

## Annexe 1

### United States Population, 1920-1970

<b>Obs.</b>	<b>Region</b>	<b>y1920</b>	<b>y1930</b>	<b>y1940</b>	<b>y1950</b>	<b>y1960</b>	<b>y1970</b>	<b>w</b>
<b>1</b>	New England	7401	8166	8437	9314	10509	11842	1000
<b>2</b>	NY, NJ, PA	22261	26261	27539	30146	34168	37199	1000
<b>3</b>	Great Lakes	21476	25297	26626	30399	36225	40252	1000
<b>4</b>	Midwest	12544	13297	13517	14061	15394	16319	1000
<b>5</b>	South Atlantic	13990	15794	17823	21182	25972	30671	1000
<b>6</b>	KY, TN, AL, MS	8893	9887	10778	11447	12050	12803	1000
<b>7</b>	AR, LA, OK, TX	10242	12177	13065	14538	16951	19321	1000
<b>8</b>	Mountain	3336	3702	4150	5075	6855	8282	1000
<b>9</b>	Pacific	5567	8195	9733	14486	20339	25454	1000
<b>10</b>	Alaska	55	59	73	129	226	300	-1000
<b>11</b>	Hawaii	256	368	423	500	633	769	-1000

## Annexe 2

### The CORRESP Procedure

#### Contingency Table

Percents	1920	1930	1940	1950	1960	1970	Sum
New England	0.830	****	0.946	1.045	1.179	1.328	6.245
NY, NJ, PA	2.497	2.946	3.089	3.382	3.833	4.173	19.921
Great Lakes	2.409	2.838	2.987	3.410	4.064	4.516	20.224
Midwest	1.407	1.492	1.516	1.577	1.727	1.831	9.550
South Atlantic	1.569	1.772	1.999	2.376	2.914	3.441	14.071
KY, TN, AL, MS	0.998	1.109	1.209	1.284	1.352	1.436	7.388
AR, LA, OK, TX	1.149	1.366	1.466	1.631	1.902	2.167	9.681
Mountain	0.374	0.415	0.466	0.569	0.769	0.929	3.523
Pacific	0.625	0.919	1.092	1.625	2.282	2.855	9.398
Sum	11.859	13.773	14.771	16.900	20.020	22.677	100.000

#### Supplementary Rows

Percents	1920	1930	1940	1950	1960	1970
Alaska	0.006170	0.006619	0.008189	0.014471	0.025353	0.033655
Hawaii	0.028719	0.041283	0.047453	0.056091	0.071011	0.086268

#### Contributions to the Total Chi-Square Statistic

Percents	1920	1930	1940	1950	1960	1970	Sum
New England	0.937	0.314	0.054	0.009	0.352	0.469	2.135
NY, NJ, PA	0.665	1.287	0.633	0.006	0.521	2.265	5.378
Great Lakes	0.004	0.085	0.000	0.001	0.005	0.094	0.189
Midwest	5.749	2.039	0.684	0.072	1.546	4.472	14.563
South Atlantic	0.509	1.231	****	0.000	0.285	1.688	3.973
KY, TN, AL, MS	1.454	0.711	1.098	0.087	0.946	2.945	7.242
AR, LA, OK, TX	0.000	0.069	0.077	0.001	0.059	0.030	0.238
Mountain	0.391	0.868	0.497	0.098	0.498	1.834	4.187
Pacific	18.591	9.380	5.458	0.074	7.346	21.248	62.096
Sum	28.302	15.986	8.761	0.349	11.558	35.046	100.000

### Row Profiles

Percents	1920	1930	1940	1950	1960	1970
<b>New England</b>	13.2947	14.6688	15.1557	16.7310	18.8777	21.2722
<b>NY, NJ, PA</b>	*****	*****	15.5085	16.9766	19.2416	20.9484
<b>Great Lakes</b>	11.9129	14.0325	14.7697	16.8626	20.0943	22.3281
<b>Midwest</b>	14.7348	15.6193	15.8777	16.5167	18.0825	19.1691
<b>South Atlantic</b>	11.1535	12.5917	14.2093	16.8872	20.7060	24.4523
<b>KY, TN, AL, MS</b>	13.5033	15.0126	16.3655	17.3813	18.2969	19.4403
<b>AR, LA, OK, TX</b>	11.8687	14.1111	15.1401	16.8471	19.6433	22.3897
<b>Mountain</b>	10.6242	11.7898	13.2166	16.1624	21.8312	26.3758
<b>Pacific</b>	6.6453	9.7823	11.6182	17.2918	24.2784	30.3841

### Supplementary Row Profiles

Percents	1920	1930	1940	1950	1960	1970
<b>Alaska</b>	6.5321	7.0071	8.6698	15.3207	26.8409	35.6295
<b>Hawaii</b>	8.6809	12.4788	14.3438	16.9549	21.4649	26.0766

