

What Can the Age Composition of the Population Tell Us about the Age Composition of Migrants?

Jani S. Little

Andrei Rogers

Lisa Jordan



State Data from Census 2000

- Outmigration, 1995-2000, for 5-year age categories
- $N(x \text{ to } x+4)$ is the proportion of total outmigrants for ages x to $x+4$
- Migrants in 5-yr age categories are apportioned into 1-yr age categories, i.e. $N(x \text{ to } x+4)$ converted to $N(x)$
- Profiles of $N(x)$ are smoothed with cubic splines

Figure 1. The Smoothed Profile of Outmigration, Alabama

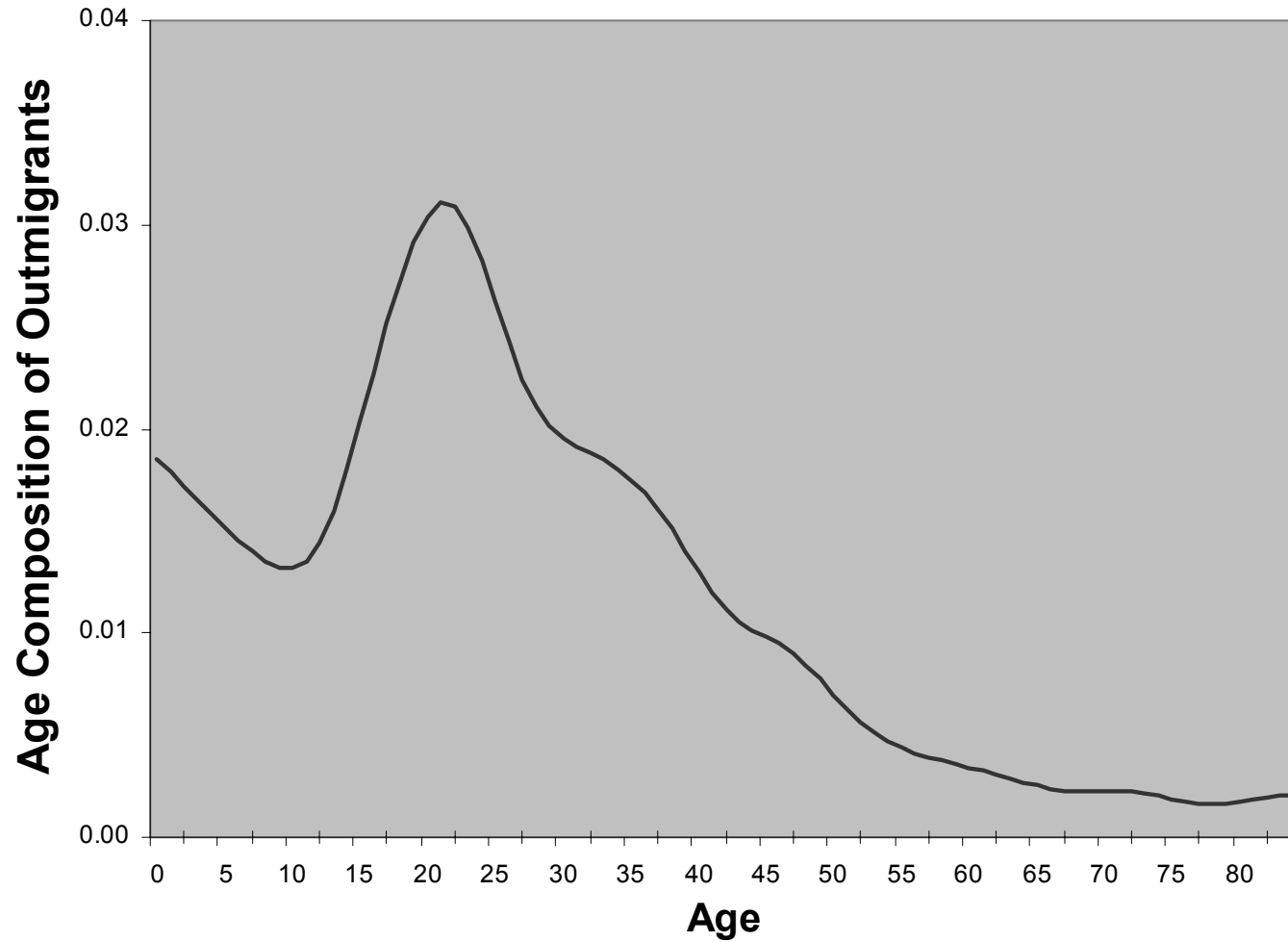
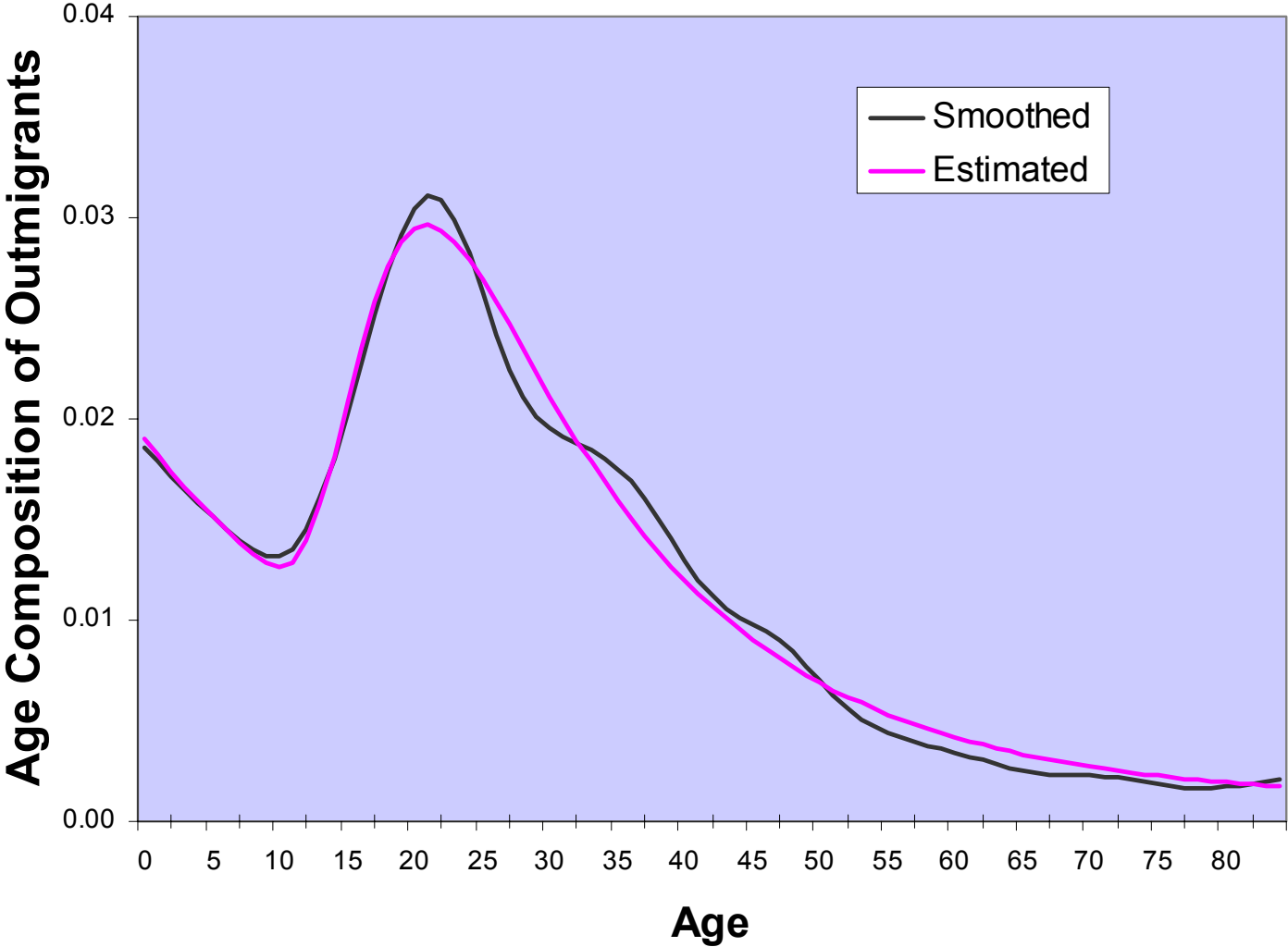


