

**Leaving Los Angeles:
Migration, Economic Opportunity, and the Quality-of-Life**

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I. Introduction

California lost about 1-1/2 million residents to other U.S. states during the first half of the 1990s. The largest outflows of people were from Los Angeles County, where migration to out-of-state destinations was augmented by the movement of many Los Angeles County residents to surrounding counties. Some cite a decline in economic opportunities in Los Angeles as the primary source of the net out-migration from L.A. County, whereas other commentators have emphasized changes in the attractiveness of Los Angeles County as a place to live, which could have boosted the flow toward the periphery and out-of-state. This paper reviews migration, economic opportunity, and quality-of-life developments in California, with a particular emphasis on what has happened in the Los Angeles area.

In addition to reviewing recently available statistics, we draw on our previous efforts to model California migration (Gabriel, Matthey, and Wascher (1995)) and the evolution of quality-of-life (Gabriel, Matthey, and Wascher (1996)). We have found that most of the cyclical variation in state-to-state migration flows reflects relative economic opportunities. Consistent with this finding, net domestic migration from California appears to have slowed substantially in the last year or so as job opportunities in the state have improved quite a bit. Moreover, within the Los Angeles area, a slowdown in the exodus to out-of-state destinations also appears to be underway.

Relative changes in California quality-of-life appear to have had only a limited effect on state-to-state migration patterns. Our research suggests that many of the most important contributors to quality-of-life differentials are relatively static conditions, such as an area's climate and the degree of access to public recreation facilities such as national parks. Among those locational characteristics which do tend to vary more noticeably over time, changes in the ease of commuting and air quality appear to be particularly important determinants of changes in quality-of-life. In California as a whole, commuting difficulties have worsened over the last decade and a half, but air quality has improved quite a bit. Upon accounting as well for changes in other quality-of-life determinants, there is no evidence of a substantial change in overall California quality-of-life.

That said, quality-of-life issues likely have played a significant role in the long-standing flow toward the periphery in the Los Angeles area. The relocation of people from Los Angeles to outlying counties of Southern California appears to have peaked around 1990, and subsequently the net outflow slowed a bit but continued at relatively high levels. Throughout the last decade and a half, Los Angeles County has differed from the surrounding counties in terms of a number of amenities, including relatively higher levels of air pollution, traffic congestion, and crime. The more desirable levels of those locational amenities available in surrounding counties, coupled with rising housing costs and land rents in Los Angeles contributed to the net outflow. However, the relatively more rapid population growth in the surrounding counties and patterns of highway infrastructure development led to some equalization of the traffic congestion problems, likely ameliorating some of the incentives to live and work in surrounding counties.

II. California Net Domestic Migration

Prior to the 1990s, more people migrated to California from abroad and from other U.S. states than departed the state for other destinations. However, estimates from the U.S. Bureau of the Census suggest that during the first half of the 1990s, a large exodus from California to other U.S. states began and was only partly offset by a continued large number of arrivals from abroad (chart 1). The Census Bureau estimates extend through fiscal year 1994-95, the twelve month period ending July 1, 1995. Based on other data, we estimate that a substantial slowdown in net domestic out-migration in fiscal year 1995-96 returned the overall domestic and international migration count to near zero, assuming continued large immigration flows.

The outflow of people from California to other U.S. states in the early 1990s was substantial and quite different from the earlier experience (chart 2). Statistics from the U.S. Internal Revenue Service (IRS) on the number of taxpayers (and their dependents listed as personal exemptions) who changed residence between tax filing years are used as the primary indicator of domestic migration patterns by the Census Bureau. These data

suggest that the net outflow from California peaked at about 425,000 persons in 1993-94.¹ The Census Bureau estimates that net outmigration slowed a bit to about 380,000 persons in 1994-95, but this continued outflow brought the cumulative loss to about 1-1/2 million people since mid-1990. Estimates of domestic migration since 1994-95 can be derived from California Department of Motor Vehicles (DMV) data on drivers license address changes; the DMV report for the twelve months ending July 1, 1996 suggests that the net outflow slowed further last fiscal year, to about 280,000 persons.²

Employment opportunity and California net migration

As is evident from Chart 3, California domestic migration appears to move in tandem with differences in employment opportunity between California and other states. For example, the sharp increase in net domestic out-migration from California during the early 1990s was coincident with a significant fall-off in employment opportunity in California relative to that of other states, as measured by the US-California unemployment rate differential. The unemployment rate gap peaked at about 2-1/2 percentage points in 1993 and 1994, narrowed a bit in 1995, and dropped further to about 1-3/4 percentage points by mid-1996.

In our statistical model of interstate migration (Gabriel, Matthey, and Wascher (1995)), we estimated the extent to which migration between two states depends on such a measure of relative job opportunities, along with measures of wage and housing expense differentials. The model also allowed differences in locational amenities to affect migration. Furthermore, regardless of locational amenities, people in the various states of origin were assumed to have different propensities to migrate, depending on, for example, the age structure of the state population, which is important to life-cycle effects on migration.

¹ The estimates of net domestic migration implied by the IRS data incorporate an adjustment that converts the IRS statistics on number of exemptions on matched returns to the number of people moving, following the adjustment suggested by Johnson and Lovelady (1995), Table A-3.

² The estimates of net domestic migration implied by the DMV data incorporate adjustments which convert the DMV statistics on the number of licensed drivers with changed addresses to the number of people moving, following the separate adjustments for the undercounts of inflows and outflows suggested by Johnson (1996), figure 5.8.

For instance, research shows that moves are more common for individuals in their 20s and at times of change in employment or marital status. Mobility declines as individuals mature, have families of their own, and develop job, community, and social ties. Further, migration between any particular pair of states should vary inversely with the distance between those areas, as do the transactions costs, informational costs, and psychic costs of moving. Our statistical estimates confirmed the strong role of higher expected economic returns in inducing net in-migration to an area. More specifically, we found that low unemployment rates in the destination state relative to the origin state tended to prompt strong migration between those areas, particularly if the states were near each other. Accordingly, given the widespread fall-off in labor demand in California during the early 1990s and booming economies in other western states, the model explains the rapid out-migration from California relatively well. In terms of the relative importance of migration determinants, changes over time in unemployment differentials dominated the fit of the model for California net migration over the sample period. In contrast, movements in relative state wage or house price differentials had less of an estimated effect on California migration flows.

Model Simulations and Effects of a California Recovery

Chart 4 plots actual California net migration flows over the 1981-1993 period, together with fitted values for California net migration over the same period as derived from our estimated state-to-state migration model. As is evident from the chart, the estimated population flows fit the actual pattern of net domestic migration relatively well, particularly in the years since 1988. The model well-predicted the acceleration in net out-migration from California during the 1989-1993 period. During those years, the unemployment rate differential between California and other western states widened substantially. Also, wage growth in California was relatively weak, whereas other western states were bidding more aggressively for the labor force. Out-of-sample simulation of the migration model for the subsequent three years suggests a moderate easing in net out-migration from the state. The implied reduction in the net out-flow of people from California is largely driven by the observed narrowing in unemployment rate differentials between

California and other states. Given recent historical values of the economic variables, the fit of the model implies that net out-migration from California decelerated to about 250,000 persons in 1996 (chart 3).³

Chart 4 also presents a simulation of California net migration flows under the assumption of a reversion of unemployment rate, wage, and house price differentials between California and other states to average levels observed during the 1981-1992 period. During those years, the average California unemployment rate was about 1/4 percentage point above the national average, whereas in mid-1996 the California unemployment rate still was about 1-3/4 percentage points above the national average. The model suggests that a relative strengthening in the California economy--on the order of a 1-1/2 percentage point narrowing of the unemployment rate differential--would imply a further substantial slowing in net out-migration from California to less than one-half of the simulated 1996 pace. In other words, the model suggests that most of the 1996 net outflow of people is attributable to continued relatively high unemployment rates in some areas of California.

