Bayesian Cross-Sectional Analysis of the Conditional Distribution of Earnings of Men in the United States, 1967-1996: Appendices

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Appendix Tables

Table 1
Log Marginal Likelihoods relative to conventional Gaussian interactive polynomial model

Year	Gaussian disturbances			Normal mixture disturbances		
	Interactive polynomial	Separable polynomial	Separable smooth function	Interactive polynomial	Separable polynomial	Separable smooth function
1967	−2.56	−3.17	−2.20	285.65	291.61	289.84
1968	−1.58	−5.56	−3.40	182.42	180.13	181.60
1969	−1.79	−6.46	−1.18	219.59	221.03	221.71
1970	−1.91	−11.82	−7.28	224.90	220.64	219.46
1971	−2.21	−18.53	−15.61	219.38	210.52	209.04
1972	−3.01	−19.73	−15.79	182.89	192.99	178.19
1973	1.98	−7.70	−11.32	222.94	211.15	207.48
1974	−2.47	−12.08	−8.92	193.36	186.57	189.72
1975	−1.99	−14.64	−13.65	203.21	189.90	188.63
1976	0.45	−7.65	−11.68	207.81	201.36	200.73
1977	0.50	−4.11	−5.83	215.82	209.81	206.86
1978	1.18	−12.33	−14.82	228.57	222.61	219.24
1979	3.74	1.32	−5.70	250.65	251.08	242.91
1980	1.11	0.96	−0.55	211.86	207.00	203.61
1981	2.66	4.01	1.32	270.66	266.15	265.29
1982	3.15	5.44	0.96	255.20	255.70	252.17
1983	−1.62	−0.92	3.21	310.98	312.61	310.00
1984	−1.83	−4.16	−1.50	252.53	251.15	244.21
1985	−0.99	−5.49	−3.95	314.07	308.96	303.75
1986	0.94	4.10	5.94	223.06	225.08	217.76
1987	2.83	3.44	4.41	254.39	257.03	250.44
1988	1.66	1.98	3.95	244.21	245.75	238.77
1989	7.87	7.89	6.40	216.44	217.10	206.31
1990	−1.77	1.72	7.18	221.18	224.01	226.62
1991	1.30	4.64	7.28	256.59	259.44	261.06
1992	−0.97	0.54	4.98	327.68	330.87	328.94
1993	1.06	3.47	4.85	296.32	301.75	295.49
1994	2.52	4.61	6.21	226.98	233.17	233.77
1995	−0.50	6.15	9.30	252.36	263.23	267.07
1996	−0.60	−0.26	3.61	180.28	182.84	178.52

Table 2
Posterior predictive p-values

Sample average log earnings (education = 16) – Sample average log earnings (education = 12)

	Gaussian disturbances			Normal mixture disturbances		
	Interactive	Separable	Separable	Interactive	Separable	Separable
Year	polynomial	polynomial	smooth function	polynomial	polynomial	smooth function
1967	0.590	0.562	0.507	0.770	0.492	0.275
1968	0.990	0.954	0.912	0.996	0.966	0.763
1969	0.976	0.905	0.900	0.989	0.936	0.631
1970	0.929	0.771	0.763	0.914	0.766	0.417
1971	0.916	0.760	0.792	0.891	0.708	0.530
1972	0.977	0.882	0.877	0.979	0.930	0.739
1973	0.912	0.904	0.910	0.959	0.946	0.904
1974	0.922	0.803	0.812	0.945	0.851	0.795
1975	0.972	0.848	0.809	0.996	0.987	0.943
1976	0.926	0.931	0.908	0.984	0.987	0.872
1977	0.996	0.961	0.948	1.000	0.999	0.983
1978	0.897	0.832	0.790	0.934	0.928	0.813
1979	0.961	0.942	0.911	0.994	0.988	0.981
1980	0.785	0.836	0.733	0.887	0.842	0.674
1981	0.647	0.742	0.657	0.892	0.876	0.688
1982	0.880	0.902	0.815	0.962	0.980	0.897
1983	0.796	0.686	0.587	0.904	0.850	0.737
1984	0.732	0.698	0.569	0.761	0.782	0.648
1985	0.925	0.784	0.679	0.983	0.969	0.884
1986	0.886	0.766	0.678	0.999	0.965	0.905
1987	0.964	0.921	0.836	0.994	0.990	0.952
1988	0.787	0.709	0.597	0.943	0.921	0.831
1989	0.301	0.297	0.297	0.736	0.736	0.793
1990	0.178	0.120	0.121	0.457	0.281	0.482
1991	0.465	0.375	0.295	0.610	0.488	0.583
1992	0.481	0.361	0.324	0.512	0.329	0.419
1993	0.599	0.621	0.494	0.668	0.547	0.579
1994	0.602	0.436	0.406	0.544	0.427	0.495
1995	0.789	0.699	0.615	0.878	0.719	0.531
1996	0.816	0.856	0.731	0.829	0.851	0.726

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                              Table 3
                    Posterior predictive p-values

        Sample average log earnings (age = 45) - Sample average log earnings (age = 25)

                   Gaussian disturbances              Normal mixture disturbances
        Interactive   Separable    Separable     Interactive   Separable    Separable
Year    polynomial    polynomial smooth function  polynomial    polynomial smooth function
1967      0.396        0.447        0.465           0.499        0.456        0.420
1968      0.431        0.484        0.441           0.506        0.555        0.515
1969      0.650        0.693        0.644           0.637        0.697        0.625
1970      0.262        0.220        0.164           0.290        0.302        0.235
1971      0.656        0.851        0.822           0.854        0.932        0.928
1972      0.532        0.552        0.519           0.633        0.691        0.674
1973      0.686        0.735        0.755           0.759        0.794        0.791
1974      0.422        0.357        0.379           0.594        0.564        0.657
1975      0.806        0.790        0.756           0.903        0.860        0.907
1976      0.581        0.501        0.490           0.666        0.631        0.679
1977      0.238        0.221        0.190           0.448        0.421        0.468
1978      0.891        0.825        0.838           0.948        0.942        0.925
1979      0.307        0.235        0.262           0.383        0.301        0.322
1980      0.674        0.597        0.611           0.724        0.648        0.715
1981      0.159        0.150        0.148           0.183        0.180        0.164
1982      0.776        0.703        0.723           0.795        0.779        0.771
1983      0.670        0.656        0.660           0.551        0.532        0.558
1984      0.928        0.921        0.904           0.919        0.911        0.925
1985      0.095        0.078        0.116           0.041        0.042        0.055
1986      0.182        0.188        0.204           0.161        0.120        0.170
1987      0.738        0.673        0.666           0.736        0.689        0.693
1988      0.917        0.886        0.894           0.891        0.878        0.853
1989      0.879        0.864        0.873           0.892        0.904        0.907
1990      0.402        0.393        0.393           0.347        0.323        0.368
1991      0.449        0.469        0.563           0.517        0.555        0.584
1992      0.259        0.235        0.262           0.226        0.242        0.322
1993      0.751        0.734        0.741           0.670        0.642        0.762
1994      0.383        0.434        0.449           0.356        0.352        0.415
1995      0.355        0.372        0.453           0.347        0.377        0.522
1996      0.305        0.314        0.406           0.312        0.321        0.421
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                              Table 4
                      Posterior predictive p-values

        Sample average log earnings (age = 60) - Sample average log earnings (age = 45)


               Gaussian disturbances              Normal mixture disturbances
          Interactive  Separable    Separable    Interactive  Separable    Separable
Year      polynomial   polynomial smooth function polynomial  polynomial smooth function
1967        0.960        0.947       0.957          0.876        0.894       0.911
1968        0.237        0.214       0.259          0.117        0.092       0.092
1969        0.372        0.357       0.325          0.124        0.098       0.104
1970        0.564        0.703       0.757          0.388        0.462       0.519
1971        0.592        0.520       0.678          0.292        0.204       0.284
1972        0.132        0.044       0.059          0.009        0.003       0.002
1973        0.862        0.886       0.939          0.642        0.684       0.741
1974        0.545        0.497       0.652          0.213        0.185       0.247
1975        0.206        0.194       0.302          0.034        0.039       0.061
1976        0.569        0.602       0.713          0.208        0.253       0.267
1977        0.899        0.892       0.939          0.404        0.468       0.445
1978        0.158        0.248       0.306          0.021        0.019       0.037
1979        0.907        0.935       0.978          0.674        0.747       0.789
1980        0.957        0.971       0.977          0.875        0.904       0.884
1981        0.892        0.899       0.941          0.762        0.792       0.825
1982        0.082        0.119       0.131          0.018        0.028       0.023
1983        0.406        0.429       0.443          0.149        0.164       0.173
1984        0.247        0.265       0.304          0.110        0.119       0.146
1985        0.410        0.487       0.475          0.159        0.187       0.179
1986        0.949        0.947       0.962          0.846        0.908       0.907
1987        0.957        0.967       0.983          0.808        0.836       0.866
1988        0.199        0.171       0.291          0.076        0.059       0.102
1989        0.445        0.470       0.661          0.121        0.144       0.239
1990        0.273        0.316       0.363          0.069        0.067       0.092
1991        0.102        0.087       0.136          0.016        0.021       0.030
1992        0.833        0.869       0.908          0.425        0.471       0.547
1993        0.852        0.862       0.935          0.536        0.572       0.607
1994        0.327        0.343       0.455          0.061        0.070       0.114
1995        0.685        0.691       0.709          0.353        0.356       0.354
1996        0.031        0.038       0.082          0.018        0.018       0.030
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Table 5
Posterior predictive p-values

Standard deviation of model least squares residuals

Year	Gaussian disturbances			Normal mixture disturbances		
------	Interactive polynomial	Separable polynomial	Separable smooth function	Interactive polynomial	Separable polynomial	Separable smooth function
1967	0.539	0.579	0.451	0.419	0.411	0.351
1968	0.537	0.528	0.423	0.393	0.411	0.368
1969	0.532	0.529	0.364	0.391	0.412	0.310
1970	0.543	0.530	0.441	0.471	0.455	0.376
1971	0.549	0.558	0.467	0.434	0.417	0.353
1972	0.535	0.537	0.456	0.388	0.398	0.328
1973	0.533	0.551	0.443	0.424	0.410	0.305
1974	0.543	0.532	0.612	0.423	0.440	0.455
1975	0.515	0.521	0.444	0.414	0.426	0.378
1976	0.560	0.517	0.381	0.372	0.376	0.273
1977	0.550	0.559	0.334	0.378	0.376	0.256
1978	0.579	0.573	0.420	0.426	0.370	0.275
1979	0.534	0.551	0.392	0.375	0.398	0.270
1980	0.539	0.522	0.522	0.453	0.455	0.426
1981	0.541	0.532	0.488	0.436	0.446	0.438
1982	0.522	0.551	0.459	0.431	0.431	0.381
1983	0.549	0.548	0.530	0.449	0.447	0.422
1984	0.548	0.551	0.514	0.471	0.478	0.414
1985	0.531	0.559	0.526	0.427	0.452	0.428
1986	0.502	0.561	0.486	0.010	0.470	0.414
1987	0.501	0.545	0.390	0.427	0.425	0.349
1988	0.516	0.531	0.506	0.441	0.447	0.374
1989	0.567	0.537	0.340	0.422	0.419	0.263
1990	0.495	0.530	0.564	0.448	0.443	0.469
1991	0.544	0.547	0.520	0.453	0.444	0.431
1992	0.554	0.526	0.490	0.462	0.444	0.386
1993	0.538	0.523	0.434	0.440	0.457	0.349
1994	0.547	0.541	0.496	0.449	0.416	0.424
1995	0.535	0.489	0.439	0.437	0.431	0.409
1996	0.544	0.554	0.478	0.465	0.439	0.426

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                                 Table 6
                        Posterior predictive p-values

