

Obs	year	population	popmill	tyear	res	res2
1	1790	3929214	3.929	0	0.0838	0.01
2	1800	5308483	5.308	1	0.1376	0.02
3	1810	7239881	7.240	2	0.2958	0.09
4	1820	9638453	9.638	3	0.3295	0.11
5	1830	12860702	12.861	4	0.4108	0.17
6	1840	17063353	17.063	5	0.4643	0.22
7	1850	23191876	23.192	6	1.1512	1.33
8	1860	31443321	31.443	7	2.3329	5.44
9	1870	38558371	38.558	8	0.3745	0.14
10	1880	50189209	50.189	9	0.5413	0.29
11	1890	62979766	62.980	10	-0.8692	0.76
12	1900	76212168	76.212	11	-4.8042	23.08
13	1910	92228496	92.228	12	-8.9392	79.91
14	1920	106021537	106.022	13	-17.9988	323.96
15	1930	123202624	123.203	14	-25.7425	662.68
16	1940	132164569	132.165	15	-42.8354	1834.87
17	1950	151325798	151.326	16	-49.7291	2472.98
18	1960	179323175	179.323	17	-46.6565	2176.83
19	1970	203302031	203.302	18	-45.5303	2073.01
20	1980	226542199	226.542	19	-42.4415	1801.28
21	1990	248709873	248.710	20	-37.4412	1401.84
22	2000	281421906	281.422	21	-18.9302	358.35

The MEANS Procedure

Analysis Variable : res2
Sum
13217.35

The NLIN Procedure
Dependent Variable popmill
Method: Gauss-Newton

Iterative Phase				
Iter	b1	b2	b3	Sum of Squares
0	350.0	4.5000	-0.3000	13217.4
1	370.5	3.7839	-0.2153	1861.7
2	430.4	4.0391	-0.2174	538.3
3	441.0	4.0313	-0.2159	457.8
4	440.8	4.0325	-0.2161	457.8
5	440.8	4.0324	-0.2161	457.8
6	440.8	4.0324	-0.2161	457.8

NOTE: Convergence criterion met.

Estimation Summary	
Method	Gauss-Newton
Iterations	6
R	3.397E-6
PPC(b1)	7.751E-7
RPC(b1)	7.139E-6
Object	1.185E-9
Objective	457.8056
Observations Read	22
Observations Used	22
Observations Missing	0

Note: An intercept was not specified for this model.

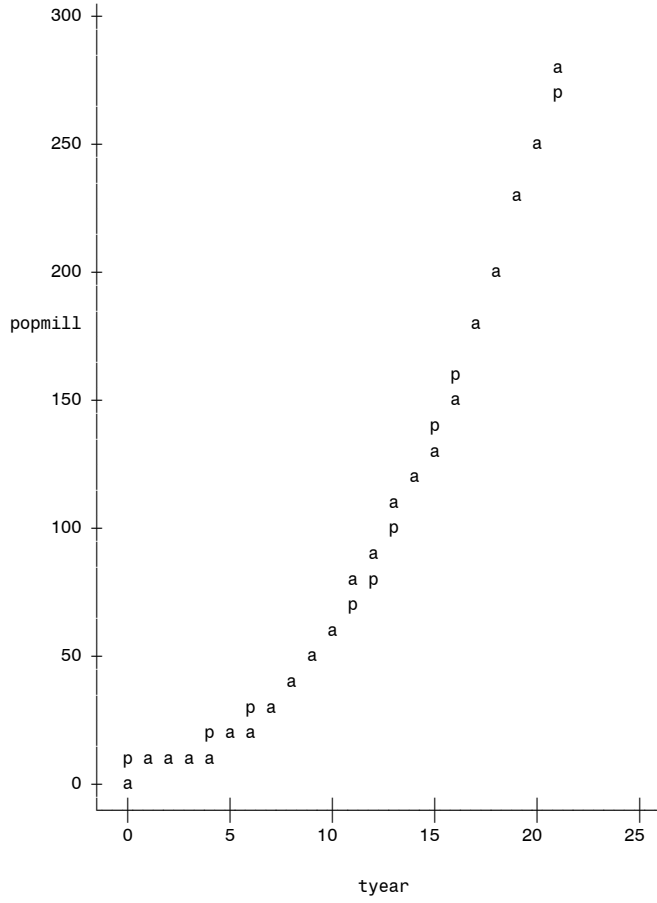
Source	DF	Sum of Squares	Mean Square	F Value	Approx Pr > F
Model	3	356652	118884	4933.96	<.0001
Error	19	457.8	24.0950		
Uncorrected Total	22	357110			

