 3 indicates that, on average, emergent MAs experienced little net in-migration from other counties within their respective states (“Adj.” and “In-state” categories). Instead, most net migration gains came via inter-state exchanges from both metro and nonmetro exchanges, regardless of core/periphery status. As for established MAs, the *only* significant in-flow from metro territory came via inter-state exchanges with core regions of the country (“Diff. State in Core”). In contrast, all four nonmetro sectors contributed to net migration gains.

In addition, we find that migration flows during this period were modestly efficient, with measures tending to be highest for inter-state exchanges. This pattern is relatively unsurprising, however, since nearly a century ago, Ravenstein (1889) theorized that migration efficiency between two places tends to increase as the distance between them grows.

(Table 3 about here)

For the 1975-80 time period, emergent MAs experienced positive net migration from all sectors, but especially from the “Non-Adjacent In State” and “Different State in Core” sectors. In contrast, established MAs experienced net out-migration to all sectors except metro territory within the Core, from which they gained an average of 2,959 persons. Small established MAs, which had resembled established MAs in the earlier time period, exhibited migration patterns more akin to emergent MAs during the period 1975-1980, also gaining migrants from all sectors.

In 1985-90, emergent MAs continued to gain migrants from all sectors, with particularly large flows originating from inter-state exchanges with “core” metro territory. Moreover, migration streams for both metro and nonmetro territory located within the Core were quite unidirectional, with absolute efficiency measures of .28 and .37 respectively. (A value of .37 indicates that the in- migration stream is more than twice as large as the out-migration flow.) By contrast, established MAs again experienced net out-migration to all sectors except metro counties located in (different) states within the Core. So, while results reported in Table 2 indicated that established MAs, on average, experience net out-migration to other metro areas, Table 3 shows that this initial finding tends to mask net in-migration from other metro areas located (in other states) within the Core.

To refine this initial picture of metropolitan dispersion, we subdivided metro flows into their central and suburban components (not shown). Across the three cohorts of newly emergent MAs, we found that over 85 percent of net gains from established metro territory derived from exchanges with central counties, regardless of geographic subsector. This finding suggests that recent patterns of metropolitan dispersion may, in fact, reflect an alternative form of suburbanization rather than extended deconcentration from existing suburban areas.

Manufacturing-Service Sector Differences

To determine whether metropolitan emergence continues to coincide with traditional patterns of manufacturing development, we examine employment data for emergent MAs. Percentages reported in Table 4 provide an idea of the relative dominance of each sector within the local economy, while location quotients—the ratio of a sub-national statistic to its national level—offer an account of local levels relative to the national average. A location quotient over 1.00 suggests over-representation, or specialization, in a particular industrial sector, while a value under 1.00 suggests under-representation.

(Table 4 about here)

Overall, these results paint a rather blurry picture of economic change within newly emergent MAs. Over the past three decades, average shares of manufacturing employment have fallen consistently for each cohort, yet because these decreases have occurred at a slower rate than for the nation as a whole, location quotients have risen, suggesting industrial specialization. Service employment, in contrast, has shown steady increases over the past twenty years, yet these increases have failed to push local employment shares above the national average, suggesting under-representation in this sector. Finally, FIRE—a sector often credited with the revitalization of central business districts during the 1980s—shows little evidence of significant employment growth within emergent MAs. (The largest average inter-decade shift in local employment shares for this sector was 1.2 percent.)

To explore the interaction of employment trends and net migration, we first examined correlation coefficients for each cohort of emergent MAs (not shown). For manufacturing, we found that the percentage of local workers employed in this sector tended to be negatively correlated with net migration, suggesting a reversal of longstanding connections between industrialization and metropolitanization. In contrast, service employment appeared to be

positively associated with net migration from both metro and nonmetro sectors, with this relationship appearing to strengthen over time.