Figure 1a. Outmigration Profiles, Alabama
Smooth Observed Profile and Estimated Model Schedule



The GFI Summary, Estimated and Observed

	R^2
Average	0.990
Maximum	0.998
Minimum	0.957

Figure 1b. The Multiexponential Model Schedule

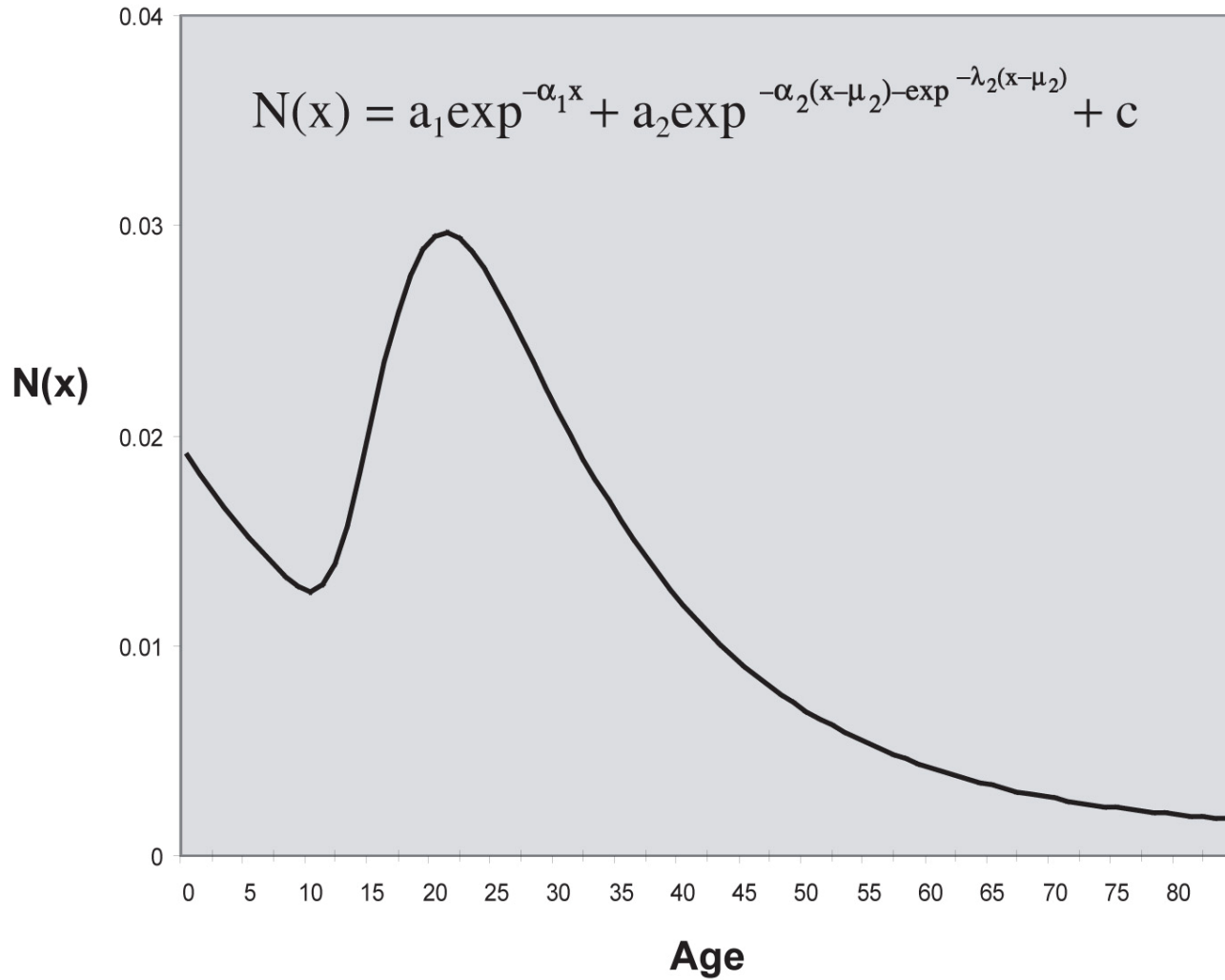
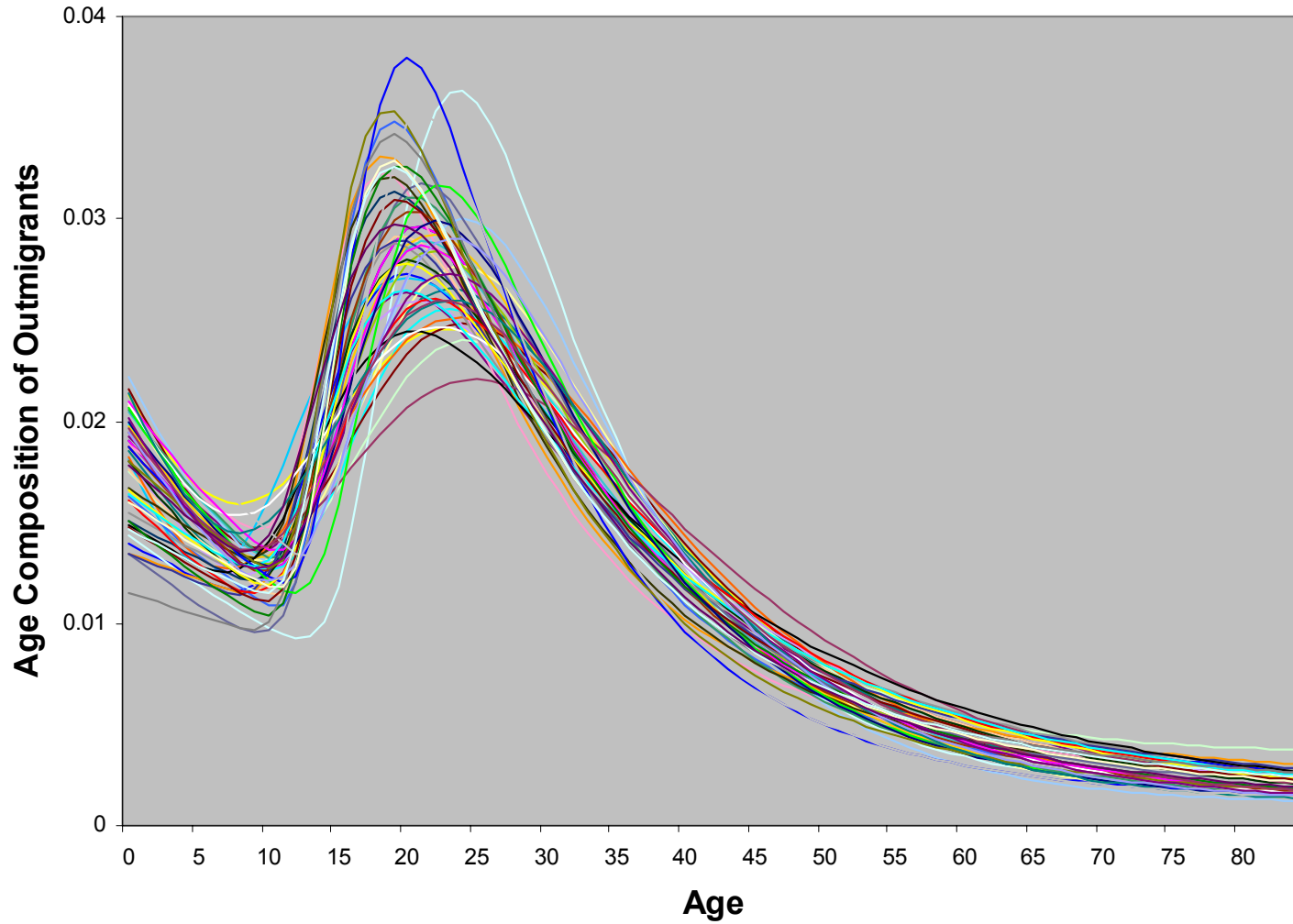