III. Lessons from “Quality-of-Life Among U.S. States”

Our conclusion that one need not appeal to a change in California quality-of-life for an explanation of the recent large out-migration from the state is robust in the sense that a separate statistical analysis shows little change in California’s quality-of-life ranking relative to other states in the years leading up to the exodus. More specifically, in Gabriel, Matthey, and Wascher (1996), we have used data on amenities, housing costs, and wages to describe how the relative quality of life has changed among states in the U.S. and to identify which amenities appear to have contributed the most to the changes in the quality of life; see Matthey (1996) for a detailed summary. We found that in adapting to the stresses of rapid population growth, some states did better than others in maintaining their quality of life. In the states where the quality of life has remained relatively favorable, some of the most important contributing factors were reduced state and local government income tax burdens, improved air quality, increased highway spending, and reduced

³ Again, the chart 3 figures are adjusted from an IRS exemption basis to a population count basis, as explained in footnote 1 above.

commute times. In states where the quality of life deteriorated, some of the most important contributing factors were reduced spending on highways (relative to other government budget items) and increased traffic congestion and air pollution.

The point of departure for our and other quality-of-life studies by economists is the observation that, other things equal, people are willing to pay a premium to live in places with amenities, such as beautiful weather, that are otherwise provided free of charge. The amenity values tend to be capitalized in the cost of land and housing, which cannot be moved from place to place. Similarly, disamenities--such as pollution, traffic congestion, and crime--undermine housing values. Economic theory suggests that wages also reflect local amenities and disamenities. People are willing to take less pay when such discounts are compensated by amenities. Using a simple empirical model that embodies this intuition, we studied regional patterns in housing costs and wages, quantified how much households value particular amenities, and accumulated the results in indices of the quality of life.

We found that there is substantial capitalization in housing costs and wages of climactic and recreational attributes of locations. For example, households generally prefer to avoid temperature extremes, which were measured by the amounts of heating and cooling effort required (in degree days). Households living in North Dakota, the state with the need for the most heating effort, are estimated to require about a \$15,000 premium from this source relative to Hawaii, where no heating effort is required (chart 5). The model also suggests that extremely hot weather--as measured by the amount of cooling effort in degree days--is a significant disamenity, with the required premium (increase in wages or decrease in annual housing expenditures) ranging from about \$7,000 to close to zero. High levels of precipitation, humidity, and wind speed also are disamenities, but their effects are not as economically significant as temperature extremes. As for recreational opportunities, the model shows that access to coastlines, inland water areas, national parks, and other public lands each creates a small premium in housing values or a discount in wages.

The model sensibly shows that households dislike congested areas which increase their commuting time to work, and the range of contributions for this variable is large, with a quality of life premium from about \$10,000 to \$22,000 per year. Air quality also is important; in the most polluted states, carbon monoxide and ozone pollution hold down quality of life about \$4,500 and \$7,500 in annual wages, respectively. Conditional on a given level of the tax burden, the estimates suggest that households prefer relatively high levels of state and local government spending on highways and public welfare. Public school quality also is important; other things equal, the model suggests that lowering student-teacher ratios can raise housing values or make households more willing to accept lower wages.

Given the set of attributes for each state and the estimated “implicit prices” at which they are capitalized into housing costs and wages, we aggregated these into indices of quality of life and followed states’ rankings over the 1981 to 1990 period. We were able to discover some interesting patterns in how changes in amenities have contributed to large improvement or deterioration in quality of life rankings for individual states. For example, the states that experienced deteriorating quality of life rankings tended to cut back on the share of state and local government expenditures devoted to highways and transportation infrastructure, and traffic congestion and average commuting times increased as their population grew. Furthermore, when this population growth occurred in an area with initially relatively good air quality, air pollution control efforts were not tightened as much as in other states, and carbon monoxide pollution in particular increased, relative to other states. In contrast, some other fast-growing states with more stringent air quality management regimes in the 1980s--particularly Arizona, California, and Colorado--experienced improved air quality over that decade.

Although these patterns are most evident in some individual states, summary statistics on the contribution of amenities to the evolution of quality of life rankings also reflect the patterns. For example, the statistics shown in Chart 6 pertain to the group of ten states that experienced the largest deterioration in quality of life rankings; on average, these states moved ten places toward the bottom of the quality of life rankings. The attribute with the largest average contribution to the deterioration was state and

local government expenditures on highways, which accounted for a decline of 2.7 places in the rankings, on average. Increased commuting times, higher carbon monoxide levels, and a lower share of government spending on public welfare also were large sources of deterioration in quality of life for these states.

Although this analysis was conducted at the geographic level of each U.S. state, the study does have some implications for understanding the Southern California quality of life situation. First, the model estimates reveal the large premiums households are willing to pay to live in locations with favorable climates and abundant recreation opportunities, which are features characteristic of Southern California. Second, the results on changes in quality of life for California as a whole, which are dominated by developments in Southern California, show almost no change in California's quality of life ranking over the decade ending in 1990. The model suggests that some of the sources of deterioration in California quality of life--such as increased traffic congestion and lower public school quality--were offset by improvements in other factors, such as better air quality from reductions in ozone-related smog. With regard to potential changes in quality of life within the broader L.A. metropolitan area, our results reinforce the important role of investment in transportation infrastructure and air pollution control in maintaining quality of life in fast-growing areas.

IV. Leaving Los Angeles

Los Angeles County experienced a disproportionately large outflow of residents to other parts of the U.S. in the first half of the 1990s. Census Bureau estimates show a net outflow of about 1 million people from Los Angeles County to other states or to other parts of California, compared with an overall outflow of California residents to other states of about 1-1/2 million people. To help assess the future of the broader Los Angeles area, it is important to understand why so many people have been leaving Los Angeles County. Here we discuss how relative economic opportunities and quality of life factors may have influenced this domestic migration trend.

Two somewhat distinct phenomenon appear have been at work in fueling the net outmigration from Los Angeles County (chart 7, upper panel). First, the long-standing outflow of L.A. County residents to surrounding counties--Orange, Riverside, San Bernardino, and Ventura--continued strong in the early 1990s; we emphasize housing affordability and quality of life issues in explaining this pattern. Second, net migration from L.A. County to out-of-state destinations picked up noticeably in the early 1990s, largely reflecting a widening differential between employment opportunities there and in distant locations.

The movement of L.A. County households to outlying counties has been prompted, in part, by the relatively attractive set of locational amenities available in peripheral locations. Relative to the State of California or to the United States as a whole, Los Angeles County in 1990 was characterized by poor air quality, excessive commute times, and high rates of violent crime (table 1). In contrast, locational amenities available in surrounding counties were often more attractive than those available in Los Angeles. For example, violent crime rates in Los Angeles County in 1990 were more than twice as high as those recorded in surrounding counties. Also, air quality in surrounding counties has remained better than in L.A., even in the wake of ongoing and pronounced improvements over the last decade and a half. Although some crude measures of school quality, such as the ratio of students to teachers, show little difference between L.A. county and surrounding areas, some outlying areas are perceived to have higher quality public schools. The existence of quality of life differentials between L.A. county and surrounding areas cannot, in and of itself, explain the longstanding trend of migration toward the periphery. For one, superior amenities tend to be capitalized in higher housing costs or lower wages, and when such prices have fully adjusted, this makes the typical resident close to being indifferent about where to live. However, housing prices can take a long time to adjust to underlying values and reflect other influences, such as the increases in housing demand from speculative investment motives and from immigrant arrivals. In the late 1980s, the run-up in L.A. County house prices was particularly large, and many residents likely found the cost of housing in L.A. prohibitively high, relative to the available amenities.

The ongoing outmigration of L. A. County residents to surrounding counties (chart 9, lower panel) also owes to the dispersion of employment opportunities to peripheral areas. In the latter half of the 1980s and early 1990s, job growth was stronger in parts of the Inland Empire and Orange County than in Los Angeles County, which was hit particularly hard by down-sizing of defense related employment. This continued dispersion in jobs occurred in a metropolitan area already characterized by a large number of sub-regional employment centers. Factors including lower land rents, less traffic congestion, and improved access to regional markets likely spurred job growth in outlying areas; also, retail and service jobs migrated to areas of prior and anticipated population growth. The loss of jobs to outlying parts of the metropolitan area owed as well to the lack of a radial rapid transit system centered in downtown Los Angeles. Radial rapid transit systems are designed, in part, to ease commutes from outlying areas and in so doing to retain jobs in the central city.