As a final analytical step, we conducted pooled Ordinary Least Squares (OLS) regressions to “predict” net migration values from industrial employment statistics and dummy variables that “control” for regional location and respective time period. Results reported in Table 5 yield an R-square of .38 for net migration to/from metro territory and an R-square of .15 for net migration to/from nonmetro territory. For shares of the local workforce employed in manufacturing we find virtually no effect on net migration to/from newly emergent MAs over the past thirty years. For local employment in FIRE, on the other hand, we see a strong and positive association with net migration from established metro territory. Specifically, results here indicate that for every one-percent increase in local FIRE employment, there is a corresponding increase of roughly 1,690 net migrants to the newly emergent MA, controlling for respective time periods. For net migration involving nonmetro territory, however, local FIRE employment appears to have little or no effect. With respect to regional location, regression coefficients show that, after controlling for other factors, presence in core regions of the country tends to result in greater in-migration from established metro territory and less in-migration from nonmetro territory.

Without overemphasizing the statistical power of these results, it appears that internal migration to newly emergent MAs is now more tightly linked to local differences in FIRE employment than to traditional manufacturing activities. With the available data, however, it is difficult to determine whether local FIRE employment acts as cause or consequence of net in-migration, since finance and real estate sectors often both create and benefit from conditions of local demographic growth.

Summary and Conclusion

This study sought to improve our understanding of contemporary population redistribution trends by examining internal migration and industrial employment trends for newly emergent MAs over the past three decades. Results from our empirical analysis can be summarized as follows. First, during this period, results show internal migration has been considerably more stable for new MAs than for older, established metro centers, regardless of size. For exchanges with existing metro territory, evidence indicates that inter-state moves from the “core” regions of the country consistently comprised the largest source of net migration to new MAs. Similarly, and in contrast to established MAs, each successive “cohort” of emergent MAs experienced net in-migration from nonmetro areas, though at much lower levels than from metro territory. Again, this tendency is strongest for inter-state flows. Together, these findings point to two basic conclusions. First, the emergence of new MAs now relies largely upon long-distance migration streams; and second, these streams primarily reflect processes of metropolitan dispersion rather than traditional patterns of urban concentration from nearby nonmetro counties.

Analyses of employment data, on the other hand, reveal an ambiguous relationship between metropolitan emergence and recent economic change. With regard to manufacturing, for example, results show that while local employment percentages have fallen consistently over the past three decades, location quotients have risen. Thus, any conclusion one draws from these findings depends, in part, upon which measures one emphasizes. Bivariate correlations and OLS regressions, however, suggest that local levels of manufacturing employment are now minimally associated with net in-migration to new MAs. In contrast, local employment in FIRE, while modest in absolute terms, appears to play a significant role in explaining net in-migration to emergent MAs, particularly from established metro territory. Together, these findings suggest

that the “regional restructuring” perspective may be correct in emphasizing the importance of these activities for ongoing metropolitanization, although it is difficult to determine whether this sector acts as a cause or consequence of local growth.

From these findings, we venture two conclusions. First, traditional processes of urban concentration from nonmetro territory, while present, play a secondary role in the ongoing metropolitanization of U.S. society. This point is important because it challenges traditional theories of urbanization where we might most expect them to apply—newly emergent MAs. Second, these findings raise important questions about the nature of scholarly inquiry into recent national population redistribution trends. How, for example, are we to view evidence of the latest “rural rebound”? Is it a prelude to the formation of new MAs, or part of a prolonged process of metropolitan dispersion? Evidence from this study suggests that both visions are correct. More importantly, however, it suggests that if we fail to conceptualize contemporary population redistribution trends in terms of broader and more historical processes of metropolitanization, then we are likely to discover and rediscover nonmetropolitan “turnarounds”, rural “rebounds”, and the like, for years to come. It is our belief, then, that undue attention to such period effects only hampers ongoing attempts to theorize population redistribution and thus potentially impedes our ability to understand the demographic links that bind metro and nonmetro space.

