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TRANSITION PROBABILITIES FOR STUDENT-TEACHER POPULATION
GROWTH MODEL (DYNAMOD II).

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NATIONAL CENTER FOR EDUCATIONAL STATISTICS (DHEW)

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ELEMENTARY SCHOOL TEACHERS, SECONDARY SCHOOL TEACHERS,
COLLEGE TEACHERS, TABLES (DATA), *AGE GROUPS, DISTRICT OF
COLUMBIA, DYNAMOD II,

THIS NOTE PRESENTS THE TRANSITION PROBABILITIES
CURRENTLY IN USE IN DYNAMOD II. THE ESTIMATING PROCEDURES
USED TO DERIVE THESE PROBABILITIES WERE DISCUSSED IN THESE
RELATED DOCUMENTS--EA 001 016, EA 001 017, EA 001 018, AND EA
001 063. THE TRANSIT ON PROBABILITIES FOR FOUR SEX-RACE
GROUPS ARE SHOWN ALONG WITH THE DONOR-RECEIVER CODES TO WHICH
THEY RELATE. (KW)

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NATIONAL CENTER FOR EDUCATIONAL STATISTICS
Division of Operations Analysis

TRANSITION PROBABILITIES
FOR STUDENT-TEACHER POPULATION GROWTH MODEL
(DYNAMOD II)

by

Judith R. Zinter

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DYNAMOD II Transition Probabilities

This note presents the transition probabilities currently in use in DYNAMOD II. The various estimation procedures used to derive these probabilities are discussed in the following notes:

1. Judith R. Zinter, Estimation of Age Transition Probabilities, Technical Note Number 12, Division of Operation Analysis, National Center for Educational Statistics, U. S. Office of Education, December, 1966.
2. Edward K. Zabrowski and John T. Hudman, Dropout and Retention Rate Methodology Used to Estimate First-Stage Elements of the Transition Probability Matrices for DYNAMOD II, Technical Note Number 28, Division of Operations Analysis, National Center for Educational Statistics, U. S. Office of Education, April, 1967.
3. Edward K. Zabrowski, Methodology Used to Estimate First-Stage Elements of the Transition Probability Matrices for DYNAMOD II: Teachers and Extra-System Flows, Technical Note Number 39, Division of Operations Analysis, National Center for Educational Statistics, U. S. Office of Education, September, 1967.
4. Judith R. Zinter, Estimation of Second-Stage Dropout Rates for DYNAMOD II, Technical Note Number 40, Division of Operations Analysis, National Center for Educational Statistics, U. S. Office of Education, August, 1967

The transition probabilities for the four sex-race groups are shown in Table 1 along with the donor/receiver codes to which they relate. Taking the first few entries as an example, Table 1 should be read as follows: .0067 of those individuals in category 11 remains in category 11 the following year, .9878 of them move into category 21, and so on. An interpretation of the donor/receiver codes is given below.

<u>Donor/receiver code</u>	<u>Age group</u>	<u>Educational category</u>
11	0 - 4	Elementary school student
19	0 - 4	Other
21	5 -14	Elementary school student
22	5 -14	Secondary school student
27	5 -14	Elementary school dropout
28	5 -14	Secondary school dropout
29	5 -14	Other
31	15 -19	Elementary school student
32	15 -19	Secondary school student
33	15 -19	College student
37	15 -19	Elementary school dropout
38	15 -19	Secondary school dropout
39	15 -19	Other
41	20 -24	Elementary school student
42	20 -24	Secondary school student
43	20 -24	College student
44	20 -24	Elementary school teacher
45	20 -24	Secondary school teacher
47	20 -24	Elementary school dropout
48	20 -24	Secondary school dropout
49	20 -24	Other
51	25 -44	Elementary school student
52	25 -44	Secondary school student

<u>Donor/receiver code</u>	<u>Age group</u>	<u>Educational category</u>
53	25 - 44	College student
54	25 - 44	Elementary school teacher
55	25 - 44	Secondary school teacher
56	25 - 44	College teacher
57	25 - 44	Elementary school dropout
58	25 - 44	Secondary school dropout
59	25 - 44	Other
64	44 & over	Elementary school teacher
65	44 & over	Secondary school teacher
66	44 & over	College teacher
69	44 & over	Other
70	-	Dead

Table 1.-Transition probabilities currently in use
in DYNAMOD II

White Males

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>	<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
11	11	.0067	31	31	.6955
	21	.9878		32	.0912
	70	.0055		37	.1615
19	11	.0178	41	.0303	
	19	.7809	42	.0202	
	21	.7889	70	.0013	
	29	.1069	32	.7521	
	70	.0055	33	.0985	
21	21	.8738	38	.0868	
	22	.0591	39	.0021	
	27	.0009	42	.0125	
	29	.0141	43	.0233	
	31	.0078	48	.0230	
	32	.0423	49	.0004	
	37	.0015	70	.0013	
	70	.0005	33	.6142	
	22	22	.1129	39	.0119
		28	.0100	43	.3530
29		.1510	44	.0006	
32		.6523	45	.0040	
33		.0109	49	.0152	
38		.0156	70	.0011	
39		.0468	37	.0240	
70		.0005	39	.5847	
27		21	.0111	41	.0060
		29	.3587	49	.3840
	31	.0189	70	.0013	
	39	.6108	38	.0240	
	70	.0005	39	.5847	
28	22	.0117	42	.0060	
	29	.3587	49	.3840	
	32	.0183	70	.0013	
	39	.6108	39	.0029	
	70	.0005	33	.0142	
29	21	.6900	39	.5516	
	22	.0012	42	.0004	
	29	.2714	43	.0035	
	39	.0369	49	.4261	
	70	.0005	70	.0013	

White Males Cont'd.