                Coefficient of skewness of model least squares residuals


              Gaussian disturbances              Normal mixture disturbances
         Interactive  Separable    Separable     Interactive  Separable    Separable
Year     polynomial   polynomial smooth function polynomial   polynomial smooth function
1967       0.000        0.000        0.000          0.345        0.354        0.352
1968       0.000        0.000        0.000          0.453        0.328        0.363
1969       0.000        0.000        0.000          0.470        0.430        0.585
1970       0.000        0.000        0.000          0.136        0.152        0.142
1971       0.000        0.000        0.000          0.082        0.103        0.143
1972       0.000        0.000        0.000          0.410        0.418        0.400
1973       0.000        0.000        0.000          0.398        0.346        0.283
1974       0.000        0.000        0.000          0.225        0.284        0.205
1975       0.000        0.000        0.000          0.275        0.304        0.274
1976       0.000        0.000        0.000          0.353        0.347        0.429
1977       0.000        0.000        0.000          0.204        0.190        0.170
1978       0.000        0.000        0.000          0.082        0.135        0.130
1979       0.000        0.000        0.000          0.121        0.125        0.170
1980       0.000        0.000        0.000          0.129        0.145        0.113
1981       0.000        0.000        0.000          0.172        0.175        0.107
1982       0.000        0.000        0.000          0.317        0.295        0.204
1983       0.000        0.000        0.000          0.164        0.188        0.146
1984       0.000        0.000        0.000          0.217        0.228        0.220
1985       0.000        0.000        0.000          0.421        0.440        0.398
1986       0.000        0.000        0.000          0.900        0.231        0.176
1987       0.000        0.000        0.000          0.653        0.651        0.737
1988       0.000        0.000        0.000          0.723        0.678        0.684
1989       0.000        0.000        0.000          0.702        0.745        0.826
1990       0.000        0.000        0.000          0.277        0.180        0.140
1991       0.000        0.000        0.000          0.402        0.400        0.502
1992       0.000        0.000        0.000          0.253        0.255        0.287
1993       0.000        0.000        0.000          0.585        0.567        0.616
1994       0.000        0.000        0.000          0.760        0.766        0.808
1995       0.000        0.000        0.000          0.491        0.516        0.513
1996       0.000        0.000        0.000          0.514        0.542        0.554
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Table 7
Posterior predictive p-values

Coefficient of kurtosis of model least squares residuals

Year	Gaussian disturbances			Normal mixture disturbances		
	Interactive polynomial	Separable polynomial	Separable smooth function	Interactive polynomial	Separable polynomial	Separable smooth function
1967	1.000	1.000	1.000	0.693	0.706	0.739
1968	1.000	1.000	1.000	0.671	0.756	0.787
1969	1.000	1.000	1.000	0.604	0.660	0.587
1970	1.000	1.000	1.000	0.918	0.901	0.931
1971	1.000	1.000	1.000	0.967	0.948	0.945
1972	1.000	1.000	1.000	0.598	0.572	0.495
1973	1.000	1.000	1.000	0.750	0.785	0.828
1974	1.000	1.000	1.000	0.796	0.770	0.838
1975	1.000	1.000	1.000	0.866	0.784	0.812
1976	1.000	1.000	1.000	0.805	0.814	0.805
1977	1.000	1.000	1.000	0.898	0.904	0.933
1978	1.000	1.000	1.000	0.951	0.948	0.944
1979	1.000	1.000	1.000	0.945	0.940	0.898
1980	1.000	1.000	1.000	0.934	0.920	0.945
1981	1.000	1.000	1.000	0.859	0.852	0.932
1982	1.000	1.000	1.000	0.823	0.842	0.896
1983	1.000	1.000	1.000	0.863	0.844	0.872
1984	1.000	1.000	1.000	0.889	0.903	0.896
1985	1.000	1.000	1.000	0.648	0.604	0.655
1986	1.000	1.000	1.000	0.319	0.965	0.970
1987	1.000	1.000	1.000	0.677	0.637	0.693
1988	1.000	1.000	1.000	0.736	0.718	0.678
1989	1.000	1.000	1.000	0.882	0.868	0.829
1990	1.000	1.000	1.000	0.886	0.948	0.977
1991	1.000	1.000	1.000	0.756	0.761	0.746
1992	1.000	1.000	1.000	0.884	0.892	0.909
1993	1.000	1.000	1.000	0.525	0.522	0.496
1994	1.000	1.000	1.000	0.394	0.368	0.362
1995	1.000	1.000	1.000	0.402	0.400	0.433
1996	1.000	1.000	1.000	0.418	0.395	0.428

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                              Table 8
                    Posterior predictive p-values

                        Sample Gini coefficient


              Gaussian disturbances              Normal mixture disturbances
        Interactive  Separable    Separable      Interactive  Separable    Separable
Year    polynomial   polynomial smooth function  polynomial   polynomial smooth function
1967      0.000        0.000        0.000           0.443        0.463        0.408
1968      0.000        0.000        0.000           0.382        0.369        0.316
1969      0.000        0.000        0.000           0.401        0.412        0.349
1970      0.000        0.000        0.000           0.377        0.322        0.281
1971      0.000        0.000        0.000           0.240        0.263        0.224
1972      0.000        0.000        0.000           0.264        0.269        0.243
1973      0.000        0.000        0.000           0.220        0.212        0.227
1974      0.000        0.000        0.000           0.352        0.437        0.431
1975      0.000        0.000        0.000           0.481        0.434        0.402
1976      0.000        0.000        0.000           0.339        0.342        0.367
1977      0.000        0.000        0.000           0.248        0.222        0.226
1978      0.000        0.000        0.000           0.194        0.301        0.265
1979      0.000        0.000        0.000           0.136        0.125        0.131
1980      0.000        0.000        0.000           0.178        0.191        0.209
1981      0.000        0.000        0.000           0.257        0.295        0.286
1982      0.000        0.000        0.000           0.356        0.392        0.385
1983      0.000        0.000        0.000           0.469        0.507        0.455
1984      0.000        0.000        0.000           0.616        0.699        0.653
1985      0.000        0.000        0.000           0.652        0.705        0.661
1986      0.000        0.000        0.000           0.528        0.750        0.711
1987      0.000        0.000        0.000           0.832        0.841        0.816
1988      0.000        0.000        0.000           0.906        0.919        0.878
1989      0.000        0.000        0.000           0.918        0.923        0.888
1990      0.000        0.000        0.000           0.791        0.766        0.729
1991      0.000        0.000        0.000           0.728        0.765        0.701
1992      0.000        0.000        0.000           0.599        0.627        0.531
1993      0.000        0.000        0.000           0.758        0.773        0.729
1994      0.000        0.000        0.000           0.771        0.752        0.735
1995      0.000        0.000        0.000           0.705        0.708        0.691
1996      0.012        0.019        0.006           0.719        0.734        0.716
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Table 9
Posterior predictive p-values

Proportion of the sample with earnings less than half the median

	Gaussian disturbances			Normal mixture disturbances		
Year	Interactive polynomial	Separable polynomial	Separable smooth function	Interactive polynomial	Separable polynomial	Separable smooth function
1967	0.000	0.000	0.000	0.417	0.599	0.604
1968	0.021	0.020	0.020	0.363	0.539	0.532
1969	0.016	0.016	0.015	0.643	0.660	0.647
1970	0.023	0.019	0.013	0.437	0.500	0.470
1971	0.208	0.189	0.145	0.749	0.830	0.839
1972	0.158	0.138	0.101	0.833	0.859	0.848
1973	0.109	0.058	0.079	0.864	0.803	0.824
1974	0.264	0.206	0.192	0.894	0.920	0.885
1975	0.108	0.082	0.070	0.509	0.525	0.555
1976	0.026	0.009	0.014	0.582	0.478	0.494
1977	0.225	0.166	0.164	0.931	0.877	0.877
1978	0.171	0.089	0.109	0.800	0.714	0.705
1979	0.069	0.052	0.062	0.848	0.858	0.841
1980	0.169	0.117	0.141	0.863	0.837	0.817
1981	0.281	0.265	0.275	0.903	0.851	0.850
1982	0.575	0.547	0.546	0.980	0.965	0.962
1983	0.229	0.239	0.194	0.973	0.966	0.956
1984	0.617	0.588	0.578	0.961	0.933	0.919
1985	0.068	0.074	0.071	0.923	0.907	0.891
1986	0.876	0.915	0.896	0.999	0.986	0.980
1987	0.121	0.139	0.126	0.924	0.930	0.936
1988	0.313	0.362	0.318	0.943	0.925	0.908
1989	0.321	0.285	0.267	0.739	0.767	0.783
1990	0.554	0.585	0.570	0.972	0.967	0.971
1991	0.083	0.085	0.073	0.757	0.759	0.761
1992	0.012	0.023	0.012	0.730	0.745	0.719
1993	0.005	0.007	0.002	0.789	0.804	0.779
1994	0.000	0.003	0.004	0.651	0.717	0.697
1995	0.000	0.000	0.000	0.391	0.467	0.451
1996	0.000	0.000	0.000	0.254	0.271	0.226

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                                   Table 10
                         Posterior predictive p-values

                   Proportion of sample earings acruing to the top decile


             Gaussian disturbances                 Normal mixture disturbances
        Interactive   Separable    Separable     Interactive   Separable    Separable
Year    polynomial    polynomial smooth function  polynomial    polynomial smooth function
1967      0.000         0.000        0.000          0.611         0.581        0.550
1968      0.000         0.000        0.000          0.513         0.437        0.425
1969      0.000         0.000        0.000          0.612         0.611        0.572
1970      0.000         0.000        0.000          0.627         0.540        0.492
1971      0.000         0.000        0.000          0.387         0.390        0.340
1972      0.000         0.000        0.000          0.502         0.426        0.447
1973      0.000         0.000        0.000          0.380         0.361        0.416
1974      0.000         0.000        0.000          0.598         0.687        0.691
1975      0.000         0.000        0.000          0.645         0.594        0.585
1976      0.000         0.000        0.000          0.504         0.526        0.584
1977      0.000         0.000        0.000          0.428         0.437        0.474
1978      0.000         0.000        0.000          0.356         0.461        0.482
1979      0.000         0.000        0.000          0.258         0.250        0.258
1980      0.000         0.000        0.000          0.395         0.454        0.511
1981      0.000         0.000        0.000          0.497         0.574        0.590
1982      0.000         0.000        0.000          0.518         0.568        0.585
1983      0.000         0.000        0.000          0.622         0.668        0.652
1984      0.000         0.000        0.000          0.774         0.857        0.836
1985      0.000         0.000        0.000          0.749         0.804        0.777
1986      0.000         0.000        0.000          0.660         0.885        0.870
1987      0.003         0.003        0.000          0.922         0.912        0.901
1988      0.004         0.006        0.004          0.963         0.979        0.968
1989      0.045         0.048        0.026          0.982         0.987        0.976
1990      0.000         0.001        0.000          0.929         0.918        0.905
1991      0.000         0.000        0.000          0.877         0.909        0.885
1992      0.000         0.000        0.000          0.711         0.738        0.659
1993      0.032         0.025        0.023          0.841         0.846        0.821
1994      0.075         0.076        0.067          0.841         0.812        0.816
1995      0.059         0.053        0.038          0.765         0.763        0.777
1996      0.445         0.495        0.407          0.749         0.766        0.766
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Table 11
Expected log earngings conditional on 12 years of education, all ages, in 1986