References

- Beale, C. 1984. "Poughkeepsie's Complaint: or Defining Metropolitan Areas." *American Demographics* 6 (January): 29-31, 46-48.
- Beale, C. and G. Fuguitt 1990. "Decade of Pessimistic Nonmetro Population Trends Ends on Optimistic Note." *Rural Development Perspectives* 6(3): 14-18.
- Frey, W. 1987. "Migration and Depopulation of the Metropolis: Regional Restructuring or Rural Renaissance?" *American Sociological Review* 52: 240-257.
- Frey, W. and A. Speare. 1988. *Regional and Metropolitan Growth and Decline in the United States*. New York: Russell Sage Foundation.
- Fuguitt, G., T. Heaton, and D. Lichter 1988. "Monitoring the Metropolitanization Process." *Demography* 23 (1): 115-128.
- Gras, N. 1922. *An Introduction to Economic History*. New York: Harper and Brothers.
- Johnson, K. 1993. "Demographic Change in Nonmetropolitan America, 1980 to 1990." *Rural Sociology* 58: 347-365.
- Johnson, K. and C. Beale 1994. "The Recent Revival of Widespread Population Growth in Nonmetropolitan Areas of the United States." *Rural Sociology*, 59(4): 655-667.
- Korcelli, P. 1983. *The Turnaround of Urbanization in Developed Countries*. Laxenburg, Austria: International Institute for Applied Systems Analysis.
- McKenzie, R. 1933. *The Metropolitan Community*. New York: McGraw-Hill.
- Ravenstein, E. 1889. "The Laws of Migration." *Journal of the Royal Statistical Society*, 52: 241-301.
- Richardson, H. W. 1980. "Polarization Reversal in Developing Countries." *Papers of the Regional Science Association*, 45, 67-85.

- Stanback, T. and T. Noyelle. 1982. *Cities in Transition: Changing Job Structures in Atlanta, Denver, Buffalo, Phoenix, Columbus (Ohio), Nashville, Charlotte*. Totowa, NJ: Allenheld, Osmun.
- United States Bureau of the Census. 1994. *Geographic Areas Reference Manual*.
- _____. 1993. 1990 Census of Population & Housing, *Supplementary Reports, Metropolitan Areas as Defined by the Office of Management and Budget*, June 30,1993 (1990 CPH-S-1-1).
- United States Bureau of Economic Analysis. 1992. *ES-202 Series*.
- Wardwell, J. 1977. "Equilibrium and Change in Nonmetropolitan Growth." *Rural Sociology*, 42, 156-179.
- _____. 1980. "Toward a Theory of Urban-Rural Migration in the Developed World." In *New Directions in Urban-Rural Migration*, ed. David Brown and John Wardwell. New York: Academic Press.
- Wilson, F.D. 1984. "Urban Ecology: Urbanization and Systems of Cities," *Annual Review of Sociology*, 10: 283-307.
- _____. 1988. "Aspects of Migration in an Advanced Industrial Society." *American Sociological Review*, 53(Feb.): 113-126.

Table 1. Components of change in the percentage of U.S. population classified as metropolitan

Additive Components	1950-1960	1960-1970	1970-1980	1980-1990
Total Change	8.6	8.2	2.7	2.6
Internal Growth	3.2	1.7	-1.0	0.6
Expansion	2.6	2.5	0.7	1.4
Emergence	2.8	4.0	3.0	0.6
Pct. Metro at End of Decade	64.5	72.7	75.4	78.0

Source: 1950-1980, Fuguitt et al. (1988); 1980-1990, U.S. Bureau of the Census (1993).

Table 2. Mean net migration values and efficiency measures for emergent-MA cohorts compared to established MAs, 1965-90

Time Period and Type of MA ¹	Number of MAs	Net Migration to/from Particular Sectors ⁵			M/N ⁶
		Total	Metro	Nonmetro	
<u>1965-70</u>					
Emergent ²	13	7872 (.09)	5064 (.07)	2807 (.13)	1.80
Established ³	262	5049 (.03)	-244 (-.02)	5293 (.11)	-0.05
Small Established ⁴	53	2406 (.04)	-779 (-.05)	3185 (.17)	-0.25
<u>1975-80</u>					
Emergent	22	11191 (.14)	9281 (.16)	1910 (.10)	4.86
Established	262	-5335 (.01)	-1266 (.02)	-4069 (-.05)	0.31*
Small Established	53	6565 (.08)	4258 (.06)	2307 (.10)	1.84
<u>1985-90</u>					
Emergent	10	8861 (.15)	6049 (.14)	2448 (.17)	2.47
Established	262	-1070 (.00)	-612 (-.02)	-458 (.00)	1.34*
Small Established	53	1718 (.00)	-19 (-.06)	1737 (.09)	-0.01