The NLIN Procedure

Parameter	Estimate	Approx Std Error	Approximate 95% Confidence Limits	
b1	440.8	35.0001	367.6	514.1
b2	4.0324	0.0682	3.8897	4.1751
b3	-0.2161	0.0101	-0.2371	-0.1950

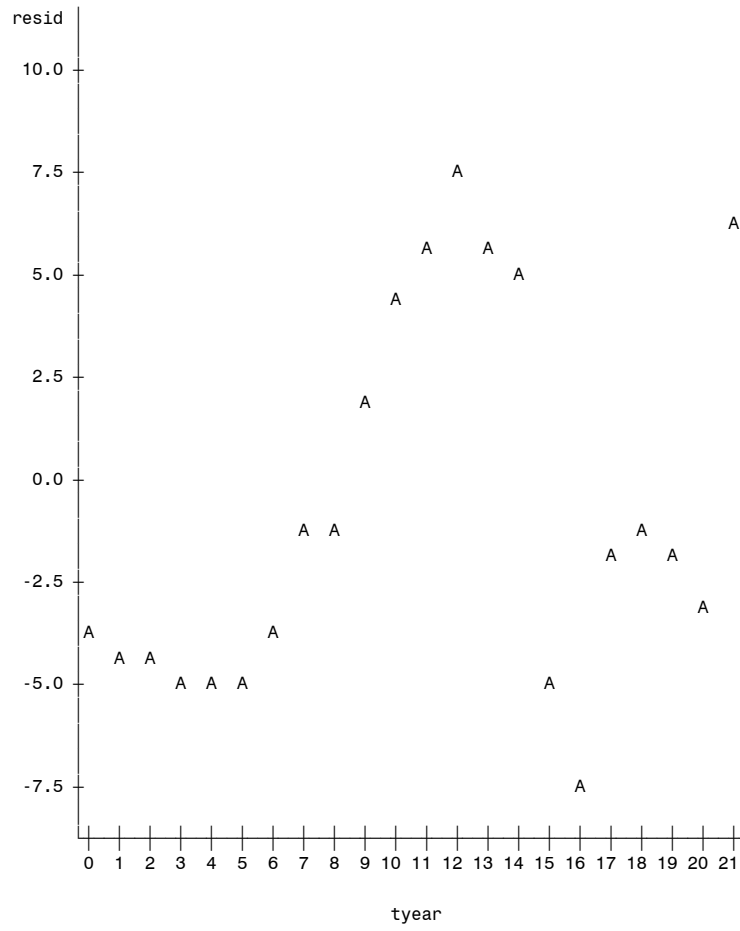
Approximate Correlation Matrix			
	b1	b2	b3
b1	1.0000000	-0.1439487	0.9154730
b2	-0.1439487	1.0000000	-0.5200272
b3	0.9154730	-0.5200272	1.0000000

Plot of popmill*tyear. Symbol used is 'a'.
Plot of pred*tyear. Symbol used is 'p'.



NOTE: 13 obs hidden.

Plot of resid*tyear. Legend: A = 1 obs, B = 2 obs, etc.



The NLIN Procedure
Dependent Variable popmill
Method: Marquardt

Iterative Phase				
Iter	b1	b2	b3	Sum of Squares
0	350.0	4.5000	-0.3000	13217.4
1	370.5	3.7839	-0.2153	1861.7
2	430.4	4.0391	-0.2174	538.3
3	441.0	4.0313	-0.2159	457.8
4	440.8	4.0325	-0.2161	457.8
5	440.8	4.0324	-0.2161	457.8
6	440.8	4.0324	-0.2161	457.8

NOTE: Convergence criterion met.

Estimation Summary	
Method	Marquardt
Iterations	6
R	3.397E-6
PPC(b1)	7.751E-7
RPC(b1)	7.139E-6
Object	1.185E-9
Objective	457.8056
Observations Read	22
Observations Used	22
Observations Missing	0

Note: An intercept was not specified for this model.

Source	DF	Sum of Squares	Mean Square	F Value	Approx Pr > F
Model	3	356652	118884	4933.96	<.0001
Error	19	457.8	24.0950		
Uncorrected Total	22	357110			

The NLIN Procedure

Parameter	Estimate	Approx Std Error	Approximate 95% Confidence Limits	
b1	440.8	35.0001	367.6	514.1
b2	4.0324	0.0682	3.8897	4.1751
b3	-0.2161	0.0101	-0.2371	-0.1950

Approximate Correlation Matrix			
	b1	b2	b3
b1	1.0000000	-0.1439487	0.9154730
b2	-0.1439487	1.0000000	-0.5200272
b3	0.9154730	-0.5200272	1.0000000

