The Incidence of California Poverty by Population Segment

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This research note accomplishes two goals. The first is to create smoothed rates of annual poverty for the state of California for the years 1959 through 2000. These estimates are benchmarked and linked to the decennial censuses. Separate time-series estimates and projections are made for all state residents and for six separate subpopulations—whites, blacks, Hispanics, female-headed householders, the elderly, and children. The overall trend in the poverty rate within California is projected to rise, primarily due to the increasing Hispanic population. After the first goal is attained, a suggestion is then made to supplement the current definition of business cycles with the disparity between the long-run trend in the overall poverty rate and the actual annual rates. The degree of divergence between the two series would indicate either the severity of an economic downturn or the extent of prosperity.

GOALS, DATA, MODELS, ESTIMATES AND PROJECTIONS

Objectives and Data

The first of the two goals of this study is to estimate reliable or smoothed sequential rates of annual poverty for each of seven segments of the California state population. These segments consist of all residents and six population subgroups—whites, blacks, Hispanics, female-headed householders (without a resident spouse), the elderly (age 65 and over), and related children (below the age of 18).

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The decennial censuses plus the special once-only Survey of Income and Education (SIE) will provide the data reference points or benchmarks needed to create the interim annual estimates of state poverty (Bureau of the Census, 1975, 1978; 1983, 1993). In addition, curvilinear trend lines will be extended to the turn of the century. The benchmark data points are presented in Table 1. This is accompanied by Figure 1 with a multiple plotting of the seven curves for the discrete years of observation.

The Models

Continuous curves are developed to best represent the seven sets of discrete data points—one for each separate (but nonmutually exclusive) segment of the California population. In each case, the dependent variable is the percentage of the particular population segment that falls beneath the official poverty threshold (symbolically represented by "%"). The single explanatory variable is "Year," which is raised to various powers. The resulting specific simple regression polynomial models are reported in Table 2—along with their coefficients of determination (r^2) and sample sizes (i.e., number of annual data points, represented by "n").

To illustrate how a model is used to determine an annual rate of poverty, let us estimate the incidence of poverty in 1997 within the female-family-head segment of the California population. We have $\% \cong 19{,}338.79 - 12.15(1997) + (1.56\text{E-}13)(1997)^5 \cong$ 27. Hence, the incidence of poverty in 1997 among female heads of households is estimated at about 27%. For every 100 female headed households in the state of California in 1997, roughly 27 are estimated to fall beneath an officially defined poverty income threshold.

Annual Estimates and Projections[1]

A smoothed curve for each group is then plotted in Figure 2. This multiple-plot graph gives a picture of both: (a) the comparative levels of the incidence of poverty, and (b) the comparative poverty trends among the population segments.

An examination of Figures 1 and 2 reveals several significant features. First, the curve for female family heads (ffh) lies at a higher level than all other curves—both over the 30 years of actual data observations (see Figure 1) and in its projected path to

Table 1.   California Rates of Poverty: 1959–1989
(by percentage)

Group	1959	1969	1975	1979	1989
All State Residents	14.44	11.08	10.45	11.37	12.51
Whites	13.10	9.94	8.98	8.85	9.08
Blacks	30.70	24.55	26.18	22.48	21.07
Hispanics	na	16.32	19.56	19.12	21.64
Female Family Heads	36.00	29.84	29.23	26.10	26.22
Elderly	19.20	18.18	7.59	8.28	7.65
Related Children	na	12.67	14.65	15.22	17.79

Note: na = data is not available.
Source: Bureau of the Census, U.S. Department of Commerce.