Notes:

1. The five-year intervals refer to periods of migration preceding the emergence of respective MAs.
2. Emergent MAs refer to areas that gained metro status for that time period according to constant 1983 criteria .
3. Established MAs are all areas designated as metropolitan prior to 1970. (Includes small-established MAs.)
4. Small-established MAs are areas established prior 1970 and which had populations of less than 100,000 in 1970.
5. Mean Efficiency Measures are reported in parentheses.
Efficiency Measure = Net Migration_{ij} / (In-migration_{ij} + Out-migration_{j-i}).
6. Ratio of metro to nonmetro net migration. Asterisk (*) refers to ratios where both flows are negative.

Table 3. Mean net migration values and absolute efficiency measures for flows between emergent MAs and select geographic sectors by cohort, 1965-90.

	METROPOLITAN COUNTIES				NONMETROPOLITAN COUNTIES			
	Adj.	Non-Adj. In State	Diff. State in Core ¹	Diff State in Periphery ²	Adj.	Non-Adj. In State	Diff. State in Core	Diff. State in Periphery
<u>1965-70</u>								
Emergent ³ (n=13)	414 (.11)	-76 (.12)	2355 (.18)	2445 (.20)	152 (.11)	376 (.23)	835 (.23)	1445 (.23)
Established ⁵ (n=262)	-23 (.07)	-42 (.16)	1970 (.14)	-401 (.15)	344 (.13)	1316 (.17)	1761 (.17)	1871 (.16)
Small Established ⁴ (n=53)	83 (.08)	-275 (.18)	-297 (.18)	-290 (.14)	416 (.18)	1047 (.23)	1250 (.22)	472 (.19)
<u>1975-80</u>								
Emergent (n=22)	711 (.10)	2736 (.19)	4508 (.18)	482 (.19)	283 (.14)	575 (.16)	911 (.16)	142 (.18)
Established (n=262)	-103 (.09)	-310 (.16)	2959 (.14)	-1994 (.19)	-364 (.13)	-1188 (.17)	-1586 (.16)	-931 (.18)
Small Established (n=53)	270 (.11)	1304 (.19)	2057 (.16)	627 (.17)	179 (.15)	789 (.17)	963 (.17)	375 (.17)
<u>1985-90</u>								
Emergent (n=10)	1120 (.12)	870 (.18)	3698 (.28)	362 (.10)	421 (.14)	618 (.15)	1003 (.37)	406 (.15)
Established (n=262)	-77 (.08)	-227 (.18)	3068 (.18)	-4006 (.19)	-312 (.14)	-59 (.19)	-62 (.17)	-25 (.17)
Small Established (n=53)	239 (.10)	155 (.21)	622 (.21)	-1036 (.20)	320 (.14)	1027 (.21)	148 (.22)	242 (.15)

Notes:

1. Core refers to census divisions that reached a metropolitan majority by 1920; these include New England, Middle Atlantic, East North Central, and Pacific division.
2. Periphery refers to census divisions that did not reach metropolitan majority by 1920; these include West North Central, South Atlantic, East South Central, West South Central, and Mountain Divisions .
3. Emergent MAs refer to areas that gained metro status for that time period according to constant 1983 criteria .
4. Small-established MAs are areas designated as metropolitan prior to 1970 and which had populations of less than 100,000 in 1970.
5. Established MAs are all areas designated as metropolitan prior to 1970. (Includes small-established MAs.)

Table 4: Mean percentages and location quotients for employment in manufacturing, services, and F.I.R.E. for emergent MAs by cohort, 1970-90.