	Gaussian disturbances			Normal mixture disturbances		
Age	Interactive polynomial	Separable polynomial	Separable smooth function	Interactive polynomial	Separable polynomial	Separable smooth function
25	10.066 (0.055)	10.029 (0.048)	10.050 (0.047)	10.026 (0.046)	10.015 (0.038)	10.051 (0.038)
26	10.129 (0.040)	10.094 (0.036)	10.093 (0.036)	10.101 (0.033)	10.086 (0.028)	10.096 (0.030)
27	10.180 (0.031)	10.148 (0.028)	10.134 (0.030)	10.163 (0.026)	10.146 (0.023)	10.141 (0.026)
28	10.222 (0.028)	10.194 (0.025)	10.173 (0.028)	10.213 (0.023)	10.196 (0.021)	10.182 (0.025)
29	10.256 (0.027)	10.233 (0.024)	10.209 (0.027)	10.253 (0.023)	10.237 (0.021)	10.220 (0.025)
30	10.284 (0.028)	10.264 (0.025)	10.241 (0.026)	10.285 (0.023)	10.271 (0.021)	10.254 (0.025)
31	10.305 (0.028)	10.291 (0.025)	10.269 (0.027)	10.310 (0.024)	10.299 (0.021)	10.284 (0.025)
32	10.322 (0.028)	10.312 (0.025)	10.294 (0.027)	10.329 (0.024)	10.321 (0.021)	10.311 (0.025)
33	10.335 (0.028)	10.330 (0.025)	10.314 (0.028)	10.343 (0.024)	10.339 (0.021)	10.333 (0.026)
34	10.346 (0.027)	10.344 (0.024)	10.331 (0.029)	10.353 (0.023)	10.354 (0.021)	10.352 (0.026)
35	10.354 (0.026)	10.356 (0.024)	10.346 (0.030)	10.361 (0.023)	10.366 (0.021)	10.368 (0.027)
36	10.361 (0.026)	10.367 (0.024)	10.360 (0.030)	10.368 (0.023)	10.377 (0.021)	10.381 (0.027)
37	10.367 (0.026)	10.375 (0.024)	10.374 (0.031)	10.373 (0.023)	10.386 (0.021)	10.393 (0.027)
38	10.372 (0.026)	10.384 (0.024)	10.390 (0.031)	10.378 (0.023)	10.395 (0.021)	10.407 (0.027)
39	10.378 (0.027)	10.391 (0.025)	10.408 (0.031)	10.383 (0.023)	10.403 (0.022)	10.422 (0.028)
40	10.384 (0.028)	10.399 (0.025)	10.424 (0.032)	10.389 (0.024)	10.412 (0.023)	10.436 (0.028)
41	10.391 (0.029)	10.406 (0.026)	10.437 (0.032)	10.395 (0.025)	10.420 (0.023)	10.450 (0.029)
42	10.399 (0.030)	10.414 (0.027)	10.446 (0.032)	10.403 (0.026)	10.430 (0.024)	10.460 (0.030)
43	10.408 (0.030)	10.421 (0.028)	10.449 (0.032)	10.412 (0.027)	10.440 (0.024)	10.465 (0.031)
44	10.417 (0.031)	10.429 (0.028)	10.448 (0.033)	10.423 (0.027)	10.450 (0.025)	10.468 (0.032)
45	10.427 (0.031)	10.437 (0.028)	10.445 (0.034)	10.434 (0.027)	10.461 (0.025)	10.470 (0.033)
46	10.438 (0.030)	10.445 (0.029)	10.443 (0.035)	10.447 (0.027)	10.472 (0.025)	10.473 (0.034)
47	10.448 (0.030)	10.453 (0.029)	10.443 (0.036)	10.461 (0.027)	10.484 (0.025)	10.479 (0.035)
48	10.459 (0.030)	10.460 (0.029)	10.443 (0.038)	10.474 (0.027)	10.495 (0.026)	10.487 (0.035)
49	10.469 (0.030)	10.466 (0.030)	10.442 (0.039)	10.488 (0.028)	10.505 (0.027)	10.493 (0.036)
50	10.477 (0.030)	10.470 (0.031)	10.441 (0.039)	10.500 (0.028)	10.514 (0.028)	10.499 (0.036)
51	10.484 (0.031)	10.473 (0.032)	10.439 (0.039)	10.511 (0.029)	10.521 (0.029)	10.502 (0.036)
52	10.488 (0.032)	10.472 (0.034)	10.435 (0.039)	10.520 (0.030)	10.526 (0.030)	10.504 (0.036)
53	10.489 (0.034)	10.468 (0.035)	10.429 (0.040)	10.525 (0.030)	10.527 (0.032)	10.502 (0.037)
54	10.485 (0.036)	10.460 (0.036)	10.419 (0.040)	10.526 (0.031)	10.523 (0.033)	10.496 (0.037)
55	10.476 (0.037)	10.447 (0.038)	10.405 (0.040)	10.521 (0.032)	10.515 (0.033)	10.486 (0.037)
56	10.460 (0.039)	10.428 (0.038)	10.387 (0.041)	10.510 (0.032)	10.499 (0.034)	10.472 (0.037)
57	10.436 (0.040)	10.401 (0.039)	10.363 (0.041)	10.490 (0.032)	10.477 (0.034)	10.452 (0.037)
58	10.404 (0.041)	10.367 (0.039)	10.335 (0.043)	10.460 (0.032)	10.445 (0.034)	10.427 (0.038)
59	10.361 (0.042)	10.323 (0.040)	10.300 (0.045)	10.420 (0.034)	10.404 (0.035)	10.393 (0.040)
60	10.306 (0.044)	10.268 (0.043)	10.257 (0.048)	10.366 (0.038)	10.350 (0.040)	10.352 (0.044)
61	10.237 (0.050)	10.202 (0.049)	10.208 (0.053)	10.298 (0.045)	10.284 (0.048)	10.302 (0.050)
62	10.154 (0.061)	10.122 (0.061)	10.155 (0.059)	10.213 (0.058)	10.203 (0.061)	10.246 (0.059)
63	10.054 (0.077)	10.027 (0.077)	10.098 (0.069)	10.110 (0.076)	10.106 (0.079)	10.186 (0.072)
64	9.935 (0.100)	9.916 (0.100)	10.038 (0.082)	9.986 (0.100)	9.990 (0.102)	10.122 (0.087)
65	9.796 (0.130)	9.787 (0.129)	9.978 (0.098)	9.839 (0.130)	9.854 (0.131)	10.057 (0.105)

Table 12
Expected log earngings at age 40, all levels of education, in 1986

	Gaussian disturbances			Normal mixture disturbances		
	Interactive	Separable	Separable	Interactive	Separable	Separable
Education	polynomial	polynomial	smooth function	polynomial	polynomial	smooth function
1	9.041 (0.119)	9.587 (0.215)	9.725 (0.208)	9.144 (0.096)	9.352 (0.189)	9.825 (0.396)
2	9.163 (0.110)	9.637 (0.182)	9.763 (0.173)	9.257 (0.089)	9.447 (0.160)	9.738 (0.292)
3	9.285 (0.101)	9.692 (0.151)	9.802 (0.142)	9.370 (0.082)	9.542 (0.133)	9.683 (0.210)
4	9.407 (0.093)	9.752 (0.124)	9.846 (0.116)	9.483 (0.075)	9.637 (0.109)	9.682 (0.148)
5	9.529 (0.084)	9.816 (0.100)	9.896 (0.095)	9.596 (0.068)	9.733 (0.088)	9.731 (0.111)
6	9.652 (0.075)	9.885 (0.079)	9.951 (0.077)	9.710 (0.061)	9.829 (0.069)	9.820 (0.090)
7	9.774 (0.066)	9.959 (0.061)	10.012 (0.064)	9.823 (0.054)	9.925 (0.054)	9.926 (0.079)
8	9.896 (0.058)	10.037 (0.047)	10.080 (0.054)	9.936 (0.047)	10.022 (0.041)	10.046 (0.063)
9	10.018 (0.049)	10.121 (0.037)	10.155 (0.046)	10.049 (0.041)	10.119 (0.032)	10.163 (0.054)
10	10.140 (0.041)	10.209 (0.030)	10.237 (0.040)	10.162 (0.035)	10.216 (0.027)	10.250 (0.048)
11	10.262 (0.034)	10.301 (0.027)	10.327 (0.035)	10.276 (0.029)	10.314 (0.024)	10.327 (0.042)
12	10.384 (0.028)	10.399 (0.025)	10.424 (0.032)	10.389 (0.024)	10.412 (0.023)	10.436 (0.028)
13	10.507 (0.024)	10.501 (0.024)	10.526 (0.031)	10.502 (0.021)	10.510 (0.022)	10.522 (0.035)
14	10.629 (0.023)	10.607 (0.024)	10.634 (0.032)	10.615 (0.021)	10.609 (0.021)	10.595 (0.034)
15	10.751 (0.026)	10.719 (0.024)	10.753 (0.032)	10.728 (0.022)	10.708 (0.021)	10.711 (0.038)
16	10.873 (0.031)	10.835 (0.025)	10.874 (0.031)	10.841 (0.026)	10.807 (0.022)	10.846 (0.031)
17	10.995 (0.038)	10.956 (0.031)	10.994 (0.037)	10.955 (0.031)	10.907 (0.026)	10.936 (0.034)

Table 13
Log return to college vs. high school education at age 40

	Gaussian disturbances			Normal mixture disturbances		
Year	Interactive polynomial	Separable polynomial	Separable smooth function	Interactive polynomial	Separable polynomial	Separable smooth function
1967	0.361 (0.027)	0.343 (0.031)	0.353 (0.034)	0.304 (0.020)	0.353 (0.022)	0.389 (0.033)
1968	0.339 (0.028)	0.346 (0.028)	0.361 (0.033)	0.288 (0.021)	0.344 (0.023)	0.403 (0.035)
1969	0.359 (0.031)	0.338 (0.030)	0.339 (0.034)	0.330 (0.022)	0.337 (0.023)	0.399 (0.033)
1970	0.365 (0.030)	0.335 (0.031)	0.334 (0.035)	0.336 (0.024)	0.342 (0.023)	0.397 (0.033)
1971	0.356 (0.033)	0.325 (0.030)	0.326 (0.033)	0.330 (0.024)	0.344 (0.022)	0.369 (0.033)
1972	0.343 (0.032)	0.323 (0.028)	0.324 (0.032)	0.316 (0.025)	0.313 (0.022)	0.357 (0.033)
1973	0.329 (0.031)	0.279 (0.028)	0.283 (0.031)	0.313 (0.025)	0.265 (0.021)	0.280 (0.032)
1974	0.373 (0.032)	0.314 (0.027)	0.312 (0.030)	0.354 (0.028)	0.303 (0.021)	0.311 (0.031)
1975	0.374 (0.035)	0.331 (0.027)	0.344 (0.030)	0.335 (0.027)	0.277 (0.020)	0.303 (0.031)
1976	0.393 (0.035)	0.264 (0.026)	0.275 (0.030)	0.331 (0.028)	0.244 (0.021)	0.289 (0.031)
1977	0.379 (0.036)	0.316 (0.026)	0.335 (0.029)	0.362 (0.027)	0.276 (0.020)	0.315 (0.031)
1978	0.390 (0.034)	0.263 (0.026)	0.271 (0.030)	0.356 (0.030)	0.253 (0.019)	0.273 (0.028)
1979	0.343 (0.037)	0.261 (0.026)	0.276 (0.029)	0.341 (0.029)	0.241 (0.019)	0.252 (0.029)
1980	0.386 (0.036)	0.298 (0.025)	0.313 (0.028)	0.401 (0.032)	0.298 (0.021)	0.326 (0.030)
1981	0.417 (0.037)	0.315 (0.025)	0.326 (0.027)	0.393 (0.031)	0.293 (0.020)	0.320 (0.029)
1982	0.454 (0.040)	0.362 (0.026)	0.387 (0.030)	0.428 (0.032)	0.334 (0.021)	0.369 (0.031)
1983	0.427 (0.041)	0.351 (0.027)	0.362 (0.030)	0.378 (0.033)	0.321 (0.020)	0.336 (0.031)
1984	0.446 (0.039)	0.345 (0.026)	0.357 (0.028)	0.429 (0.032)	0.327 (0.020)	0.341 (0.029)
1985	0.498 (0.039)	0.394 (0.027)	0.406 (0.029)	0.436 (0.030)	0.344 (0.021)	0.367 (0.030)
1986	0.488 (0.036)	0.436 (0.025)	0.451 (0.027)	0.453 (0.030)	0.396 (0.019)	0.409 (0.028)
1987	0.494 (0.036)	0.431 (0.025)	0.451 (0.028)	0.446 (0.029)	0.400 (0.019)	0.416 (0.028)
1988	0.499 (0.038)	0.428 (0.026)	0.444 (0.028)	0.454 (0.028)	0.397 (0.020)	0.409 (0.029)
1989	0.534 (0.036)	0.458 (0.025)	0.459 (0.027)	0.476 (0.028)	0.419 (0.019)	0.404 (0.027)
1990	0.527 (0.036)	0.489 (0.024)	0.490 (0.027)	0.507 (0.029)	0.468 (0.020)	0.441 (0.028)
1991	0.520 (0.038)	0.471 (0.025)	0.477 (0.028)	0.510 (0.031)	0.463 (0.020)	0.452 (0.029)
1992	0.504 (0.040)	0.445 (0.026)	0.453 (0.030)	0.488 (0.028)	0.459 (0.020)	0.446 (0.027)
1993	0.521 (0.040)	0.457 (0.027)	0.471 (0.029)	0.489 (0.030)	0.472 (0.021)	0.469 (0.028)
1994	0.507 (0.038)	0.464 (0.028)	0.471 (0.030)	0.494 (0.031)	0.474 (0.022)	0.465 (0.029)
1995	0.493 (0.041)	0.492 (0.029)	0.503 (0.032)	0.499 (0.032)	0.494 (0.022)	0.518 (0.030)
1996	0.560 (0.045)	0.475 (0.030)	0.498 (0.032)	0.536 (0.037)	0.481 (0.025)	0.498 (0.032)