The NLIN Procedure
Dependent Variable popmill
Method: Gradient

Iterative Phase				
Iter	b1	b2	b3	Sum of Squares
0	350.0	4.5000	-0.3000	13217.4
1	350.0	4.5030	-0.2508	9633.9
2	350.0	4.5005	-0.2903	6423.2
3	350.0	4.5021	-0.2634	2727.6
4	350.0	4.5013	-0.2746	1352.6
5	350.0	4.5014	-0.2714	1296.3
6	350.0	4.5011	-0.2735	1295.0
7	350.0	4.5011	-0.2722	1277.8
8	350.0	4.5010	-0.2726	1276.9
9	350.0	4.5009	-0.2723	1276.5
10	350.0	4.5007	-0.2726	1276.4
11	350.0	4.5006	-0.2723	1275.7
12	350.0	4.5004	-0.2725	1275.3
13	350.0	4.5003	-0.2723	1275.0
14	350.0	4.5002	-0.2725	1274.6
15	350.0	4.4999	-0.2722	1274.3
16	350.0	4.4997	-0.2726	1274.3
17	350.0	4.4996	-0.2723	1273.4
18	350.0	4.4995	-0.2725	1273.0
19	350.0	4.4993	-0.2723	1272.7
20	350.0	4.4991	-0.2726	1272.6
21	350.0	4.4990	-0.2722	1272.0
22	350.0	4.4988	-0.2725	1271.9
23	350.0	4.4987	-0.2723	1271.1
24	350.0	4.4985	-0.2725	1271.0
25	350.0	4.4983	-0.2721	1270.8
26	350.0	4.4982	-0.2724	1269.9
27	350.0	4.4980	-0.2721	1269.8
28	350.0	4.4978	-0.2725	1269.6
29	350.0	4.4977	-0.2722	1268.6

The NLIN Procedure
Dependent Variable popmill
Method: Gradient

Iterative Phase				
Iter	b1	b2	b3	Sum of Squares
30	350.0	4.4975	-0.2724	1268.4
31	350.0	4.4973	-0.2721	1268.2
32	350.0	4.4972	-0.2723	1267.4
33	350.0	4.4970	-0.2721	1267.1
34	350.0	4.4969	-0.2723	1266.7
35	350.0	4.4967	-0.2720	1266.7
36	350.0	4.4966	-0.2723	1266.0
37	350.0	4.4964	-0.2721	1265.6
38	350.0	4.4962	-0.2724	1265.5
39	350.0	4.4961	-0.2721	1264.8
40	350.0	4.4960	-0.2723	1264.5
41	350.0	4.4958	-0.2720	1264.2
42	350.0	4.4957	-0.2722	1263.7
43	350.0	4.4955	-0.2719	1263.6
44	350.0	4.4954	-0.2722	1262.8
45	350.0	4.4949	-0.2719	1262.3
46	350.0	4.4948	-0.2723	1261.8
47	350.0	4.4946	-0.2719	1261.8
48	350.0	4.4945	-0.2722	1260.9
49	350.0	4.4944	-0.2720	1260.6
50	350.0	4.4942	-0.2722	1260.2
51	350.0	4.4941	-0.2719	1260.1
52	350.0	4.4939	-0.2722	1259.6
53	350.0	4.4938	-0.2719	1259.4
54	350.0	4.4937	-0.2721	1258.7
55	350.0	4.4934	-0.2718	1258.5
56	350.0	4.4932	-0.2722	1258.3
57	350.0	4.4932	-0.2719	1257.5
58	350.0	4.4929	-0.2721	1257.3
59	350.0	4.4928	-0.2718	1257.1

The NLIN Procedure
Dependent Variable popmill
Method: Gradient

Iterative Phase				
Iter	b1	b2	b3	Sum of Squares
60	350.0	4.4927	-0.2720	1256.3
61	350.0	4.4924	-0.2718	1256.1
62	350.0	4.4923	-0.2721	1255.8
63	350.0	4.4922	-0.2719	1255.2
64	350.0	4.4917	-0.2722	1255.1
65	350.0	4.4916	-0.2716	1254.8
66	350.0	4.4915	-0.2720	1253.5
67	350.0	4.4913	-0.2717	1253.3
68	350.0	4.4911	-0.2720	1253.0
69	350.0	4.4911	-0.2718	1252.4
70	350.0	4.4906	-0.2720	1251.9
71	350.0	4.4905	-0.2717	1251.5
72	350.0	4.4904	-0.2719	1250.8
73	350.0	4.4900	-0.2716	1250.4
74	350.0	4.4898	-0.2720	1249.9
75	350.0	4.4898	-0.2718	1249.2
76	350.0	4.4893	-0.2719	1248.7
77	350.0	4.4892	-0.2716	1248.2
78	350.0	4.4890	-0.2719	1248.1
79	350.0	4.4889	-0.2717	1247.4
80	350.0	4.4888	-0.2718	1247.0
81	350.0	4.4887	-0.2716	1246.7
82	350.0	4.4884	-0.2719	1246.5
83	350.0	4.4883	-0.2716	1246.1
84	350.0	4.4882	-0.2718	1245.8
85	350.0	4.4881	-0.2716	1245.3
86	350.0	4.4878	-0.2718	1245.0
87	350.0	4.4877	-0.2715	1244.7
88	350.0	4.4876	-0.2717	1244.1
89	350.0	4.4874	-0.2715	1243.8