As is evident from chart 7, during the mid-1980s the net out-migration from L.A. County derived largely from the flow of households to surrounding counties of the Los Angeles metropolitan area. This rate of net out-migration to surrounding counties was about 1/2 percent of the L.A. County residents in 1984, but then picked up to about 1-1/2 percent by 1990, before slowing back to about 1 percent by 1994. Although net migration from L.A. to surrounding counties remained in this narrow 1/2 percent to 1-1/2 percent range from the mid-1980s through the first half of the 1990s, net migration between out-of-state destinations and L.A. County swung from a slight inflow to L.A. to a substantial outflow in the early 1990s, bringing the overall L.A. County net migration rate to close to 3 percent by 1994. Since 1992, more of the L. A. County population loss is attributable to migration to out-of-state locations than to the flow toward surrounding counties.

The flow toward the periphery also is evident in the net migration rates for surrounding counties of the Los Angeles metropolitan area (chart 7, lower panel). From their perspective, the flow from L.A. County has added from 1 percent to 2 percent per year to surrounding county population growth. The overall rate of net in-migration to counties surrounding Los Angeles began to ease in 1987 and turned

negative in 1992. That decline owed largely to the fall-off in net in-migration from out-of-state, which turned negative by 1989 and was about -2 percent in 1993 and 1994.

Our earlier-discussed migration model suggests that the sizable net migration from Los Angeles and surrounding Southern California counties to out-of-state destinations during the early 1990s primarily was due to better labor market opportunities out-of-state. Such an explanation of the pickup in net outmigration from the L.A. area also is consistent with the simple correlation between net migration out-of-state and the U.S. - L. A. County unemployment rate differential (chart 8). As shown in the chart, net out-of-state migration from L.A. County was damped during the late 1980s period in which the L. A. County unemployment rate was close to the national average. The 1993-94 peak rates of out-of-state migration from L.A. County occurred when the local unemployment rate exceeded the U. S. average by about 2-1/2 percentage points. For each of L.A. and surrounding counties, the early 1990s swing in net migration owed both to a drop-off in arrivals from out-of-state and to a pickup in outmigration to out-of-state destinations

In 1995 and early 1996, the U.S.-L.A. County unemployment differential narrowed somewhat but remained about 1-1/2 percentage points (chart 8). Estimates of county level migration rates for that period are not yet available from the preferred source used for the figures shown in charts 7-10, IRS information on tax return address changes. However, more up-to-date statistics with some indicator value for migration flows are available from the California state Department of Motor Vehicles (DMV). The DMV address change statistics for the twelve-month periods ending July, 1995 and July, 1996 suggest that the net migration to out-of-state from L.A. and surrounding counties has slowed a bit in recent years but remains sizeable. This is consistent with our migration model, which implies that the net out-of-state flow will continue until relative job opportunities in the Los Angeles area improve further.

V. Summary and Conclusion

Net out-of-state migration—both from California as a whole and from Los Angeles and surrounding counties--has slowed substantially in the last year or so as local job opportunities have improved noticeably. Our

analysis suggests that this net outflow will slow further if job opportunities in the Los Angeles area continue to increase, as would be expected from the continuation of current trends.

Having said that, we expect that the dispersion of L. A. County residents to peripheral areas will continue over the foreseeable future. Peripheral counties continue to be superior to L.A. County in some measured dimensions of the quality of life. As suggested above, persistent economic incentives, including the inter-metropolitan location of job growth and of affordable housing, also suggest that the flow toward the periphery will continue. The outward movement of households from the central county might also be facilitated by innovations in telecommunications that make remote access to employment in Los Angeles County viable.

On the other hand, some recent developments are likely to reinforce the agglomeration of Southern California population and jobs in parts of Los Angeles County. The current development of a fixed-rail rapid transit system with its hub in downtown Los Angeles will ease commute burdens to the central city and reinforce the concentration of jobs in that area. Other significant transportation infrastructure development in parts of Los Angeles County, including the newly-opened Century Freeway and the anticipated Alameda Corridor, will lead to economic development and job creation in parts of south Los Angeles. The relatively depressed levels of land rents in these and other parts of the city—owing in part to prior largescale out-migration of jobs and households—now make residential and non-residential re-development of those areas more financially viable. Near the Ports of Los Angeles and Long Beach, significant job growth also is expected; the Los Angeles Customs District already occupies a dominant national position with respect to dollar volume of international trade, and further substantial expansion of trade with Pacific Rim nations is anticipated in coming years. In Burbank, Glendale, and Westside areas, substantial numbers of new jobs have been created in recent years in entertainment and multimedia-related activities, and this trend appears likely to continue. In summary, the development of important new Los Angeles transportation infrastructure, coupled with ongoing growth and restructuring of the Los Angeles economic base, will work to enhance residential and non-residential development in parts of the city. In so doing, those influences will serve to partially offset the ongoing and significant movement of jobs and households away from central Los Angeles.