Table 14
Log return to college vs. high school education at ages 25, 40 and 60, Interactive polynomial model

	Gaussian disturbances			Normal mixture disturbances		
Year	Age 25	Age 40	Age 60	Age 25	Age 40	Age 60
1967	0.174 (0.089)	0.361 (0.027)	0.393 (0.043)	0.315 (0.063)	0.304 (0.020)	0.338 (0.034)
1968	0.073 (0.088)	0.339 (0.028)	0.433 (0.043)	0.176 (0.071)	0.288 (0.021)	0.430 (0.037)
1969	−0.002 (0.095)	0.359 (0.031)	0.392 (0.041)	0.138 (0.065)	0.330 (0.022)	0.331 (0.034)
1970	0.011 (0.079)	0.365 (0.030)	0.495 (0.046)	0.133 (0.064)	0.336 (0.024)	0.456 (0.039)
1971	−0.039 (0.085)	0.356 (0.033)	0.544 (0.045)	0.076 (0.063)	0.330 (0.024)	0.490 (0.039)
1972	0.088 (0.064)	0.343 (0.032)	0.515 (0.043)	0.160 (0.054)	0.316 (0.025)	0.479 (0.043)
1973	0.092 (0.066)	0.329 (0.031)	0.448 (0.043)	0.130 (0.051)	0.313 (0.025)	0.445 (0.037)
1974	0.073 (0.068)	0.373 (0.032)	0.433 (0.046)	0.109 (0.050)	0.354 (0.028)	0.386 (0.043)
1975	0.103 (0.074)	0.374 (0.035)	0.459 (0.046)	0.148 (0.059)	0.335 (0.027)	0.399 (0.037)
1976	0.027 (0.077)	0.393 (0.035)	0.395 (0.048)	0.097 (0.059)	0.331 (0.028)	0.355 (0.040)
1977	0.179 (0.076)	0.379 (0.036)	0.386 (0.050)	0.189 (0.059)	0.362 (0.027)	0.289 (0.040)
1978	0.081 (0.077)	0.390 (0.034)	0.385 (0.046)	0.200 (0.061)	0.356 (0.030)	0.342 (0.050)
1979	0.156 (0.075)	0.343 (0.037)	0.378 (0.050)	0.164 (0.060)	0.341 (0.029)	0.286 (0.042)
1980	0.108 (0.077)	0.386 (0.036)	0.397 (0.050)	0.184 (0.063)	0.401 (0.032)	0.353 (0.049)
1981	0.287 (0.072)	0.417 (0.037)	0.242 (0.051)	0.217 (0.060)	0.393 (0.031)	0.237 (0.048)
1982	0.251 (0.086)	0.454 (0.040)	0.346 (0.052)	0.299 (0.071)	0.428 (0.032)	0.284 (0.048)
1983	0.208 (0.088)	0.427 (0.041)	0.297 (0.055)	0.213 (0.067)	0.378 (0.033)	0.262 (0.044)
1984	0.135 (0.089)	0.446 (0.039)	0.288 (0.051)	0.192 (0.068)	0.429 (0.032)	0.288 (0.051)
1985	0.081 (0.096)	0.498 (0.039)	0.284 (0.055)	0.149 (0.068)	0.436 (0.030)	0.272 (0.048)
1986	0.339 (0.094)	0.488 (0.036)	0.365 (0.049)	0.383 (0.074)	0.453 (0.030)	0.355 (0.046)
1987	0.221 (0.104)	0.494 (0.036)	0.346 (0.055)	0.263 (0.076)	0.446 (0.029)	0.357 (0.047)
1988	0.275 (0.102)	0.499 (0.038)	0.275 (0.053)	0.336 (0.076)	0.454 (0.028)	0.274 (0.048)
1989	0.431 (0.098)	0.534 (0.036)	0.376 (0.053)	0.349 (0.078)	0.476 (0.028)	0.393 (0.046)
1990	0.480 (0.096)	0.527 (0.036)	0.302 (0.056)	0.431 (0.077)	0.507 (0.029)	0.341 (0.049)
1991	0.404 (0.099)	0.520 (0.038)	0.337 (0.063)	0.375 (0.081)	0.510 (0.031)	0.378 (0.053)
1992	0.259 (0.107)	0.504 (0.040)	0.378 (0.066)	0.351 (0.088)	0.488 (0.028)	0.439 (0.051)
1993	0.371 (0.129)	0.521 (0.040)	0.357 (0.064)	0.385 (0.100)	0.489 (0.030)	0.456 (0.059)
1994	0.538 (0.165)	0.507 (0.038)	0.326 (0.070)	0.489 (0.140)	0.494 (0.031)	0.436 (0.074)
1995	0.531 (0.220)	0.493 (0.041)	0.337 (0.072)	0.471 (0.163)	0.499 (0.032)	0.346 (0.065)
1996	0.350 (0.298)	0.560 (0.045)	0.301 (0.079)	0.444 (0.261)	0.536 (0.037)	0.346 (0.075))

```
                                     Table 15
                  Log earnings increment age 25 to age 45, high school graduate

                Gaussian disturbances                       Normal mixture disturbances
        Interactive      Separable      Separable       Interactive      Separable      Separable
Year    polynomial       polynomial     smooth function  polynomial       polynomial     smooth function
1967    0.357 (0.061)    0.388 (0.061)  0.380 (0.062)   0.352 (0.043)    0.348 (0.041)  0.361 (0.047)
1968    0.278 (0.061)    0.336 (0.056)  0.346 (0.059)   0.275 (0.046)    0.291 (0.042)  0.304 (0.047)
1969    0.234 (0.061)    0.317 (0.059)  0.354 (0.060)   0.279 (0.042)    0.309 (0.041)  0.338 (0.044)
1970    0.279 (0.061)    0.368 (0.056)  0.406 (0.058)   0.295 (0.042)    0.334 (0.040)  0.368 (0.045)
1971    0.340 (0.064)    0.489 (0.058)  0.516 (0.057)   0.337 (0.046)    0.419 (0.041)  0.435 (0.044)
1972    0.327 (0.057)    0.436 (0.051)  0.454 (0.052)   0.337 (0.043)    0.389 (0.038)  0.406 (0.041)
1973    0.356 (0.054)    0.471 (0.048)  0.476 (0.048)   0.361 (0.040)    0.440 (0.034)  0.445 (0.039)
1974    0.400 (0.056)    0.530 (0.045)  0.543 (0.047)   0.369 (0.040)    0.463 (0.034)  0.455 (0.039)
1975    0.418 (0.057)    0.541 (0.048)  0.538 (0.052)   0.403 (0.044)    0.491 (0.036)  0.467 (0.041)
1976    0.337 (0.061)    0.487 (0.047)  0.487 (0.056)   0.329 (0.043)    0.422 (0.037)  0.402 (0.044)
1977    0.420 (0.055)    0.502 (0.050)  0.516 (0.053)   0.357 (0.043)    0.428 (0.037)  0.421 (0.043)
1978    0.350 (0.050)    0.470 (0.046)  0.469 (0.051)   0.353 (0.039)    0.407 (0.034)  0.423 (0.040)
1979    0.316 (0.051)    0.392 (0.045)  0.397 (0.051)   0.290 (0.041)    0.362 (0.035)  0.356 (0.043)
1980    0.348 (0.051)    0.447 (0.046)  0.445 (0.050)   0.341 (0.043)    0.417 (0.037)  0.403 (0.044)
1981    0.381 (0.051)    0.430 (0.045)  0.428 (0.053)   0.344 (0.040)    0.404 (0.036)  0.404 (0.043)
1982    0.373 (0.054)    0.445 (0.051)  0.430 (0.054)   0.369 (0.045)    0.419 (0.037)  0.412 (0.046)
1983    0.319 (0.062)    0.384 (0.053)  0.370 (0.059)   0.369 (0.044)    0.419 (0.038)  0.410 (0.045)
1984    0.354 (0.059)    0.451 (0.049)  0.454 (0.056)   0.392 (0.042)    0.471 (0.039)  0.463 (0.047)
1985    0.252 (0.061)    0.380 (0.051)  0.354 (0.061)   0.364 (0.043)    0.456 (0.038)  0.434 (0.047)
1986    0.363 (0.057)    0.409 (0.049)  0.395 (0.053)   0.409 (0.047)    0.446 (0.038)  0.419 (0.047)
1987    0.320 (0.061)    0.397 (0.050)  0.402 (0.058)   0.335 (0.046)    0.394 (0.040)  0.395 (0.046)
1988    0.298 (0.061)    0.366 (0.050)  0.373 (0.056)   0.350 (0.047)    0.393 (0.040)  0.405 (0.047)
1989    0.387 (0.062)    0.435 (0.053)  0.410 (0.055)   0.373 (0.047)    0.417 (0.039)  0.398 (0.045)
1990    0.422 (0.064)    0.431 (0.051)  0.417 (0.059)   0.423 (0.050)    0.454 (0.042)  0.436 (0.047)
1991    0.409 (0.065)    0.451 (0.057)  0.433 (0.058)   0.381 (0.051)    0.431 (0.043)  0.417 (0.048)
1992    0.377 (0.068)    0.463 (0.057)  0.443 (0.062)   0.409 (0.049)    0.450 (0.043)  0.425 (0.047)
1993    0.372 (0.069)    0.414 (0.063)  0.394 (0.067)   0.423 (0.054)    0.450 (0.047)  0.393 (0.051)
1994    0.375 (0.098)    0.375 (0.082)  0.370 (0.077)   0.417 (0.073)    0.418 (0.066)  0.372 (0.063)
1995    0.504 (0.127)    0.495 (0.103)  0.369 (0.090)   0.514 (0.095)    0.509 (0.082)  0.381 (0.076)
1996    0.567 (0.191)    0.611 (0.159)  0.421 (0.114)   0.548 (0.149)    0.571 (0.121)  0.417 (0.098)
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                                         Table 16
        Log earnings increment age 25 to age 45, with education 8, 12 and 16, Interactive polynomial model

                  Gaussian disturbances                        Normal mixture disturbances
         Interactive      Separable       Separable      Interactive      Separable       Separable
Year     Education 8     Education 12    Education 16     Education 8     Education 12    Education 16
1967     0.143 (0.116)   0.357 (0.061)   0.570 (0.093)   0.338 (0.084)   0.352 (0.043)   0.366 (0.067)
1968    -0.002 (0.123)   0.278 (0.061)   0.558 (0.089)   0.144 (0.093)   0.275 (0.046)   0.406 (0.073)
1969    -0.128 (0.130)   0.234 (0.061)   0.596 (0.093)   0.093 (0.089)   0.279 (0.042)   0.466 (0.065)
1970    -0.062 (0.117)   0.279 (0.061)   0.620 (0.082)   0.112 (0.086)   0.295 (0.042)   0.478 (0.066)
1971    -0.035 (0.129)   0.340 (0.064)   0.716 (0.081)   0.106 (0.095)   0.337 (0.046)   0.567 (0.059)
1972     0.061 (0.104)   0.327 (0.057)   0.594 (0.069)   0.193 (0.086)   0.337 (0.043)   0.481 (0.055)
1973     0.098 (0.106)   0.356 (0.054)   0.614 (0.063)   0.187 (0.083)   0.361 (0.040)   0.535 (0.046)
1974     0.107 (0.115)   0.400 (0.056)   0.692 (0.061)   0.150 (0.081)   0.369 (0.040)   0.588 (0.047)
1975     0.173 (0.117)   0.418 (0.057)   0.663 (0.064)   0.238 (0.094)   0.403 (0.044)   0.567 (0.049)
1976    -0.026 (0.122)   0.337 (0.061)   0.701 (0.068)   0.112 (0.092)   0.329 (0.043)   0.546 (0.053)