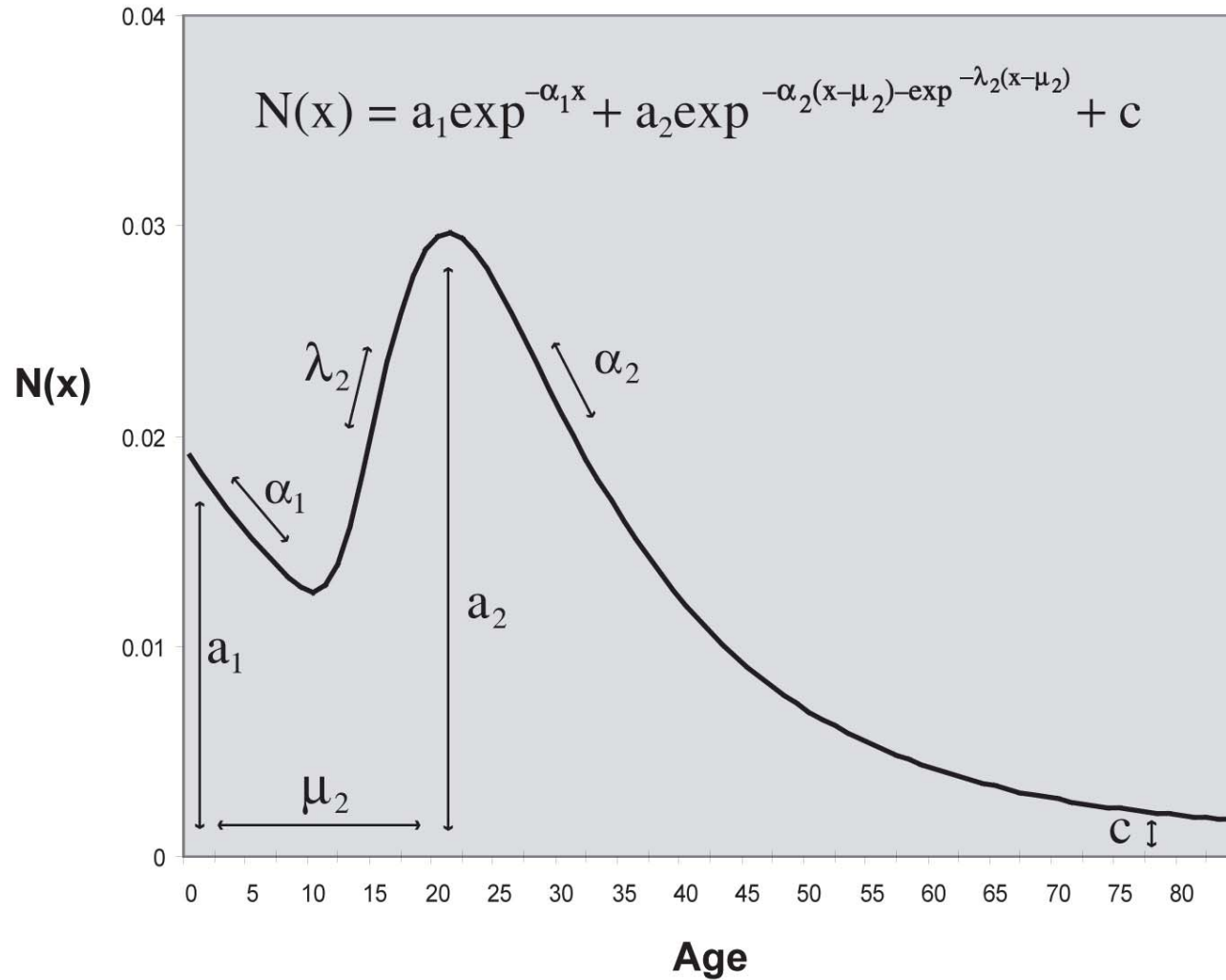
Figure 2. The Multiexponential Model Schedules for Outmigration, 51 States