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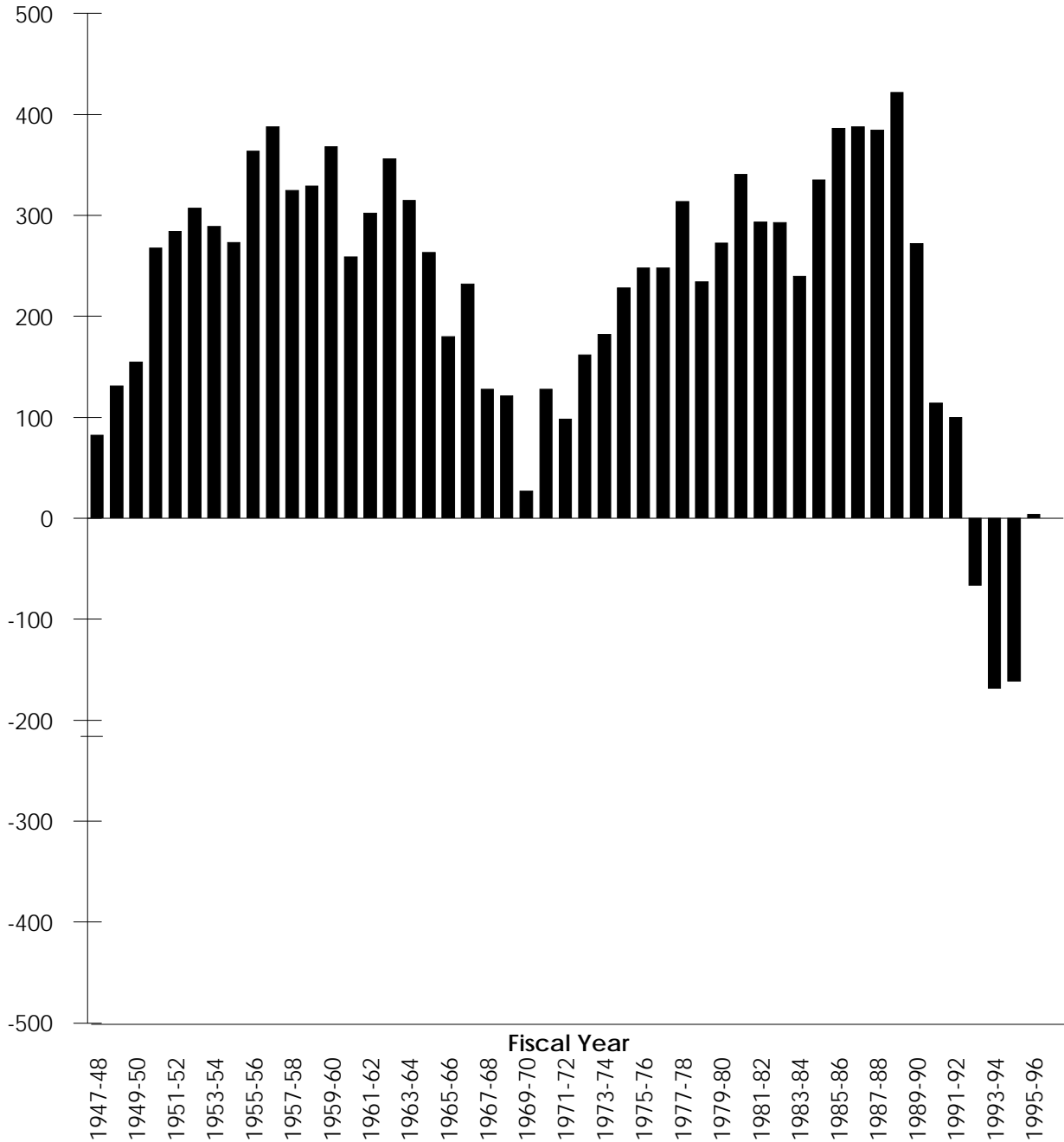
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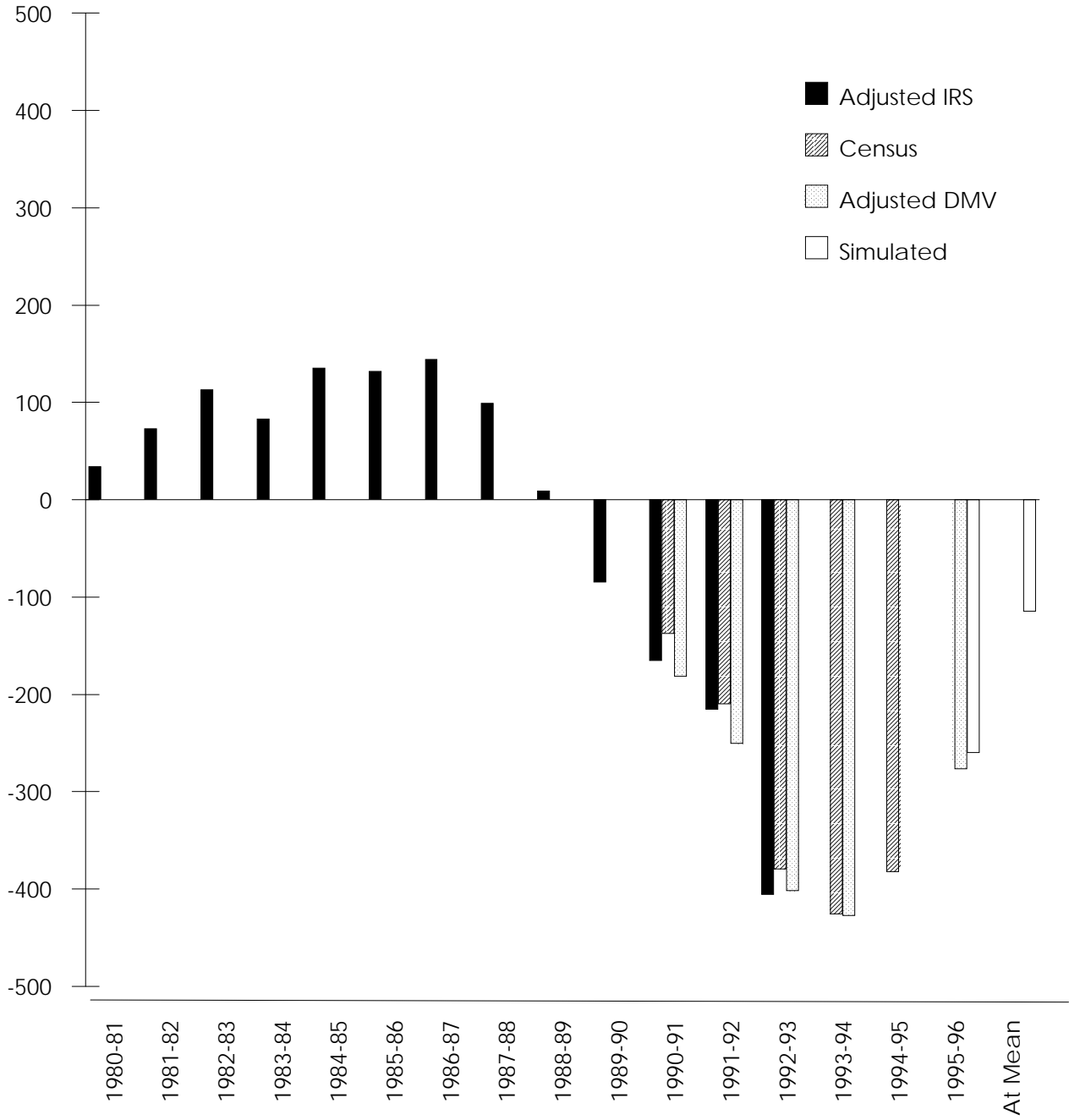
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Chart 1
 California Net Domestic and International Migration
 (thousands of persons)

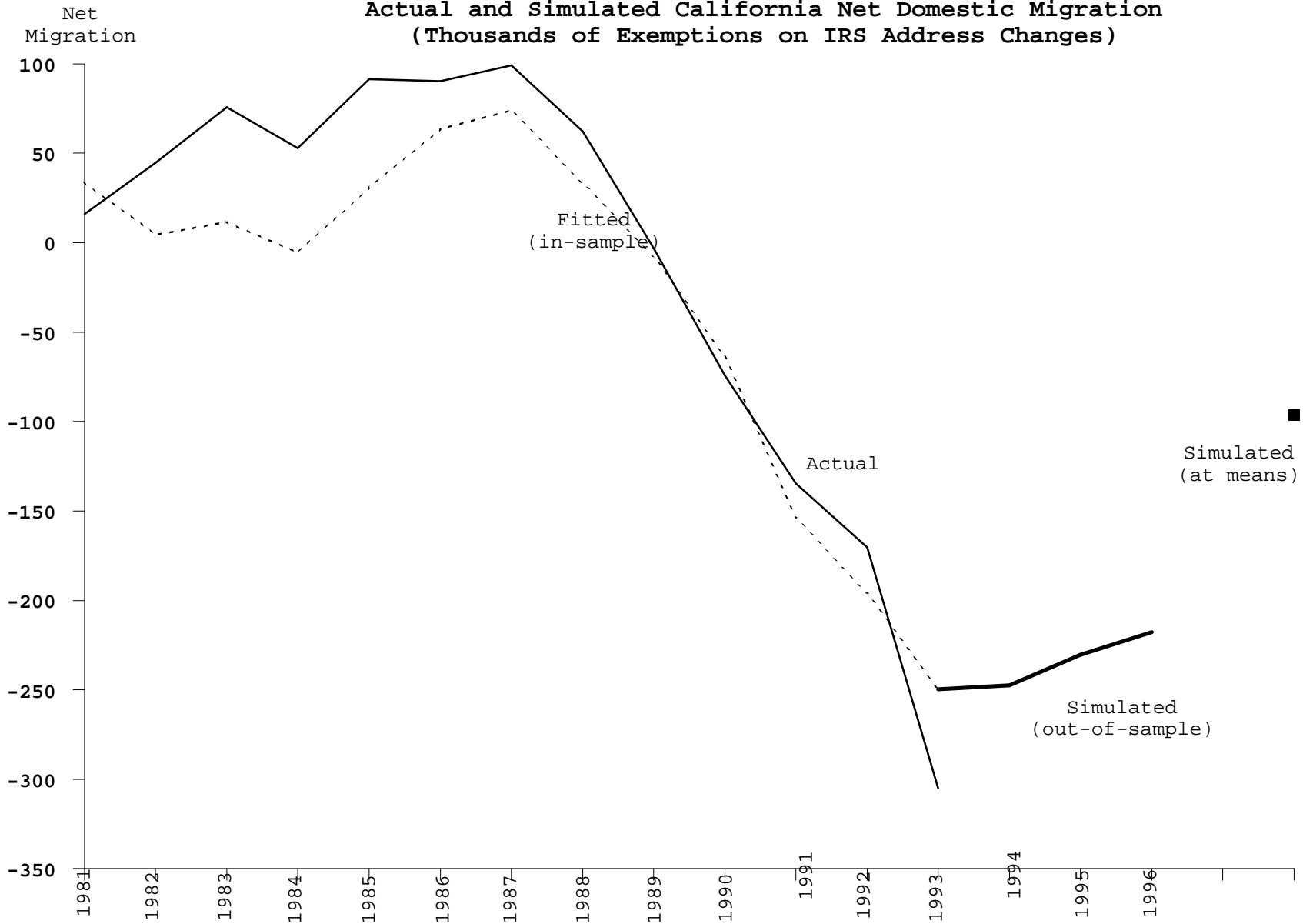


Sources: U.S. Bureau of the Census and State Department of Finance
 Authors' estimates for 1995-96

Chart 2
California Net Domestic Migration
(thousands of persons)



Actual and Simulated California Net Domestic Migration
(Thousands of Exemptions on IRS Address Changes)