1977     0.196 (0.114)   0.420 (0.055)   0.643 (0.072)   0.179 (0.090)   0.357 (0.043)   0.535 (0.056)
1978     0.033 (0.111)   0.350 (0.050)   0.668 (0.070)   0.198 (0.088)   0.353 (0.039)   0.508 (0.056)
1979     0.118 (0.115)   0.316 (0.051)   0.515 (0.069)   0.110 (0.090)   0.290 (0.041)   0.471 (0.055)
1980     0.077 (0.114)   0.348 (0.051)   0.619 (0.069)   0.124 (0.094)   0.341 (0.043)   0.557 (0.058)
1981     0.234 (0.111)   0.381 (0.051)   0.527 (0.070)   0.158 (0.089)   0.344 (0.040)   0.530 (0.057)
1982     0.183 (0.124)   0.373 (0.054)   0.562 (0.076)   0.244 (0.102)   0.369 (0.045)   0.493 (0.064)
1983     0.100 (0.135)   0.319 (0.062)   0.537 (0.079)   0.209 (0.098)   0.369 (0.044)   0.530 (0.061)
1984     0.052 (0.132)   0.354 (0.059)   0.656 (0.079)   0.163 (0.095)   0.392 (0.042)   0.620 (0.060)
1985    -0.117 (0.139)   0.252 (0.061)   0.621 (0.080)   0.108 (0.096)   0.364 (0.043)   0.620 (0.060)
1986     0.228 (0.128)   0.363 (0.057)   0.499 (0.082)   0.335 (0.106)   0.409 (0.047)   0.482 (0.060)
1987     0.096 (0.145)   0.320 (0.061)   0.545 (0.083)   0.173 (0.107)   0.335 (0.046)   0.497 (0.063)
1988     0.103 (0.142)   0.298 (0.061)   0.493 (0.085)   0.240 (0.107)   0.350 (0.047)   0.460 (0.064)
1989     0.289 (0.144)   0.387 (0.062)   0.485 (0.079)   0.257 (0.112)   0.373 (0.047)   0.489 (0.064)
1990     0.393 (0.140)   0.422 (0.064)   0.450 (0.082)   0.340 (0.112)   0.423 (0.050)   0.506 (0.064)
1991     0.293 (0.147)   0.409 (0.065)   0.525 (0.087)   0.241 (0.116)   0.381 (0.051)   0.520 (0.070)
1992     0.131 (0.153)   0.377 (0.068)   0.624 (0.093)   0.254 (0.120)   0.409 (0.049)   0.563 (0.074)
1993     0.233 (0.169)   0.372 (0.069)   0.511 (0.110)   0.325 (0.133)   0.423 (0.054)   0.522 (0.088)
1994     0.368 (0.226)   0.375 (0.098)   0.381 (0.141)   0.408 (0.183)   0.417 (0.073)   0.427 (0.117)
1995     0.524 (0.290)   0.504 (0.127)   0.484 (0.188)   0.476 (0.222)   0.514 (0.095)   0.552 (0.136)
1996     0.364 (0.416)   0.567 (0.191)   0.769 (0.257)   0.463 (0.357)   0.548 (0.149)   0.634 (0.210)
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Table 17
Log earnings increment age 45 to age 60, high school graduate

	Gaussian disturbances			Normal mixture disturbances		
	Interactive	Separable	Separable	Interactive	Separable	Separable
Year	polynomial	polynomial	smooth function	polynomial	polynomial	smooth function
1967	-0.214 (0.054)	-0.226 (0.049)	-0.229 (0.049)	-0.138 (0.038)	-0.147 (0.035)	-0.149 (0.039)
1968	-0.231 (0.052)	-0.266 (0.047)	-0.271 (0.049)	-0.159 (0.040)	-0.201 (0.038)	-0.183 (0.039)
1969	-0.332 (0.052)	-0.352 (0.048)	-0.361 (0.051)	-0.246 (0.040)	-0.243 (0.037)	-0.237 (0.040)
1970	-0.244 (0.056)	-0.309 (0.048)	-0.322 (0.052)	-0.163 (0.043)	-0.219 (0.040)	-0.235 (0.044)
1971	-0.239 (0.053)	-0.305 (0.050)	-0.365 (0.053)	-0.135 (0.041)	-0.169 (0.040)	-0.214 (0.043)
1972	-0.323 (0.054)	-0.389 (0.050)	-0.416 (0.051)	-0.150 (0.045)	-0.208 (0.043)	-0.237 (0.044)
1973	-0.283 (0.052)	-0.325 (0.052)	-0.389 (0.049)	-0.183 (0.042)	-0.228 (0.042)	-0.269 (0.046)
1974	-0.240 (0.052)	-0.270 (0.051)	-0.321 (0.051)	-0.135 (0.044)	-0.157 (0.043)	-0.197 (0.045)
1975	-0.226 (0.053)	-0.269 (0.055)	-0.307 (0.056)	-0.095 (0.044)	-0.145 (0.045)	-0.158 (0.047)
1976	-0.267 (0.054)	-0.299 (0.056)	-0.333 (0.058)	-0.118 (0.045)	-0.148 (0.046)	-0.146 (0.048)
1977	-0.327 (0.055)	-0.367 (0.053)	-0.392 (0.056)	-0.114 (0.047)	-0.158 (0.048)	-0.154 (0.053)
1978	-0.257 (0.053)	-0.303 (0.054)	-0.329 (0.053)	-0.079 (0.046)	-0.090 (0.042)	-0.125 (0.048)
1979	-0.266 (0.055)	-0.294 (0.052)	-0.338 (0.056)	-0.077 (0.047)	-0.124 (0.046)	-0.137 (0.049)
1980	-0.179 (0.056)	-0.190 (0.054)	-0.224 (0.058)	-0.049 (0.051)	-0.079 (0.052)	-0.081 (0.055)
1981	-0.161 (0.057)	-0.185 (0.056)	-0.223 (0.060)	-0.073 (0.046)	-0.107 (0.046)	-0.124 (0.050)
1982	-0.248 (0.059)	-0.266 (0.059)	-0.299 (0.061)	-0.111 (0.048)	-0.134 (0.047)	-0.152 (0.052)
1983	-0.210 (0.064)	-0.253 (0.059)	-0.254 (0.063)	-0.075 (0.051)	-0.111 (0.048)	-0.127 (0.053)
1984	-0.137 (0.062)	-0.180 (0.058)	-0.210 (0.058)	-0.042 (0.050)	-0.086 (0.047)	-0.106 (0.053)
1985	-0.189 (0.062)	-0.250 (0.057)	-0.249 (0.060)	-0.059 (0.048)	-0.103 (0.046)	-0.105 (0.052)
1986	-0.119 (0.057)	-0.170 (0.052)	-0.189 (0.055)	-0.068 (0.049)	-0.111 (0.046)	-0.118 (0.052)
1987	-0.161 (0.058)	-0.199 (0.052)	-0.247 (0.058)	-0.034 (0.051)	-0.070 (0.047)	-0.100 (0.051)
1988	-0.059 (0.056)	-0.134 (0.051)	-0.195 (0.056)	0.023 (0.047)	-0.033 (0.046)	-0.078 (0.048)
1989	-0.147 (0.057)	-0.211 (0.050)	-0.265 (0.055)	-0.039 (0.047)	-0.066 (0.043)	-0.122 (0.047)
1990	-0.149 (0.058)	-0.231 (0.052)	-0.255 (0.055)	-0.004 (0.049)	-0.069 (0.047)	-0.106 (0.051)
1991	-0.158 (0.062)	-0.240 (0.054)	-0.293 (0.055)	-0.023 (0.050)	-0.081 (0.046)	-0.126 (0.050)
1992	-0.197 (0.064)	-0.266 (0.056)	-0.304 (0.059)	-0.009 (0.049)	-0.057 (0.044)	-0.081 (0.049)
1993	-0.233 (0.063)	-0.300 (0.055)	-0.356 (0.057)	-0.132 (0.052)	-0.156 (0.048)	-0.176 (0.052)
1994	-0.246 (0.068)	-0.349 (0.057)	-0.403 (0.061)	-0.095 (0.059)	-0.144 (0.053)	-0.172 (0.055)
1995	-0.224 (0.069)	-0.311 (0.060)	-0.324 (0.060)	-0.068 (0.058)	-0.144 (0.053)	-0.141 (0.055)
1996	-0.144 (0.076)	-0.254 (0.061)	-0.301 (0.063)	-0.102 (0.062)	-0.175 (0.057)	-0.215 (0.057)

Table 18
Log earnings increment age 45 to age 60, with education 8, 12 and 16, Interactive polynomial model

	Gaussian disturbances			Normal mixture disturbances		
	Interactive	Separable	Separable	Interactive	Separable	Separable
Year	Education 8	Education 12	Education 16	Education 8	Education 12	Education 16
1967	−0.219 (0.062)	−0.214 (0.054)	−0.209 (0.093)	−0.146 (0.045)	−0.138 (0.038)	−0.129 (0.067)
1968	−0.311 (0.061)	−0.231 (0.052)	−0.150 (0.091)	−0.283 (0.049)	−0.159 (0.040)	−0.036 (0.072)
1969	−0.364 (0.063)	−0.332 (0.052)	−0.301 (0.089)	−0.253 (0.048)	−0.246 (0.040)	−0.240 (0.069)
1970	−0.388 (0.067)	−0.244 (0.056)	−0.100 (0.094)	−0.304 (0.053)	−0.163 (0.043)	−0.023 (0.075)
1971	−0.446 (0.072)	−0.239 (0.053)	−0.032 (0.088)	−0.318 (0.057)	−0.135 (0.041)	0.049 (0.070)
1972	−0.483 (0.069)	−0.323 (0.054)	−0.162 (0.089)	−0.326 (0.062)	−0.150 (0.045)	0.026 (0.078)
1973	−0.381 (0.073)	−0.283 (0.052)	−0.186 (0.085)	−0.324 (0.058)	−0.183 (0.042)	−0.043 (0.069)
1974	−0.307 (0.076)	−0.240 (0.052)	−0.172 (0.086)	−0.193 (0.067)	−0.135 (0.044)	−0.076 (0.074)
1975	−0.336 (0.080)	−0.226 (0.053)	−0.115 (0.088)	−0.180 (0.066)	−0.095 (0.044)	−0.009 (0.069)
1976	−0.271 (0.087)	−0.267 (0.054)	−0.262 (0.087)	−0.160 (0.069)	−0.118 (0.045)	−0.077 (0.072)
1977	−0.312 (0.091)	−0.327 (0.055)	−0.343 (0.089)	−0.037 (0.074)	−0.114 (0.047)	−0.191 (0.071)
1978	−0.243 (0.087)	−0.257 (0.053)	−0.271 (0.084)	−0.066 (0.083)	−0.079 (0.046)	−0.092 (0.071)
1979	−0.290 (0.094)	−0.266 (0.055)	−0.241 (0.086)	−0.018 (0.074)	−0.077 (0.047)	−0.136 (0.072)
1980	−0.198 (0.097)	−0.179 (0.056)	−0.161 (0.082)	−0.003 (0.090)	−0.049 (0.051)	−0.096 (0.077)
1981	0.030 (0.100)	−0.161 (0.057)	−0.353 (0.084)	0.094 (0.087)	−0.073 (0.046)	−0.239 (0.066)
1982	−0.153 (0.106)	−0.248 (0.059)	−0.343 (0.083)	0.029 (0.090)	−0.111 (0.048)	−0.251 (0.070)
1983	−0.080 (0.115)	−0.210 (0.064)	−0.340 (0.086)	0.036 (0.090)	−0.075 (0.051)	−0.187 (0.069)
1984	0.012 (0.107)	−0.137 (0.062)	−0.287 (0.082)	0.091 (0.094)	−0.042 (0.050)	−0.175 (0.071)
1985	−0.022 (0.111)	−0.189 (0.062)	−0.356 (0.085)	0.075 (0.090)	−0.059 (0.048)	−0.192 (0.066)
1986	−0.010 (0.105)	−0.119 (0.057)	−0.228 (0.074)	0.034 (0.089)	−0.068 (0.049)	−0.170 (0.067)
1987	−0.062 (0.110)	−0.161 (0.058)	−0.261 (0.078)	0.034 (0.093)	−0.034 (0.051)	−0.103 (0.066)
1988	0.136 (0.110)	−0.059 (0.056)	−0.255 (0.072)	0.195 (0.090)	0.023 (0.047)	−0.148 (0.066)
1989	0.006 (0.113)	−0.147 (0.057)	−0.300 (0.069)	0.031 (0.089)	−0.039 (0.047)	−0.110 (0.060)
1990	0.057 (0.114)	−0.149 (0.058)	−0.355 (0.070)	0.169 (0.094)	−0.004 (0.049)	−0.177 (0.064)