	<u>1970</u>		<u>1980</u>		<u>1990</u>	
	Pct.	LQ	Pct.	LQ	Pct.	LQ
<u>1965-70</u>						
Emergent MAs (n=13)						
Manufacturing	16.9	.78	14.6	.80	12.9	.91
Services	19.7	1.07	21.1	.98	26.2	.95
FIRE ¹	6.0	.89	6.9	.90	6.3	.81
<u>1975-80</u>						
Emergent MAs (n=22)						
Manufacturing	23.1	1.07	20.5	1.12	16.5	1.16
Services	14.4	.81	17.0	.82	22.4	.88
FIRE	5.2	.77	6.4	.83	6.3	.81
<u>1985-90</u>						
Emergent MAs (n=10)						
Manufacturing	14.7	.68	15.3	.84	13.4	.94
Services	17.2	.94	18.1	.84	22.1	.81
FIRE	6.6	.99	7.73	1.01	7.2	.92

Source: U.S. Bureau of Economic Analysis, ES-202 Series, (1992).

Notes:

1. FIRE refers to Finance, Insurance, and Real Estate employment.

Table 5. Pooled regression coefficients for migration flows to/from emergent MAs, 1965-90. ¹

Independent Variables	Net Migration to/from Metro	Net Migration to/from Nonmetro
Intercept ²	3736	4529
Core	1976	-1392
Emergent-1980	3189	-574
Emergent-1990	-983	-910
Pct. FIRE	1691**	-21
Pct. Manufacturing	-104	-53
	R-Sq: .378	R-Sq: .146

Notes:

1. Each emergent MA is observed only once for the period immediately preceding metropolitan designation. For example, for an MA that emerged in 1970, we observe the migration and employment data for this MA only for 1965-70.

2. The intercept term includes the following omitted categories: Periphery; Emergent-1970.

** : Significant at .01 level.

End Notes

1. The following is a brief summary of changes in the metropolitan definition since 1950:
 - a. *1949 Criteria* (1950 Census): Should include a city of at least 50,000.
 - b. *1958 Criteria* (1960 and 1970 Censuses): A pair of contiguous cities is permitted if together they have at least 50,000 population, with the smallest at least 15,000 in size.
 - c. *1971 Criteria*: The 50,000 qualification may be met by a city of at least 25,000 plus adjacent incorporated and Census-defined unincorporated places, each with a density of at least 1,000 per square mile.
 - d. *1980 Criteria* (1980 and 1990 Censuses): The 50,000 qualification may be met by a Census-defined Urbanized Area. The MA may contain within its boundaries a city of less than 25,000; but if the city is less than 50,000, then the total MA population must be at least 100,000.

2. Emergent MAs (constant criteria):
 - 1970**: Burlington, VT; Cumberland, MD-WV; Elmira, NY; Fort Myers, FL; Glen Falls, NY; Hagerstown, MD; Hickory, NC; Jacksonville, NC; Killeen, TX; Melbourne, FL; Richland, WA; Santa Cruz, CA; Sarasota, FL.
 - 1980**: Anderson, SC; Athens, GA; Bangor, ME; Bellingham, WA; Bloomington, IN; Bremerton, WA; Casper, WY; Charlottesville, VA; Florence, SC; Ft Walton Beach, FL; Joplin, MO; Medford, OR; Ocala, FL; Olympia, WA; Portsmouth, NH-ME; Redding, CA; Sheboygan, WI; State College, PA; Victoria, TX; Visalia, CA; Wausau, WI; Yuba City, CA.
 - 1990**: Barnstable, MA; Dover, DE; Goldsboro, NC; Greenville, NC, Myrtle Beach, SC, Punta Gorda, FL, Rocky Mount, NC; San Luis Obispo, CA; Sumter, SC; Hattiesburg, MS.

3. Core refers to census divisions that reached metropolitan dominance prior to 1920; periphery refers to census divisions that did not (see Wilson 1988).

Center for Demography and Ecology
University of Wisconsin
1180 Observatory Drive Rm. 4412
Madison, WI 53706-1393
U.S.A.
608/262-2182
FAX 608/262-8400
email: perry@ssc.wisc.edu