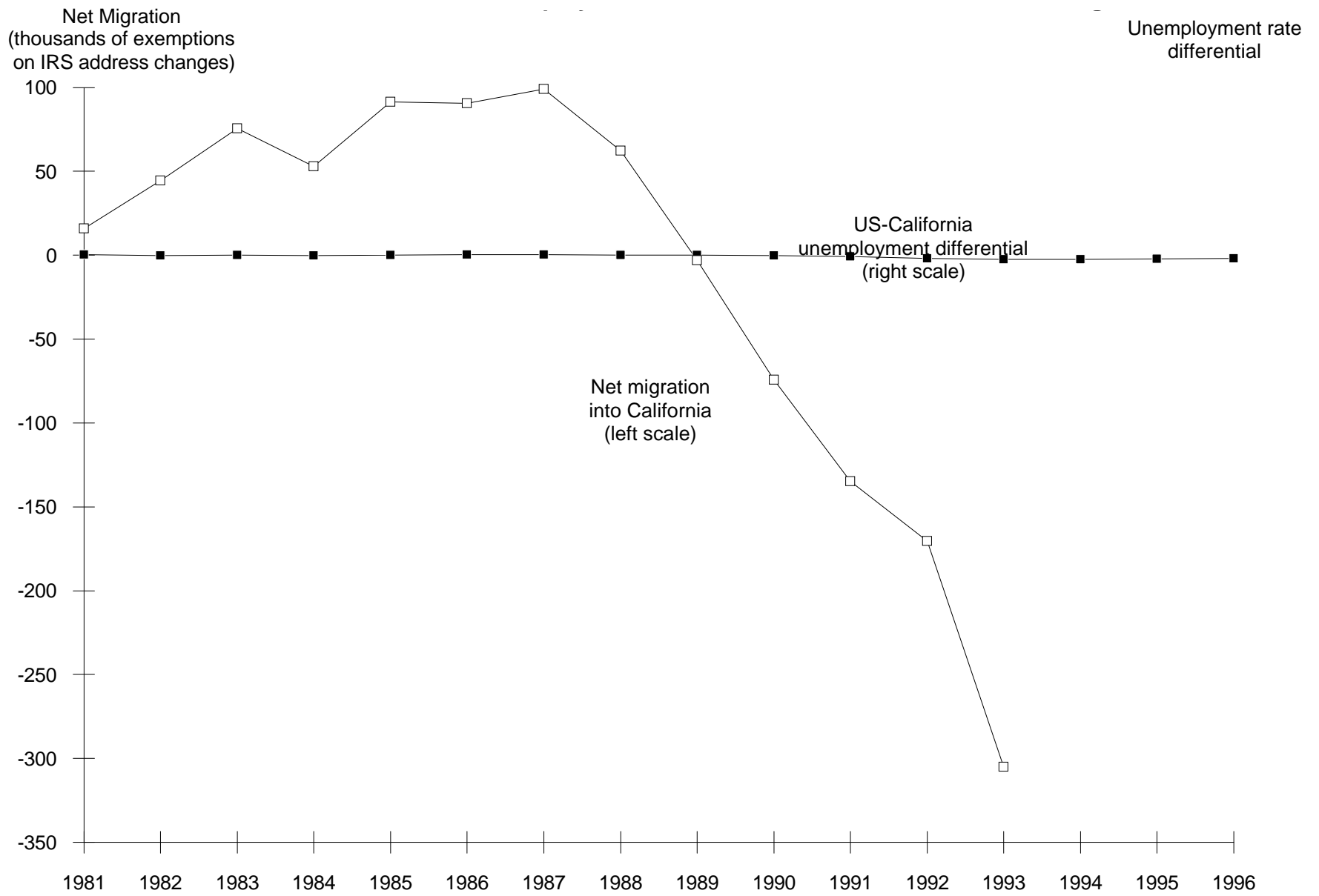


Chart 5
Range of Contributions of Amenities

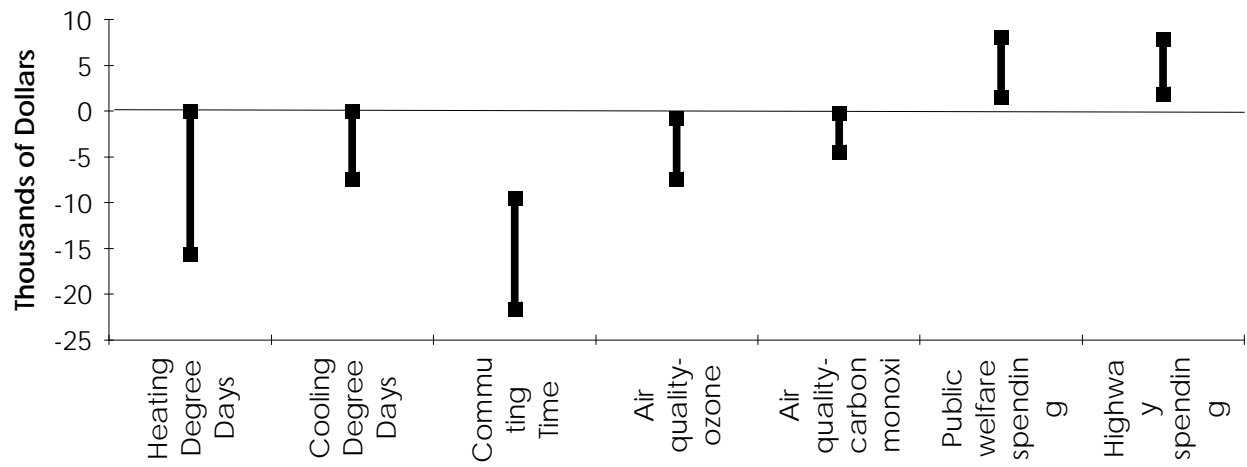
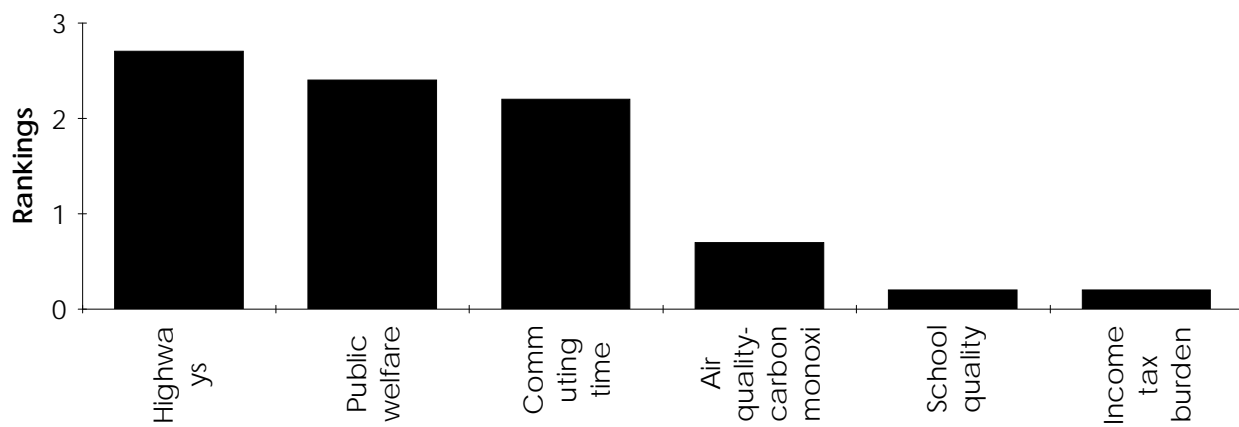
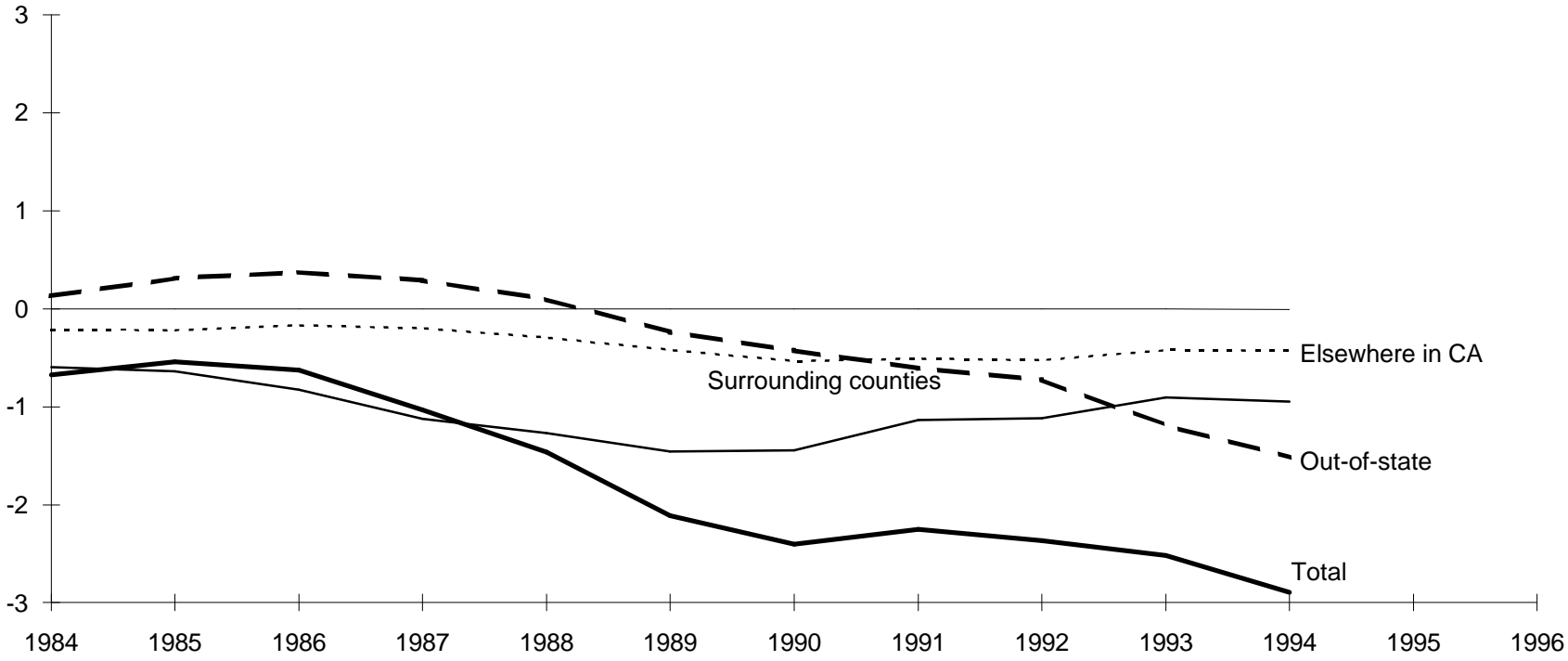