1991	0.026 (0.125)	−0.158 (0.062)	−0.342 (0.073)	0.113 (0.095)	−0.023 (0.050)	−0.160 (0.065)
1992	−0.069 (0.131)	−0.197 (0.064)	−0.325 (0.078)	0.057 (0.094)	−0.009 (0.049)	−0.075 (0.065)
1993	−0.081 (0.130)	−0.233 (0.063)	−0.385 (0.075)	−0.105 (0.106)	−0.132 (0.052)	−0.159 (0.070)
1994	−0.028 (0.140)	−0.246 (0.068)	−0.465 (0.081)	−0.032 (0.126)	−0.095 (0.059)	−0.157 (0.082)
1995	−0.050 (0.140)	−0.224 (0.069)	−0.399 (0.086)	0.095 (0.117)	−0.068 (0.058)	−0.230 (0.078)
1996	0.106 (0.157)	−0.144 (0.076)	−0.395 (0.085)	0.082 (0.129)	−0.102 (0.062)	−0.286 (0.083)

Table 19
Standard deviation of shock to earnings equation

Standard deviation of shock to earnings equation

	Gaussian disturbances			Normal mixture disturbances		
	Interactive	Separable	Separable	Interactive	Separable	Separable
Year	polynomial	polynomial	smooth function	polynomial	polynomial	smooth function
1967	0.604 (0.010)	0.606 (0.010)	0.606 (0.011)	0.623 (0.030)	0.626 (0.029)	0.634 (0.034)
1968	0.572 (0.010)	0.574 (0.010)	0.575 (0.010)	0.582 (0.023)	0.585 (0.023)	0.591 (0.029)
1969	0.598 (0.010)	0.600 (0.011)	0.600 (0.011)	0.607 (0.022)	0.610 (0.022)	0.612 (0.026)
1970	0.620 (0.011)	0.625 (0.011)	0.624 (0.011)	0.627 (0.022)	0.632 (0.023)	0.637 (0.026)
1971	0.610 (0.011)	0.618 (0.011)	0.617 (0.011)	0.618 (0.022)	0.625 (0.022)	0.633 (0.027)
1972	0.602 (0.011)	0.609 (0.011)	0.608 (0.011)	0.614 (0.022)	0.621 (0.022)	0.621 (0.024)
1973	0.596 (0.010)	0.601 (0.010)	0.601 (0.010)	0.609 (0.023)	0.614 (0.023)	0.613 (0.022)
1974	0.605 (0.010)	0.610 (0.010)	0.609 (0.010)	0.612 (0.020)	0.617 (0.019)	0.623 (0.025)
1975	0.612 (0.010)	0.618 (0.011)	0.618 (0.010)	0.621 (0.020)	0.626 (0.020)	0.635 (0.028)
1976	0.631 (0.010)	0.635 (0.010)	0.635 (0.010)	0.643 (0.020)	0.646 (0.021)	0.651 (0.023)
1977	0.635 (0.010)	0.637 (0.010)	0.638 (0.010)	0.647 (0.020)	0.648 (0.019)	0.653 (0.023)
1978	0.617 (0.010)	0.623 (0.010)	0.623 (0.010)	0.630 (0.021)	0.637 (0.021)	0.637 (0.021)
1979	0.629 (0.010)	0.631 (0.010)	0.632 (0.009)	0.642 (0.021)	0.643 (0.021)	0.648 (0.023)
1980	0.632 (0.010)	0.634 (0.010)	0.634 (0.010)	0.641 (0.020)	0.642 (0.020)	0.652 (0.029)
1981	0.654 (0.010)	0.655 (0.010)	0.656 (0.010)	0.666 (0.022)	0.667 (0.023)	0.679 (0.032)
1982	0.707 (0.010)	0.707 (0.011)	0.708 (0.010)	0.732 (0.029)	0.732 (0.029)	0.757 (0.045)
1983	0.735 (0.011)	0.737 (0.011)	0.736 (0.011)	0.755 (0.028)	0.756 (0.028)	0.768 (0.036)
1984	0.690 (0.010)	0.692 (0.010)	0.692 (0.010)	0.698 (0.020)	0.699 (0.020)	0.713 (0.032)
1985	0.719 (0.010)	0.723 (0.010)	0.723 (0.010)	0.731 (0.022)	0.734 (0.023)	0.742 (0.030)
1986	0.671 (0.009)	0.672 (0.009)	0.672 (0.009)	0.678 (0.018)	0.678 (0.018)	0.691 (0.031)
1987	0.694 (0.010)	0.695 (0.010)	0.695 (0.010)	0.702 (0.019)	0.703 (0.019)	0.712 (0.028)
1988	0.697 (0.010)	0.698 (0.010)	0.699 (0.010)	0.704 (0.018)	0.705 (0.017)	0.719 (0.029)
1989	0.673 (0.009)	0.674 (0.009)	0.674 (0.010)	0.681 (0.017)	0.682 (0.017)	0.697 (0.029)
1990	0.685 (0.009)	0.685 (0.010)	0.684 (0.010)	0.693 (0.019)	0.693 (0.019)	0.719 (0.038)
1991	0.715 (0.010)	0.715 (0.010)	0.716 (0.010)	0.728 (0.021)	0.728 (0.023)	0.770 (0.048)
1992	0.749 (0.010)	0.751 (0.010)	0.750 (0.010)	0.757 (0.019)	0.759 (0.020)	0.780 (0.036)
1993	0.739 (0.010)	0.739 (0.010)	0.740 (0.010)	0.748 (0.020)	0.748 (0.021)	0.765 (0.032)
1994	0.742 (0.010)	0.742 (0.011)	0.743 (0.010)	0.750 (0.019)	0.751 (0.019)	0.765 (0.030)
1995	0.757 (0.010)	0.755 (0.011)	0.755 (0.011)	0.764 (0.020)	0.764 (0.020)	0.775 (0.031)
1996	0.711 (0.012)	0.712 (0.011)	0.712 (0.011)	0.723 (0.025)	0.725 (0.025)	0.730 (0.033)

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                                 Table 20
      Coefficients of skewness and kurtosis in the distribution of the disturbance to log earnings

                 Coefficient of skewness                          Coefficient of kurtosis
         Interactive       Separable         Separable      Interactive       Separable         Separable
Year     polynomial        polynomial     smooth function    polynomial       polynomial     smooth function
1967   -1.513 (0.154)   -1.533 (0.156)   -1.503 (0.172)    8.680 (0.687)    8.672 (0.651)    8.676 (0.680)
1968   -1.197 (0.144)   -1.168 (0.144)   -1.139 (0.153)    7.126 (0.591)    6.951 (0.512)    6.955 (0.525)
1969   -1.328 (0.130)   -1.330 (0.151)   -1.299 (0.149)    7.307 (0.529)    7.263 (0.544)    7.197 (0.534)
1970   -1.282 (0.121)   -1.251 (0.148)   -1.224 (0.150)    6.840 (0.493)    6.732 (0.502)    6.691 (0.500)
1971   -1.246 (0.118)   -1.250 (0.136)   -1.236 (0.146)    6.662 (0.462)    6.587 (0.481)    6.648 (0.486)
1972   -1.151 (0.135)   -1.094 (0.151)   -1.110 (0.146)    6.716 (0.523)    6.476 (0.493)    6.575 (0.499)
1973   -1.172 (0.140)   -1.122 (0.154)   -1.151 (0.144)    7.263 (0.578)    7.068 (0.524)    7.110 (0.520)
1974   -1.032 (0.114)   -1.079 (0.131)   -1.067 (0.142)    6.384 (0.440)    6.482 (0.443)    6.506 (0.466)
1975   -1.076 (0.095)   -1.057 (0.114)   -1.058 (0.128)    5.896 (0.339)    5.893 (0.350)    5.986 (0.368)
1976   -1.126 (0.109)   -1.105 (0.124)   -1.121 (0.123)    6.307 (0.408)    6.237 (0.404)    6.291 (0.407)
1977   -1.143 (0.105)   -1.126 (0.133)   -1.131 (0.137)    6.193 (0.388)    6.161 (0.452)    6.182 (0.455)
1978   -1.061 (0.107)   -1.049 (0.119)   -1.061 (0.126)    6.157 (0.387)    5.951 (0.370)    6.041 (0.393)
1979   -1.157 (0.114)   -1.148 (0.147)   -1.151 (0.150)    6.542 (0.457)    6.597 (0.496)    6.589 (0.503)
1980   -1.107 (0.111)   -1.100 (0.168)   -1.140 (0.185)    6.234 (0.443)    6.250 (0.627)    6.444 (0.671)
1981   -1.209 (0.095)   -1.191 (0.157)   -1.203 (0.178)    5.988 (0.333)    5.947 (0.514)    6.101 (0.559)
1982   -1.103 (0.091)   -1.088 (0.114)   -1.045 (0.160)    5.666 (0.305)    5.619 (0.338)    5.734 (0.383)
1983   -1.264 (0.088)   -1.259 (0.109)   -1.232 (0.127)    6.248 (0.348)    6.201 (0.387)    6.235 (0.392)
1984   -1.010 (0.084)   -1.018 (0.104)   -0.978 (0.127)    5.540 (0.309)    5.554 (0.318)    5.537 (0.353)
1985   -1.181 (0.087)   -1.198 (0.101)   -1.180 (0.113)    6.292 (0.325)    6.318 (0.338)    6.329 (0.346)
1986   -0.937 (0.078)   -0.941 (0.094)   -0.905 (0.118)    5.234 (0.260)    5.238 (0.279)    5.232 (0.293)
1987   -1.023 (0.084)   -1.025 (0.101)   -1.010 (0.112)    5.914 (0.313)    5.927 (0.332)    5.963 (0.330)
1988   -1.000 (0.080)   -1.001 (0.100)   -0.974 (0.105)    5.583 (0.282)    5.555 (0.298)    5.580 (0.298)
1989   -0.850 (0.073)   -0.868 (0.086)   -0.858 (0.107)    5.040 (0.234)    5.056 (0.240)    5.156 (0.262)
1990   -0.938 (0.081)   -0.945 (0.098)   -0.884 (0.137)    5.380 (0.286)    5.390 (0.307)    5.499 (0.338)
1991   -0.997 (0.083)   -0.998 (0.097)   -0.918 (0.176)    5.562 (0.300)    5.541 (0.299)    5.779 (0.381)
1992   -1.075 (0.081)   -1.084 (0.095)   -1.046 (0.116)    5.838 (0.267)    5.835 (0.277)    5.887 (0.293)
1993   -1.009 (0.094)   -1.010 (0.101)   -0.992 (0.112)    6.308 (0.329)    6.310 (0.326)    6.328 (0.324)
1994   -0.919 (0.097)   -0.932 (0.107)   -0.916 (0.120)    6.100 (0.337)    6.133 (0.333)    6.158 (0.338)
1995   -0.963 (0.102)   -0.996 (0.115)   -0.979 (0.121)    6.297 (0.351)    6.373 (0.350)    6.419 (0.362)
1996   -0.923 (0.148)   -0.935 (0.153)   -0.904 (0.158)    6.939 (0.549)    6.935 (0.486)    6.991 (0.500)
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Table 21
Aspects of mixture of two normals distribution of the disturbance to log earnings

	Ratio of standard deviations			Spread between means		
Year	Interactive polynomial	Separable polynomial	Separable smooth function	Interactive polynomial	Separable polynomial	Separable smooth function
1967	2.986 (0.161)	2.986 (0.161)	2.986 (0.161)	-0.753 (0.101)	-0.769 (0.095)	-0.762 (0.097)
1968	2.685 (0.144)	2.685 (0.144)	2.685 (0.144)	-0.582 (0.092)	-0.568 (0.080)	-0.566 (0.081)
1969	2.804 (0.146)	2.804 (0.146)	2.804 (0.146)	-0.650 (0.089)	-0.655 (0.088)	-0.644 (0.085)