### Column Profiles

Percents	1920	1930	1940	1950	1960	1970
<b>New England</b>	7.0012	6.6511	6.4078	6.1826	5.8886	5.8582
<b>NY, NJ, PA</b>	21.0586	21.3894	20.9155	20.0109	19.1457	18.4023
<b>Great Lakes</b>	20.3160	20.6042	20.2221	20.1788	20.2983	19.9126
<b>Midwest</b>	11.8664	10.8303	10.2660	9.3337	8.6259	8.0730
<b>South Atlantic</b>	13.2343	12.8641	13.5363	14.0606	14.5532	15.1729
<b>KY, TN, AL, MS</b>	8.4126	8.0529	8.1857	*****	6.7521	6.3336
<b>AR, LA, OK, TX</b>	9.6888	9.9181	9.9227	*****	9.4983	9.5581
<b>Mountain</b>	3.1558	3.0152	3.1519	3.3688	3.8411	4.0971
<b>Pacific</b>	5.2663	6.6748	7.3921	9.6158	11.3968	12.5921

## Annexe 3

### Inertia and Chi-Square Decomposition

Singular Value	Principal Inertia	Chi-Square	Percent	Cumulative Percent	20	40	60	80	100
					-----+	-----+	-----+	-----+	-----+
0.10664	0.01137	1.014E7	98.16	98.16	*****				
0.01238	0.00015	136586	1.32	99.48					
0.00658	0.00004	38540	0.37	99.85					
0.00333	0.00001	9896.6	0.10	99.95					
0.00244	0.00001	5309.9	0.05	100.00					
Total	0.01159	1.033E7	100.00						

Degrees of Freedom = \*\*\*\*

#### Row Coordinates

	Dim1	Dim2
<b>New England</b>	0.0611	0.0132
<b>NY, NJ, PA</b>	0.0546	-0.0117
<b>Great Lakes</b>	*****	-0.0028
<b>Midwest</b>	0.1315	0.0186
<b>South Atlantic</b>	-0.0553	0.0105
<b>KY, TN, AL, MS</b>	0.1044	-0.0144
<b>AR, LA, OK, TX</b>	0.0131	-0.0067
<b>Mountain</b>	-0.1121	0.0338
<b>Pacific</b>	-0.2766	-0.0070

#### Supplementary Row Coordinates

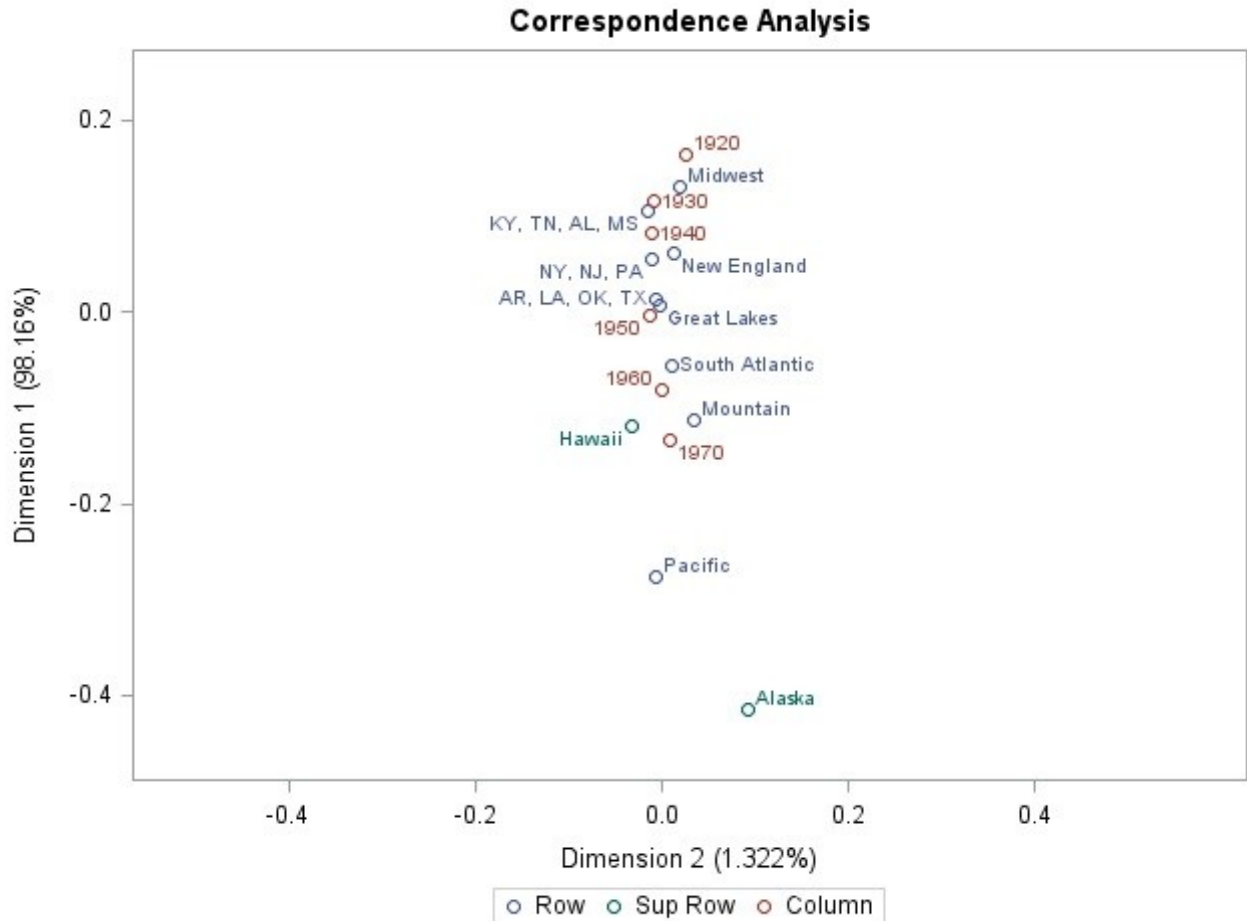
	Dim1	Dim2
<b>Alaska</b>	-0.4152	0.0912
<b>Hawaii</b>	-0.1198	-0.0321