Chart 6
Contributions of Amenities
to the Deterioration of Quality-of-Life Rankings



Los Angeles County Net Migration

Net migration rate *



Surrounding LA Area Counties Net Migration

Net migration rate *

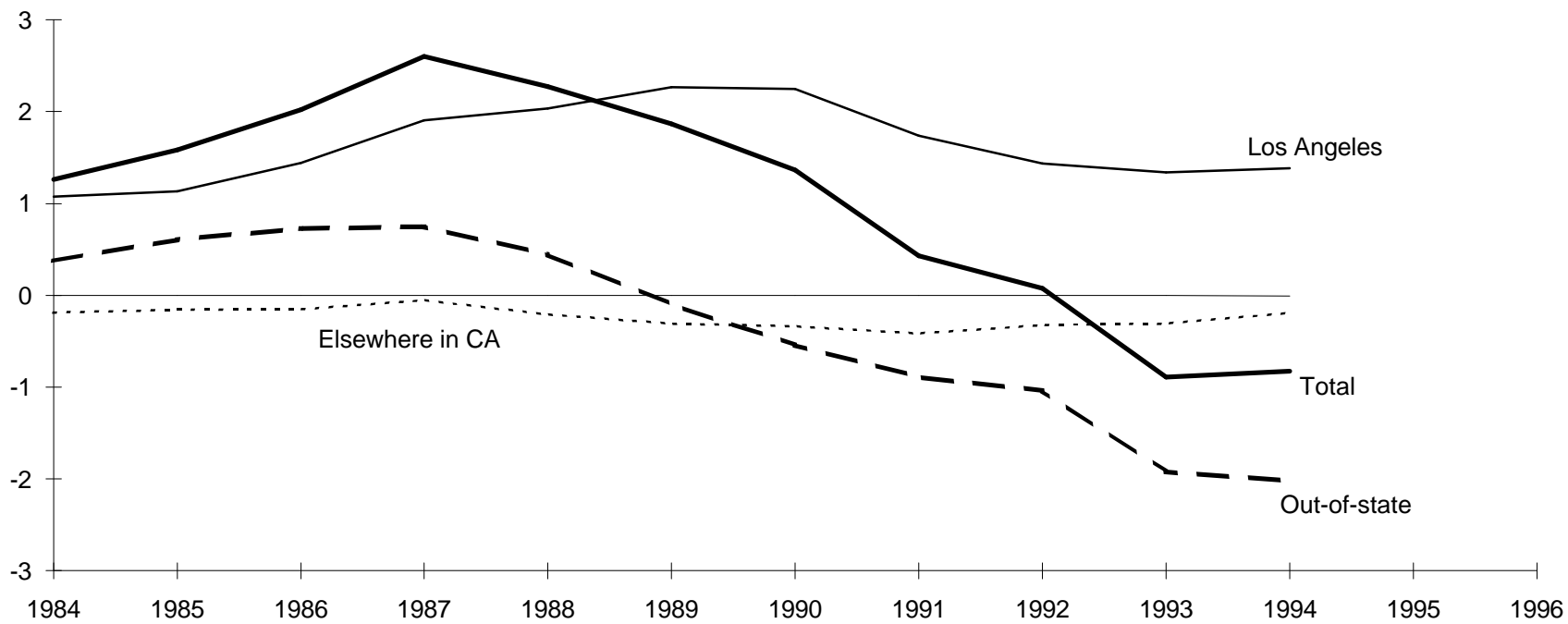
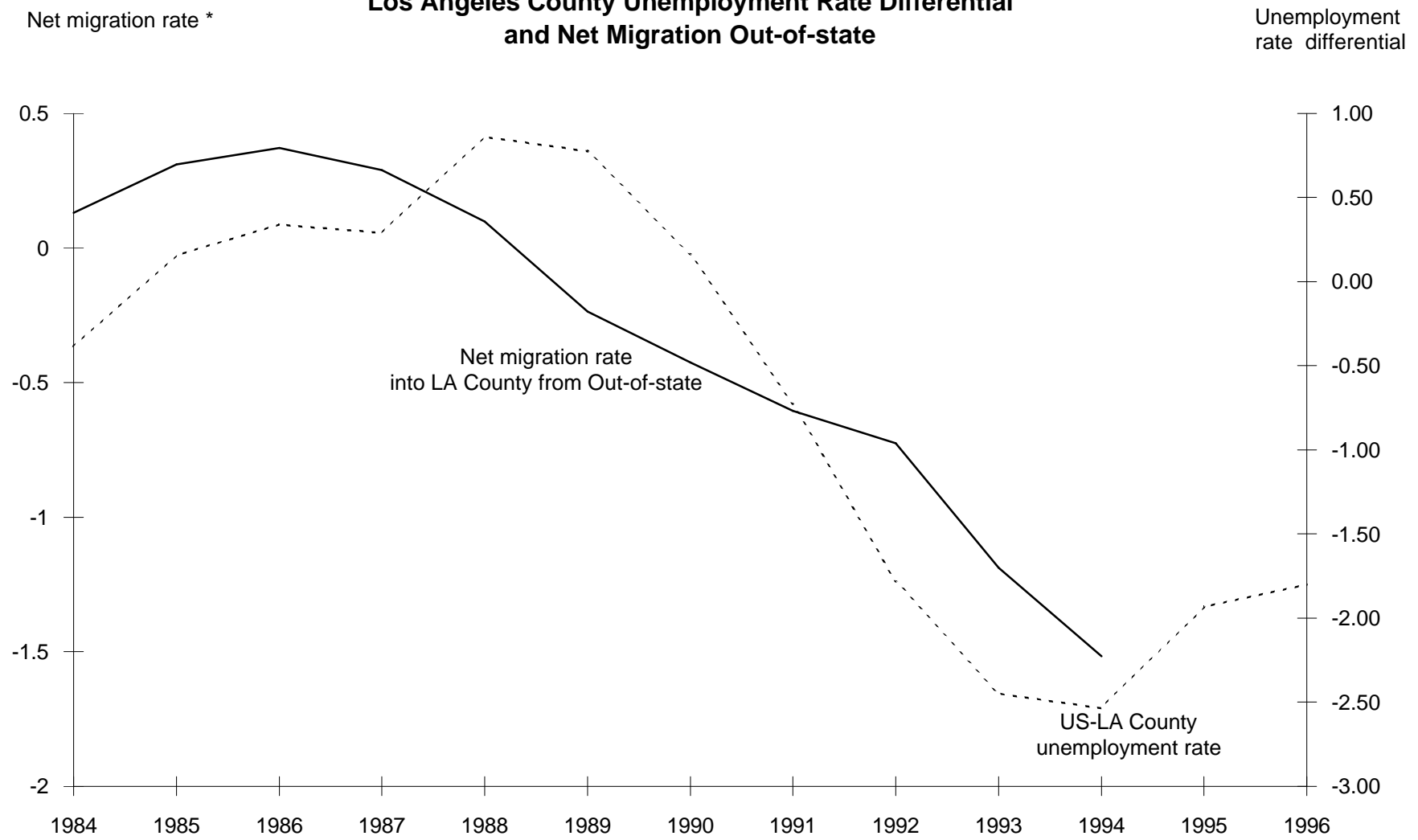