1970	2.735 (0.146)	2.735 (0.146)	2.735 (0.146)	-0.664 (0.090)	-0.644 (0.086)	-0.638 (0.084)
1971	2.752 (0.139)	2.752 (0.139)	2.752 (0.139)	-0.626 (0.080)	-0.634 (0.076)	-0.634 (0.078)
1972	2.612 (0.140)	2.612 (0.140)	2.612 (0.140)	-0.589 (0.099)	-0.559 (0.086)	-0.581 (0.084)
1973	2.804 (0.144)	2.804 (0.144)	2.804 (0.144)	-0.542 (0.080)	-0.520 (0.079)	-0.549 (0.077)
1974	2.604 (0.123)	2.604 (0.123)	2.604 (0.123)	-0.516 (0.071)	-0.542 (0.073)	-0.551 (0.075)
1975	2.601 (0.118)	2.601 (0.118)	2.601 (0.118)	-0.564 (0.061)	-0.548 (0.062)	-0.562 (0.063)
1976	2.615 (0.121)	2.615 (0.121)	2.615 (0.121)	-0.598 (0.073)	-0.587 (0.072)	-0.611 (0.072)
1977	2.547 (0.124)	2.547 (0.124)	2.547 (0.124)	-0.636 (0.083)	-0.623 (0.080)	-0.641 (0.080)
1978	2.635 (0.121)	2.635 (0.121)	2.635 (0.121)	-0.533 (0.068)	-0.542 (0.060)	-0.555 (0.065)
1979	2.639 (0.125)	2.639 (0.125)	2.639 (0.125)	-0.610 (0.082)	-0.596 (0.082)	-0.611 (0.082)
1980	2.328 (0.132)	2.328 (0.132)	2.328 (0.132)	-0.715 (0.129)	-0.703 (0.133)	-0.761 (0.145)
1981	2.414 (0.145)	2.414 (0.145)	2.414 (0.145)	-0.775 (0.111)	-0.755 (0.111)	-0.788 (0.120)
1982	2.435 (0.109)	2.435 (0.109)	2.435 (0.109)	-0.753 (0.075)	-0.742 (0.075)	-0.758 (0.077)
1983	2.537 (0.110)	2.537 (0.110)	2.537 (0.110)	-0.867 (0.083)	-0.864 (0.081)	-0.865 (0.079)
1984	2.547 (0.103)	2.547 (0.103)	2.547 (0.103)	-0.612 (0.059)	-0.614 (0.059)	-0.611 (0.058)
1985	2.712 (0.103)	2.712 (0.103)	2.712 (0.103)	-0.708 (0.067)	-0.720 (0.066)	-0.719 (0.067)
1986	2.411 (0.095)	2.411 (0.095)	2.411 (0.095)	-0.577 (0.056)	-0.578 (0.055)	-0.578 (0.053)
1987	2.515 (0.099)	2.515 (0.099)	2.515 (0.099)	-0.615 (0.061)	-0.615 (0.063)	-0.616 (0.064)
1988	2.457 (0.096)	2.457 (0.096)	2.457 (0.096)	-0.620 (0.060)	-0.624 (0.063)	-0.625 (0.059)
1989	2.441 (0.093)	2.441 (0.093)	2.441 (0.093)	-0.521 (0.048)	-0.531 (0.048)	-0.538 (0.050)
1990	2.366 (0.094)	2.366 (0.094)	2.366 (0.094)	-0.596 (0.062)	-0.599 (0.060)	-0.600 (0.059)
1991	2.447 (0.094)	2.447 (0.094)	2.447 (0.094)	-0.649 (0.063)	-0.652 (0.062)	-0.662 (0.062)
1992	2.774 (0.107)	2.774 (0.107)	2.774 (0.107)	-0.659 (0.061)	-0.666 (0.059)	-0.664 (0.059)
1993	2.700 (0.098)	2.700 (0.098)	2.700 (0.098)	-0.596 (0.066)	-0.596 (0.062)	-0.604 (0.062)
1994	2.521 (0.099)	2.521 (0.099)	2.521 (0.099)	-0.575 (0.073)	-0.583 (0.072)	-0.591 (0.074)
1995	2.663 (0.108)	2.663 (0.108)	2.663 (0.108)	-0.582 (0.074)	-0.602 (0.075)	-0.606 (0.075)
1996	2.654 (0.134)	2.654 (0.134)	2.654 (0.134)	-0.530 (0.101)	-0.539 (0.100)	-0.543 (0.096)

Table 22
Aspects of mixture of two normals distribution of the disturbance to log earnings

| | Lower of two probabilities | | | Probability within one standard deviation of mean | | |
| | Interactive | Separable | Separable | Interactive | Separable | Separable |
Year	polynomial	polynomial	smooth function	polynomial	polynomial	smooth function
1967	0.154 (0.020)	0.155 (0.019)	0.156 (0.020)	0.811 (0.013)	0.812 (0.013)	0.812 (0.013)
1968	0.189 (0.029)	0.201 (0.028)	0.204 (0.028)	0.785 (0.015)	0.785 (0.015)	0.788 (0.013)
1969	0.197 (0.025)	0.201 (0.025)	0.206 (0.026)	0.791 (0.017)	0.791 (0.017)	0.795 (0.015)
1970	0.218 (0.030)	0.226 (0.028)	0.230 (0.029)	0.788 (0.016)	0.787 (0.017)	0.791 (0.014)
1971	0.233 (0.030)	0.238 (0.029)	0.236 (0.029)	0.786 (0.017)	0.785 (0.018)	0.791 (0.014)
1972	0.203 (0.034)	0.224 (0.032)	0.218 (0.031)	0.766 (0.022)	0.766 (0.021)	0.780 (0.016)
1973	0.197 (0.027)	0.211 (0.029)	0.210 (0.028)	0.773 (0.024)	0.773 (0.023)	0.785 (0.019)
1974	0.230 (0.031)	0.222 (0.030)	0.223 (0.031)	0.770 (0.018)	0.771 (0.018)	0.780 (0.014)
1975	0.274 (0.029)	0.276 (0.029)	0.270 (0.028)	0.774 (0.015)	0.773 (0.016)	0.779 (0.014)
1976	0.239 (0.029)	0.246 (0.029)	0.242 (0.028)	0.769 (0.020)	0.769 (0.019)	0.781 (0.014)
1977	0.235 (0.032)	0.240 (0.033)	0.239 (0.033)	0.766 (0.020)	0.767 (0.019)	0.776 (0.016)
1978	0.256 (0.032)	0.276 (0.031)	0.268 (0.031)	0.760 (0.022)	0.759 (0.022)	0.771 (0.020)
1979	0.223 (0.034)	0.220 (0.032)	0.222 (0.033)	0.770 (0.021)	0.769 (0.021)	0.777 (0.020)
1980	0.183 (0.037)	0.184 (0.038)	0.173 (0.038)	0.765 (0.014)	0.765 (0.016)	0.769 (0.016)
1981	0.228 (0.034)	0.234 (0.035)	0.224 (0.036)	0.777 (0.012)	0.776 (0.015)	0.780 (0.016)
1982	0.265 (0.028)	0.271 (0.029)	0.267 (0.029)	0.778 (0.009)	0.777 (0.010)	0.776 (0.011)
1983	0.229 (0.025)	0.233 (0.025)	0.233 (0.025)	0.788 (0.010)	0.788 (0.010)	0.788 (0.010)
1984	0.302 (0.033)	0.300 (0.031)	0.307 (0.034)	0.770 (0.012)	0.770 (0.013)	0.771 (0.013)
1985	0.255 (0.023)	0.253 (0.023)	0.254 (0.023)	0.786 (0.012)	0.787 (0.012)	0.786 (0.014)
1986	0.313 (0.032)	0.313 (0.032)	0.319 (0.033)	0.758 (0.014)	0.758 (0.015)	0.762 (0.013)
1987	0.258 (0.026)	0.257 (0.027)	0.256 (0.026)	0.771 (0.013)	0.771 (0.013)	0.773 (0.014)
1988	0.280 (0.028)	0.284 (0.029)	0.285 (0.027)	0.762 (0.015)	0.762 (0.015)	0.769 (0.013)
1989	0.350 (0.032)	0.346 (0.030)	0.337 (0.029)	0.755 (0.013)	0.755 (0.014)	0.761 (0.012)
1990	0.286 (0.033)	0.286 (0.032)	0.283 (0.031)	0.761 (0.012)	0.761 (0.013)	0.766 (0.010)
1991	0.282 (0.031)	0.284 (0.028)	0.273 (0.028)	0.770 (0.010)	0.770 (0.011)	0.771 (0.012)
1992	0.305 (0.025)	0.305 (0.024)	0.304 (0.024)	0.777 (0.012)	0.778 (0.013)	0.784 (0.010)
1993	0.257 (0.024)	0.256 (0.025)	0.258 (0.024)	0.782 (0.011)	0.782 (0.011)	0.784 (0.010)
1994	0.240 (0.026)	0.237 (0.026)	0.237 (0.025)	0.771 (0.012)	0.771 (0.012)	0.774 (0.011)
1995	0.251 (0.027)	0.244 (0.026)	0.242 (0.025)	0.777 (0.012)	0.777 (0.013)	0.782 (0.011)
1996	0.184 (0.028)	0.184 (0.028)	0.183 (0.027)	0.764 (0.018)	0.764 (0.018)	0.775 (0.015))

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                              Table 23
                Gini coefficient for the distribution of earnings

                 Unconditional                      Conditional on age and education
       Interactive     Separable       Separable      Interactive     Separable       Separable
Year   polynomial      polynomial   smooth function   polynomial      polynomial   smooth function
1967   0.295 (0.010)   0.299 (0.013)   0.300 (0.013)   0.268 (0.010)   0.268 (0.013)   0.269 (0.014)
1968   0.293 (0.009)   0.300 (0.015)   0.303 (0.015)   0.266 (0.010)   0.271 (0.016)   0.272 (0.016)
1969   0.300 (0.009)   0.302 (0.013)   0.305 (0.014)   0.270 (0.010)   0.272 (0.014)   0.273 (0.014)
1970   0.308 (0.009)   0.311 (0.014)   0.314 (0.014)   0.278 (0.010)   0.281 (0.015)   0.282 (0.016)
1971   0.307 (0.009)   0.309 (0.014)   0.309 (0.014)   0.275 (0.009)   0.278 (0.015)   0.277 (0.015)
1972   0.309 (0.009)   0.315 (0.017)   0.314 (0.016)   0.281 (0.010)   0.289 (0.018)   0.287 (0.017)
1973   0.306 (0.010)   0.309 (0.017)   0.309 (0.016)   0.279 (0.011)   0.285 (0.018)   0.284 (0.017)
1974   0.315 (0.010)   0.310 (0.015)   0.311 (0.015)   0.286 (0.010)   0.283 (0.016)   0.284 (0.017)
1975   0.312 (0.009)   0.310 (0.013)   0.310 (0.013)   0.283 (0.009)   0.284 (0.014)   0.282 (0.014)
1976   0.318 (0.010)   0.316 (0.015)   0.317 (0.015)   0.293 (0.010)   0.296 (0.015)   0.294 (0.015)
1977   0.320 (0.009)   0.319 (0.015)   0.321 (0.014)   0.294 (0.009)   0.295 (0.016)   0.295 (0.015)
1978   0.316 (0.010)   0.316 (0.015)   0.315 (0.015)   0.290 (0.010)   0.296 (0.016)   0.293 (0.016)
1979   0.314 (0.009)   0.310 (0.017)   0.312 (0.017)   0.292 (0.009)   0.291 (0.018)   0.292 (0.018)
1980   0.324 (0.008)   0.319 (0.015)   0.318 (0.014)   0.295 (0.008)   0.295 (0.016)   0.292 (0.015)
1981   0.322 (0.008)   0.318 (0.013)   0.318 (0.012)   0.293 (0.008)   0.295 (0.014)   0.292 (0.013)
1982   0.350 (0.009)   0.347 (0.013)   0.348 (0.012)   0.318 (0.009)   0.320 (0.014)   0.319 (0.014)
1983   0.347 (0.009)   0.347 (0.013)   0.348 (0.013)   0.321 (0.009)   0.323 (0.013)   0.323 (0.014)
1984   0.349 (0.009)   0.344 (0.015)   0.347 (0.015)   0.317 (0.009)   0.317 (0.016)   0.319 (0.017)
1985   0.354 (0.010)   0.351 (0.014)   0.352 (0.014)   0.323 (0.010)   0.322 (0.015)   0.323 (0.015)