#### Column Coordinates

	Dim1	Dim2
<b>1920</b>	0.1642	0.0263
<b>1930</b>	0.1149	-0.0089
<b>1940</b>	0.0816	-0.0108
<b>1950</b>	-0.0046	-0.0125

### Column Coordinates

	Dim1	Dim2
1960	-0.0815	-0.0007
1970	-0.1335	0.0086



## Annexe 4

The UNIVARIATE Procedure

Variable: tot

Weight: w

### Weighted Moments

<b>N</b>	11	<b>Sum Weights</b>	9000
<b>Mean</b>	99045.3333	<b>Sum Observations</b>	891408000
<b>Std Deviation</b>	1470015.44	<b>Variance</b>	2.16095E12
<b>Skewness</b>	0.73316296	<b>Kurtosis</b>	0.0679846
<b>Uncorrected SS</b>	1.09899E14	<b>Corrected SS</b>	2.16095E13
<b>Coeff Variation</b>	1484.18445	<b>Std Error Mean</b>	15495.3233

### Weighted Basic Statistical Measures

Emplacement		Variabilité	
Mean	99045.33	Std Deviation	1470015
Median	85132.00	Variance	2.16095E12
Mode	.	Range	179433
		Interquartile Range	59574

### Weighted Tests for Location: $\mu_0=0$

Test	Statistique	P-value
Student's t	t 6.39195	$\Pr >  t  < .0001$

### Weighted Quantiles

Quantile	Valeur estimée
100% Max	180275
99%	180275
95%	180275
90%	180275
75% Q3	125432
50% Median	85132
25% Q1	65858
10%	31400
5%	31400
1%	31400
0% Min	842

### Observations extrêmes

Le plus bas		Le plus haut	
Valeur	Obs	Valeur	Obs
842	10	85132	4
2949	11	86294	7
31400	8	125432	5
55669	1	177574	2
65858	6	180275	3

## Annexe 5

```
libname malib "G:\Enseignements\ADD\Examens";
title 'United States Population, 1920-1970';

data malib.USPop;
  * Regions:
  * New England      - ME, NH, VT, MA, RI, CT.
  * Great Lakes      - OH, IN, IL, MI, WI.
  * South Atlantic   - DE, MD, DC, VA, WV, NC, SC, GA, FL.
  * Mountain         - MT, ID, WY, CO, NM, AZ, UT, NV.
  * Pacific          - WA, OR, CA.
  * Note: Multiply data values by 1000 to get populations.;

  input Region $14. y1920 y1930 y1940 y1950 y1960 y1970;
  label y1920 = '1920'    y1930 = '1930'    y1940 = '1940'
        y1950 = '1950'    y1960 = '1960'    y1970 = '1970';
  if region = 'Hawaii' or region = 'Alaska'
    then w = -1000;      /* Flag Supplementary Observations */
    else w = 1000;

  datalines;
New England      7401  8166  8437  9314 10509 11842
NY, NJ, PA      22261 26261 27539 30146 34168 37199
Great Lakes     21476 25297 26626 30399 36225 40252
Midwest         12544 13297 13517 14061 15394 16319
South Atlantic  13990 15794 17823 21182 25972 30671
KY, TN, AL, MS  8893  9887 10778 11447 12050 12803
AR, LA, OK, TX  10242 12177 13065 14538 16951 19321
Mountain        3336  3702  4150  5075  6855  8282
Pacific         5567  8195  9733 14486 20339 25454
Alaska          55    59    73    129   226   300
Hawaii          256   368   423   500   633   769
;
ods graphics on;

proc print data=malib.USPop;
run;

proc corresp data=malib.uspop print=percent observed cellchi2 rp
cp short outc=malib.Coor plot(flip);
  var y1920 -- y1970;
  id Region;
  weight w;
run;

data malib.uspop;
set malib.uspop;
tot=y1920+y1930+y1940+y1950+y1960+y1970;
run;

proc univariate data=malib.uspop;
var tot;
weight w;
run;
```