Chart 8
Los Angeles County Unemployment Rate Differential
and Net Migration Out-of-state

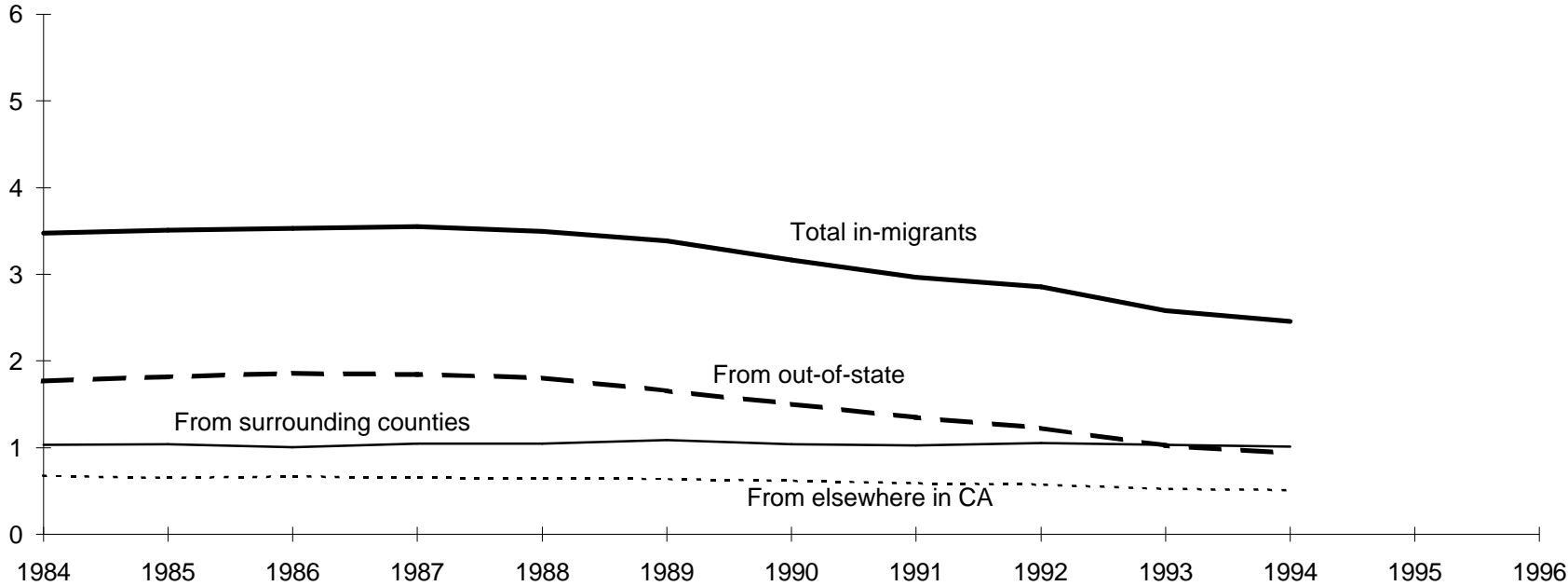


* Net migration rate is defined as in-migration minus out-migration as a percent of non-migrants.

Chart 9

Los Angeles County In-Migration

Migration rate *



Los Angeles County Out-Migration

Migration rate *

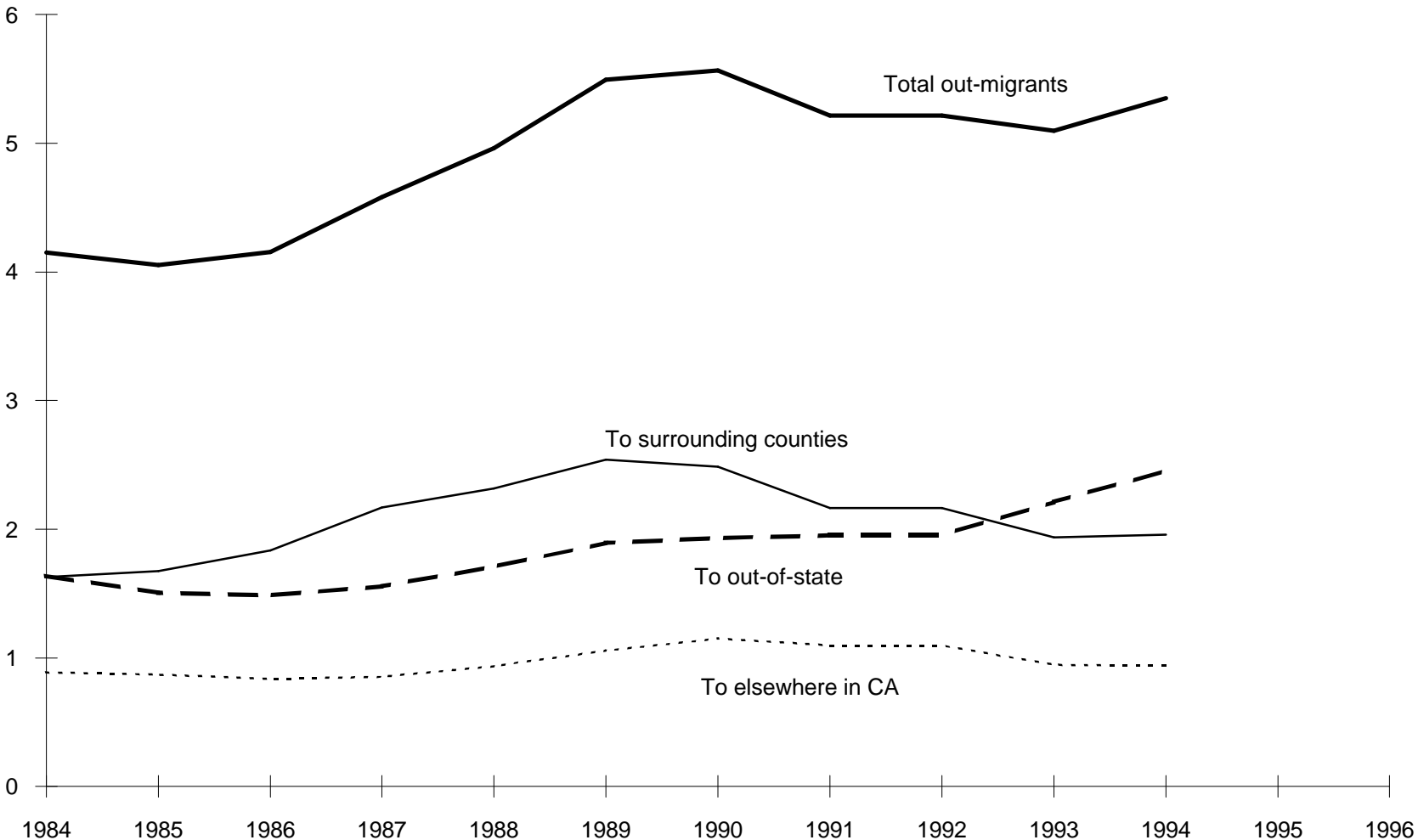
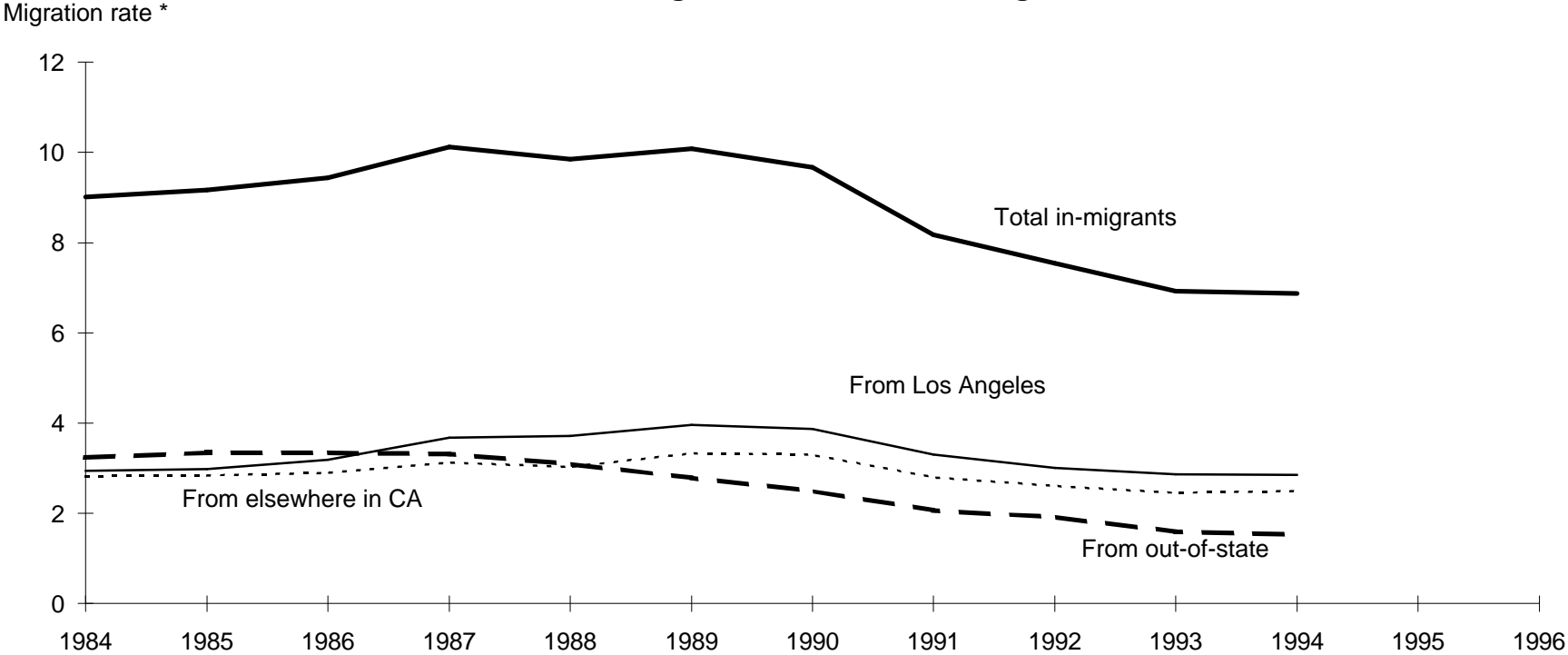