1986   0.349 (0.009)   0.347 (0.013)   0.349 (0.013)   0.314 (0.009)   0.314 (0.014)   0.315 (0.015)
1987   0.355 (0.010)   0.354 (0.014)   0.355 (0.014)   0.323 (0.010)   0.323 (0.015)   0.323 (0.015)
1988   0.354 (0.009)   0.355 (0.014)   0.356 (0.013)   0.323 (0.009)   0.325 (0.015)   0.325 (0.014)
1989   0.354 (0.009)   0.352 (0.013)   0.351 (0.013)   0.320 (0.009)   0.319 (0.014)   0.316 (0.014)
1990   0.360 (0.009)   0.361 (0.014)   0.361 (0.014)   0.321 (0.009)   0.321 (0.016)   0.320 (0.016)
1991   0.368 (0.010)   0.368 (0.014)   0.367 (0.014)   0.331 (0.010)   0.331 (0.015)   0.328 (0.015)
1992   0.377 (0.011)   0.377 (0.014)   0.379 (0.014)   0.339 (0.011)   0.339 (0.016)   0.340 (0.016)
1993   0.384 (0.012)   0.385 (0.017)   0.387 (0.016)   0.346 (0.012)   0.347 (0.019)   0.347 (0.018)
1994   0.390 (0.012)   0.390 (0.017)   0.391 (0.017)   0.354 (0.013)   0.353 (0.018)   0.353 (0.019)
1995   0.397 (0.013)   0.395 (0.018)   0.396 (0.018)   0.359 (0.014)   0.355 (0.020)   0.354 (0.019)
1996   0.390 (0.016)   0.389 (0.023)   0.389 (0.021)   0.347 (0.016)   0.348 (0.024)   0.348 (0.023))
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Table 24
Proportion of the population with earnings less than half the median

| | Unconditional | | | Conditional on age and education | | |
| | Interactive | Separable | Separable | Interactive | Separable | Separable |
Year	polynomial	polynomial	smooth function	polynomial	polynomial	smooth function
1967	0.112 (0.008)	0.115 (0.009)	0.116 (0.009)	0.096 (0.008)	0.097 (0.009)	0.098 (0.009)
1968	0.112 (0.008)	0.117 (0.010)	0.119 (0.010)	0.097 (0.009)	0.101 (0.010)	0.102 (0.010)
1969	0.119 (0.008)	0.122 (0.009)	0.124 (0.010)	0.105 (0.009)	0.107 (0.010)	0.108 (0.010)
1970	0.129 (0.008)	0.131 (0.010)	0.133 (0.010)	0.114 (0.009)	0.116 (0.011)	0.118 (0.011)
1971	0.130 (0.008)	0.133 (0.010)	0.133 (0.010)	0.115 (0.009)	0.118 (0.011)	0.117 (0.011)
1972	0.124 (0.008)	0.129 (0.011)	0.130 (0.011)	0.108 (0.009)	0.113 (0.012)	0.113 (0.011)
1973	0.118 (0.008)	0.121 (0.010)	0.123 (0.010)	0.101 (0.009)	0.104 (0.011)	0.106 (0.011)
1974	0.126 (0.008)	0.126 (0.010)	0.128 (0.011)	0.110 (0.009)	0.109 (0.011)	0.110 (0.011)
1975	0.136 (0.008)	0.136 (0.010)	0.136 (0.010)	0.123 (0.009)	0.122 (0.010)	0.122 (0.010)
1976	0.133 (0.008)	0.134 (0.010)	0.137 (0.010)	0.121 (0.009)	0.122 (0.010)	0.123 (0.011)
1977	0.137 (0.008)	0.138 (0.011)	0.141 (0.010)	0.124 (0.009)	0.124 (0.011)	0.125 (0.011)
1978	0.131 (0.008)	0.136 (0.010)	0.136 (0.010)	0.118 (0.009)	0.126 (0.011)	0.124 (0.011)
1979	0.129 (0.008)	0.127 (0.011)	0.130 (0.011)	0.118 (0.009)	0.115 (0.011)	0.117 (0.012)
1980	0.136 (0.008)	0.135 (0.011)	0.136 (0.011)	0.119 (0.008)	0.118 (0.012)	0.118 (0.012)
1981	0.145 (0.008)	0.146 (0.010)	0.146 (0.010)	0.133 (0.009)	0.133 (0.011)	0.132 (0.010)
1982	0.164 (0.008)	0.165 (0.010)	0.166 (0.010)	0.150 (0.009)	0.151 (0.010)	0.151 (0.010)
1983	0.161 (0.008)	0.162 (0.010)	0.163 (0.010)	0.148 (0.009)	0.149 (0.010)	0.150 (0.010)
1984	0.159 (0.009)	0.159 (0.011)	0.161 (0.011)	0.146 (0.009)	0.145 (0.011)	0.147 (0.011)
1985	0.158 (0.008)	0.158 (0.010)	0.159 (0.009)	0.143 (0.009)	0.143 (0.010)	0.143 (0.010)
1986	0.161 (0.008)	0.161 (0.010)	0.162 (0.010)	0.144 (0.009)	0.144 (0.011)	0.146 (0.011)
1987	0.156 (0.008)	0.156 (0.010)	0.156 (0.010)	0.139 (0.008)	0.138 (0.010)	0.138 (0.010)
1988	0.160 (0.008)	0.161 (0.010)	0.162 (0.010)	0.144 (0.009)	0.146 (0.010)	0.146 (0.010)
1989	0.164 (0.008)	0.164 (0.010)	0.162 (0.010)	0.147 (0.009)	0.148 (0.010)	0.146 (0.010)
1990	0.164 (0.008)	0.164 (0.011)	0.164 (0.010)	0.143 (0.009)	0.144 (0.011)	0.142 (0.011)
1991	0.169 (0.008)	0.170 (0.010)	0.169 (0.010)	0.150 (0.009)	0.151 (0.011)	0.148 (0.011)
1992	0.173 (0.008)	0.173 (0.009)	0.174 (0.009)	0.155 (0.009)	0.156 (0.010)	0.156 (0.010)
1993	0.167 (0.008)	0.166 (0.010)	0.168 (0.009)	0.142 (0.008)	0.142 (0.010)	0.143 (0.010)
1994	0.169 (0.008)	0.167 (0.010)	0.168 (0.010)	0.145 (0.008)	0.144 (0.010)	0.144 (0.010)
1995	0.171 (0.008)	0.168 (0.010)	0.167 (0.010)	0.145 (0.008)	0.144 (0.010)	0.144 (0.010)
1996	0.160 (0.009)	0.160 (0.011)	0.158 (0.010)	0.127 (0.008)	0.128 (0.011)	0.128 (0.011)

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                                            Table 25
                          Proportion of earings acruing to the top decile

                      Unconditional                          Conditional on age and education
          Interactive     Separable        Separable        Interactive     Separable        Separable
Year      polynomial      polynomial       smooth function  polynomial      polynomial       smooth function
1967      0.226 (0.009)   0.228 (0.011)    0.229 (0.011)    0.212 (0.009)   0.212 (0.011)    0.212 (0.011)
1968      0.226 (0.008)   0.230 (0.012)    0.232 (0.012)    0.211 (0.008)   0.215 (0.013)    0.215 (0.012)
1969      0.229 (0.008)   0.230 (0.011)    0.231 (0.011)    0.213 (0.009)   0.213 (0.011)    0.214 (0.011)
1970      0.232 (0.009)   0.234 (0.011)    0.235 (0.011)    0.215 (0.009)   0.218 (0.012)    0.218 (0.012)
1971      0.231 (0.008)   0.232 (0.011)    0.232 (0.011)    0.214 (0.008)   0.215 (0.012)    0.215 (0.011)
1972      0.235 (0.009)   0.239 (0.013)    0.238 (0.013)    0.220 (0.009)   0.225 (0.014)    0.223 (0.014)
1973      0.236 (0.010)   0.239 (0.014)    0.237 (0.013)    0.222 (0.010)   0.227 (0.015)    0.225 (0.014)
1974      0.240 (0.009)   0.236 (0.012)    0.236 (0.012)    0.225 (0.009)   0.222 (0.012)    0.222 (0.013)
1975      0.235 (0.008)   0.233 (0.010)    0.232 (0.010)    0.218 (0.008)   0.220 (0.011)    0.218 (0.010)
1976      0.240 (0.009)   0.239 (0.012)    0.238 (0.012)    0.226 (0.009)   0.228 (0.012)    0.226 (0.012)
1977      0.240 (0.008)   0.238 (0.012)    0.239 (0.011)    0.224 (0.008)   0.226 (0.012)    0.225 (0.012)
1978      0.240 (0.009)   0.239 (0.013)    0.238 (0.012)    0.226 (0.009)   0.229 (0.013)    0.227 (0.013)
1979      0.238 (0.009)   0.236 (0.014)    0.236 (0.013)    0.226 (0.009)   0.226 (0.014)    0.226 (0.014)
1980      0.241 (0.007)   0.238 (0.011)    0.236 (0.011)    0.224 (0.007)   0.224 (0.012)    0.221 (0.011)
1981      0.236 (0.007)   0.233 (0.010)    0.232 (0.010)    0.219 (0.007)   0.220 (0.010)    0.218 (0.010)
1982      0.254 (0.008)   0.251 (0.011)    0.251 (0.010)    0.234 (0.008)   0.235 (0.011)    0.234 (0.011)
1983      0.252 (0.008)   0.251 (0.010)    0.252 (0.010)    0.236 (0.008)   0.237 (0.011)    0.237 (0.011)
1984      0.257 (0.009)   0.254 (0.012)    0.256 (0.012)    0.239 (0.009)   0.239 (0.013)    0.240 (0.013)
1985      0.262 (0.010)   0.259 (0.012)    0.260 (0.012)    0.243 (0.010)   0.242 (0.013)    0.243 (0.013)
1986      0.256 (0.008)   0.255 (0.011)    0.256 (0.011)    0.235 (0.008)   0.236 (0.011)    0.236 (0.011)
1987      0.263 (0.010)   0.263 (0.013)    0.263 (0.013)    0.244 (0.010)   0.245 (0.013)    0.244 (0.013)
1988      0.261 (0.009)   0.261 (0.012)    0.262 (0.011)    0.243 (0.009)   0.244 (0.012)    0.243 (0.011)
1989      0.261 (0.008)   0.259 (0.011)    0.259 (0.011)    0.241 (0.008)   0.240 (0.011)    0.238 (0.011)
1990      0.264 (0.009)   0.264 (0.012)    0.265 (0.011)    0.241 (0.009)   0.241 (0.012)    0.240 (0.012)
1991      0.269 (0.009)   0.269 (0.012)    0.268 (0.012)    0.247 (0.009)   0.247 (0.013)    0.244 (0.013)
1992      0.278 (0.011)   0.278 (0.013)    0.279 (0.014)    0.256 (0.012)   0.255 (0.014)    0.256 (0.014)
1993      0.287 (0.013)   0.288 (0.016)    0.289 (0.016)    0.265 (0.013)   0.266 (0.017)    0.266 (0.016)
1994      0.292 (0.013)   0.292 (0.016)    0.293 (0.017)    0.271 (0.013)   0.270 (0.017)    0.270 (0.017)
1995      0.298 (0.015)   0.297 (0.018)    0.297 (0.017)    0.276 (0.015)   0.273 (0.018)    0.272 (0.018)
1996      0.296 (0.017)   0.295 (0.022)    0.295 (0.021)    0.271 (0.017)   0.272 (0.023)    0.271 (0.022)
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