The NLIN Procedure
Dependent Variable popmill
Method: Gradient

Iterative Phase				
Iter	b1	b2	b3	Sum of Squares
90	350.0	4.4872	-0.2718	1243.5
91	350.0	4.4871	-0.2716	1242.9
92	350.0	4.4869	-0.2717	1242.6
93	350.0	4.4867	-0.2715	1242.3
94	350.0	4.4865	-0.2718	1242.2
95	350.0	4.4864	-0.2715	1241.5
96	350.0	4.4863	-0.2717	1241.2
97	350.0	4.4861	-0.2714	1241.2
98	350.0	4.4860	-0.2717	1240.5
99	350.0	4.4859	-0.2714	1240.1
100	350.0	4.4857	-0.2717	1240.0

Warning: Maximum number of iterations exceeded.

WARNING: PROC NLIN failed to converge.
--

Estimation Summary (Not Converged)	
Method	Gradient
Iterations	100
Subiterations	256
Average Subiterations	2.56
R	1
PPC(b3)	10468.24
RPC(b3)	6659.676
Object	0.000134
Objective	1239.982
Observations Read	22
Observations Used	22
Observations Missing	0

The NLIN Procedure

Note: An intercept was not specified for this model.

Source	DF	Sum of Squares	Mean Square	F Value	Approx Pr > F
Model	3	355870	118623	1817.64	<.0001
Error	19	1240.0	65.2622		
Uncorrected Total	22	357110			

Parameter	Estimate	Approx Std Error	Approximate 95% Confidence Limits	
b1	350.0	26.6894	294.1	405.9
b2	4.4857	0.1825	4.1036	4.8677
b3	-0.2717	0.0197	-0.3129	-0.2306

Approximate Correlation Matrix			
	b1	b2	b3
b1	1.0000000	-0.6039245	0.8866861
b2	-0.6039245	1.0000000	-0.8954412
b3	0.8866861	-0.8954412	1.0000000

x	y
0	3.929214
1	5.308483
2	7.239881
3	9.638453
4	12.860702
5	17.063353
6	23.191876
7	31.443321
8	38.558371
9	50.189209
10	62.979766
11	76.212168
12	92.228496
13	106.02154
14	123.20262
15	132.16457
16	151.3258
17	179.32318
18	203.30203
19	226.5422
20	248.70987
21	281.42191

beta0
350
4.5
-0.3

sse0
13217.353

e1
0.0837841
0.1375719
0.295774
0.3295052
0.4107858
0.4642974
1.1512014
2.3328772
0.3744836
0.5413363
-0.869167
-4.804158
-8.939178
-17.99876
-25.7425
-42.83543
-49.72908
-46.65653
-45.53029
-42.44148
-37.44119
-18.93022

F1		
0.0109869	-3.80318	0
0.014774	-5.094516	-5.094516
0.0198403	-6.806334	-13.61267
0.026597	-9.061358	-27.18407
0.0355712	-12.00706	-48.02823
0.0474259	-15.81183	-79.05915
0.0629734	-20.6527	-123.9162
0.0831727	-26.68925	-186.8247
0.1090968	-34.01815	-272.1452
0.1418511	-42.60527	-383.4474
0.1824255	-52.20126	-522.0126
0.2314752	-62.26305	-684.8936

F1		
0.2890505	-71.92511	-863.1013
0.3543437	-80.07448	-1040.968
0.4255575	-85.56041	-1197.846
0.5	-87.5	-1312.5
0.5744425	-85.56041	-1368.967
0.6456563	-80.07448	-1361.266
0.7109495	-71.92511	-1294.652
0.7685248	-62.26305	-1182.998
0.8175745	-52.20126	-1044.025
0.8581489	-42.60527	-894.7107

Fe1
-212.7
24908.341
413064.64

sdnobnew
349.99995
4.5059386
-0.201518

ssenotsteep
86475.815

sdbnew
349.99997
4.5029693
-0.250759

ssesteep
9633.9056

fpfinv		
3.9377865	-0.028632	0.0038038
-0.028632	0.0005096	-0.000047
0.0038038	-0.000047	5.0102E-6

addgn	gnnew	gnsse1
20.467453	370.46745	1861.7282
-0.716067	3.7839326	
0.0846576	-0.215342	