Chart 10
Surrounding LA Area Counties In-Migration



Migration rate *

Surrounding LA Area Counties Out-Migration

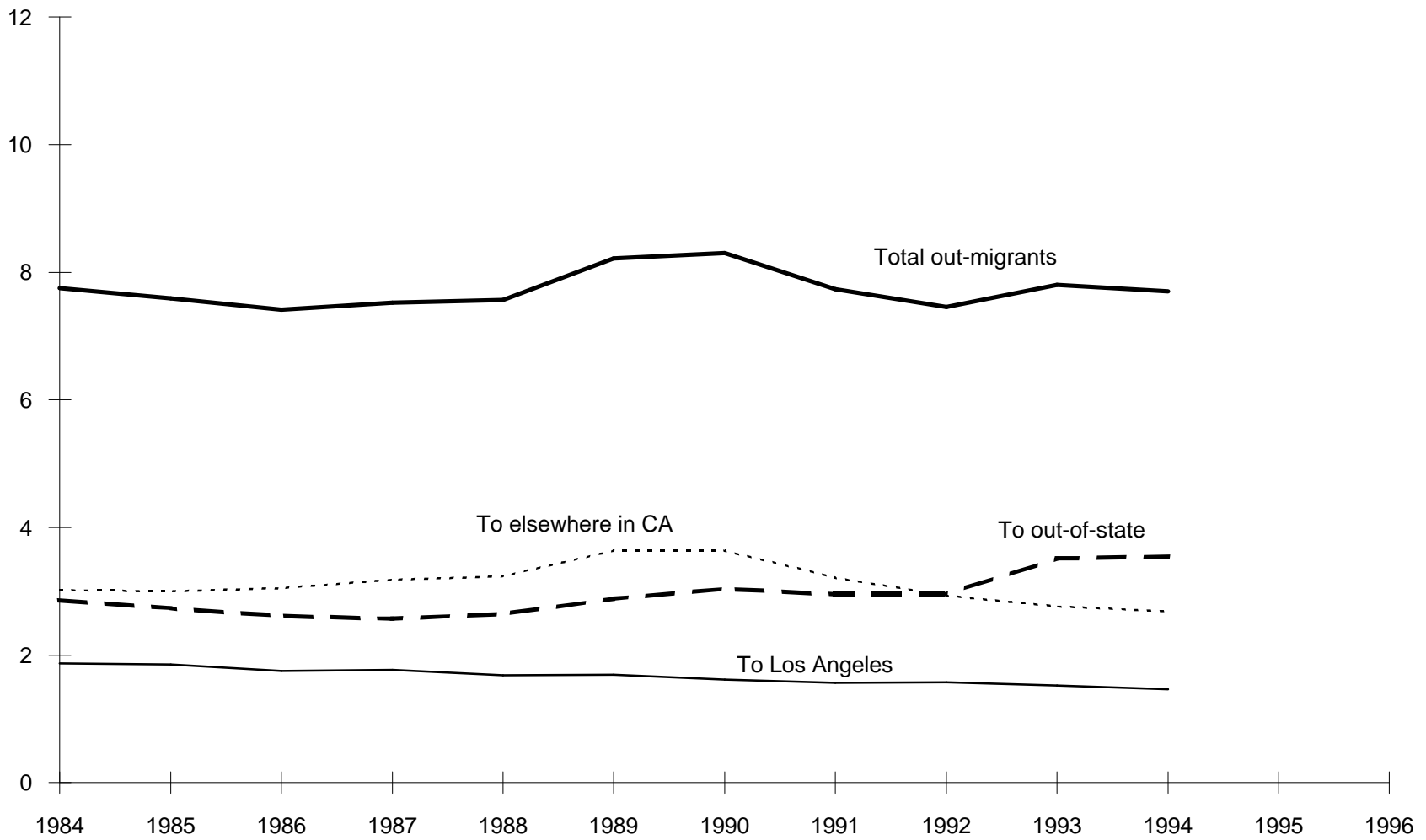


Table 1
Evolution of Amenity Characteristics

Trait	<u>United States</u>		<u>California</u>		<u>L. A. County</u>			<u>Counties Surrounding L.A.</u>		
	1981	1990	1981	1990	1981	1990	1995	1981	1990	1995
Commute Time (minutes)	19.8	20.3	22.4	24.6	24.3	26.5	n.a.	22.7	26.5	n.a.
Violent Crime Rate (crimes per 100,000 persons)	447	534	863	1045	1302	1764	1399	590	769	699
Air Quality-Ozone (parts per million)	.12	.11	.27	.19	.35	.27	.24 ^a	.27	.23	.20 ^a
Air Quality- Carbon Monoxide (parts per million)	9.26	6.61	13.88	10.55	21	16	15 ^a	9	7	7 ^a
Student-Teacher Ratio (students per teacher)	18.3	17.2	23.5	23.9	25.0	23.8	25.1	25.9	24.2	25.3

a. Latest available reading is for 1994, not 1995.