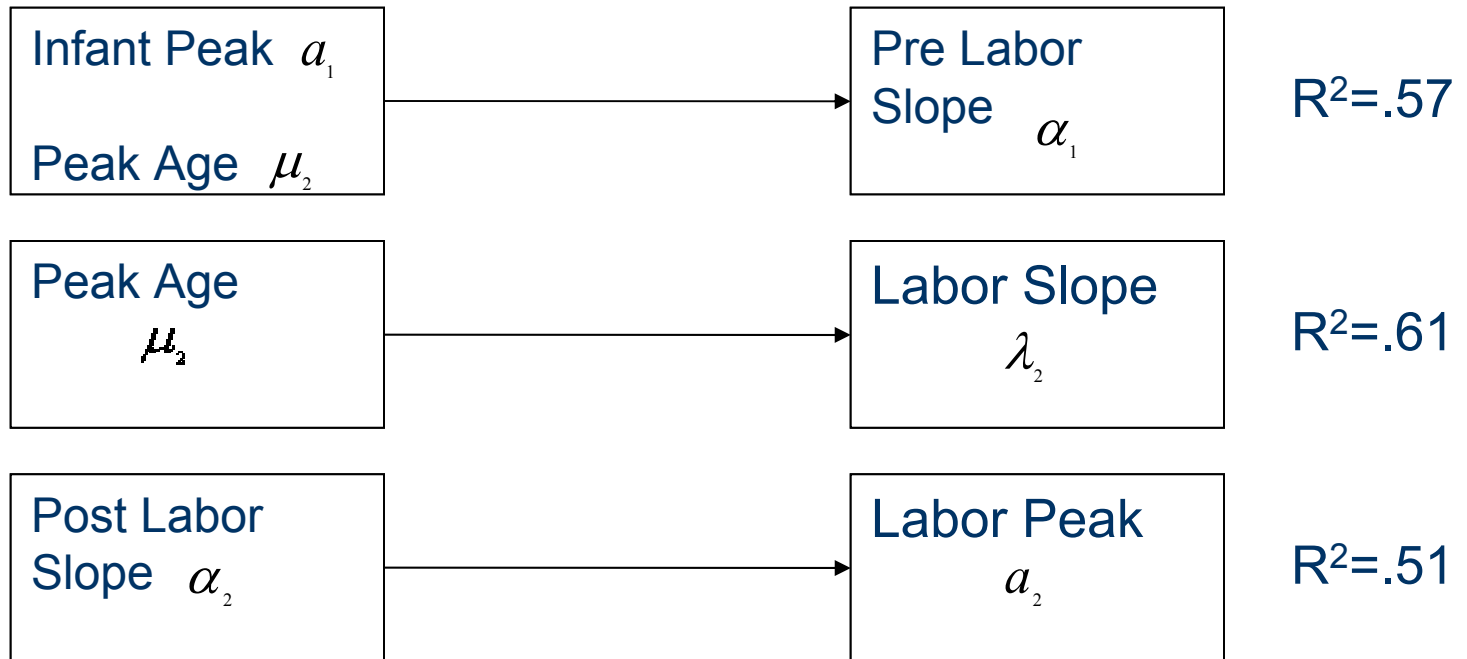
Parameter Variation Summary

	Infant peak	Pre Labor slope	Post Labor slope	Labor peak	Peak Age	Labor Slope	Minimum
	a_1	α_1	α_2	a_2	μ_2	λ_2	C
avg	0.0169	0.0484	0.0448	0.0738	17.2394	0.2354	0.0011
stddev	0.0027	0.0158	0.0085	0.0137	2.6492	0.0873	0.0004
max	0.0219	0.0952	0.0664	0.1000	23.6171	0.4104	0.0034
min	0.0105	0.0220	0.0297	0.0501	15.0000	0.1000	0.0010

Figure 3. The Seven Parameters of the Multiexponential Model Schedule



Redundant Parameters (Reproducible from Other Parameters)



Predicted Parameters

Infant Peak, a_1

Peak Age, μ_2

Post Labor Slope, α_2

Minimum, c

**Figure 4. Age Composition Profiles of Alabama:
Total Population Versus Outmigrants**



Predictors and Parameters

Predictor, 1995	Direction of Relationship	Migration Parameter, 1995-2000	R ²
1. Percent 65-75 2. (Percent 65-75) ² 3. Slope 65-75	- + +	Minimum	.57
1. Percent 0-4 2. Age of Largest Cohort, between 15 and 40	+ +	Infant Peak	.53
1. Dependency Ratio 2. Independency Ratio	+ +	Peak Age	.41
1. Percent 15-39	+	Post Labor Slope	.27

GF Summary, Predicted and Estimated

R ²	Minimum	Maximum	Mean
Average Profile	.89	1.00	.9628
Predicted Profile	.90	1.00	.9700