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
41	41	.7056
	42	.0812
	47	.0131
	51	.1750
	52	.0201
	57	.0033
	70	.0017
42	42	.6124
	43	.0935
	48	.0470
	49	.0470
	52	.1606
	53	.0232
	58	.0073
	59	.0073
	70	.0017
43	43	.6142
	44	.0036
	45	.0160
	49	.1653
	53	.1527
	54	.0006
	55	.0040
	56	.0017
	59	.0408
	70	.0011
44	44	.7531
	49	.0470
	54	.1868
	59	.0117
	70	.0011
45	44	.0318
	45	.7245
	49	.0441
	54	.0070
	55	.1806
	59	.0109
47	41	.0240
	49	.7746
	51	.0060
	59	.1937
	70	.0017
48	42	.0240
	49	.7746
	52	.0060
	59	.1937
	70	.0017

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
49	42	.0001
	43	.0108
	45	.0002
	49	.8319
	53	.0024
	59	.1529
	70	.0017
51	51	.8355
	52	.1028
	57	.0558
	69	.0033
	70	.0026
52	52	.7903
	53	.1107
	58	.0441
	59	.0442
	69	.0081
	70	.0026
	53	53
54		.0028
55		.0189
56		.0090
59		.2266
64		.0001
65		.0011
66		.0006
69		.0118
70		.0017
54	54	.8918
	59	.0574
	64	.0411
	69	.0080
	70	.0017
55	54	.0316
	55	.8639
	59	.0525
	64	.0001
	65	.0474
	69	.0028
	70	.0017

White Males Cont'd.

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
56	54	.0005
	55	.0051
	56	.9199
	59	.0224
	64	.0001
	65	.0003
	66	.0469
	69	.0031
	70	.0017
57	51	.0300
	59	.9173
	69	.0501
	70	.0026
58	52	.0300
	59	.9173
	69	.0501
	70	.0026
59	52	.0001
	53	.0013
	54	.0001
	55	.0004
	56	.0007
	59	.9447
	69	.0501
	70	.0026
64	64	.9116
	69	.0784
	70	.0100
65	64	.0284
	65	.8869
	69	.0747
	70	.0100
66	64	.0005
	65	.0057
	66	.9039
	69	.0799
	70	.0100
69	65	.0001
	66	.0004
	69	.9677
	70	.0318
70	70	1.0000

Nonwhite Females

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>	<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
11	11	.1019	31	31	.6959
	21	.8895		32	.0912
	70	.0086		37	.1442
19	11	.0342		41	.0303
	19	.7783		42	.0202
	21	.0906		47	.0174
	29	.0883		70	.0008
	70	.0086	32	32	.6841
21	21	.8739		33	.0336
	22	.0591		38	.1254
	27	.0149		39	.0842
	31	.0078		42	.0114
	32	.0423		43	.0148
	37	.0015		48	.0313
	70	.0005		49	.0144
22	22	.1026		70	.0008
	28	.0076	33	33	.6080
	29	.1602		39	.0142
	32	.5928		43	.3499
	33	.0069		44	.0060
	38	.0876		45	.0048
	39	.0418		49	.0164
	70	.0005		70	.0007
27	21	.0162	37	31	.0240
	29	.9540		39	.5838
	31	.0138		41	.0060
	39	.0155		49	.3854
	70	.0005		70	.0008
28	22	.0162	38	32	.0240
	29	.9540		39	.5838
	32	.0138		42	.0060
	39	.0155		49	.3854
	70	.0005		70	.0008
29	21	.7729	39	32	.0022
	29	.1975		33	.0031
	39	.0293		39	.6025
	70	.0005		42	.0006
				43	.0008
				49	.3900
				70	.0008

Females Cont'd.

<u>RECEIVER</u>	<u>PROB.</u>	<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
41	.7060	49	43	.0014
42	.0812		44	.0003
47	.0131		45	.0001
51	.1750		49	.8215
52	.0201		53	.0003
57	.0033		54	.0001
70	.0013		55	.0001
42	.5570		59	.1749
43	.0595		70	.0013
48	.0564	51	51	.8361
49	.1274		52	.1029
52	.1536		57	.0540
53	.0147		69	.0031
58	.0141		70	.0039
59	.0160	52	52	.7573
70	.0013		53	.0704
43	.6081		58	.0705
44	.0242		59	.0850
45	.0194		69	.0129
49	.1485		70	.0039
53	.1507	53	53	.7201
54	.0060		54	.0287
55	.0048		55	.0229
56	.0010		56	.0049
59	.0366		59	.2085
70	.0007		64	.0015
44	.7342		65	.0012
49	.0666		66	.0002
54	.1820		69	.0107
59	.0165		70	.0013
70	.0007	54	54	.8695
44	.0424		59	.0808
45	.6942		64	.0443
49	.0642		69	.0041
54	.0105		70	.0013
55	.1721	55	54	.0502
59	.0159		55	.8221
70	.0007		59	.0779
41	.0240		64	.0026
49	.7993		65	.0419
51	.0060		69	.0040
59	.1694		70	.0013
70	.0013			
42	.0240			
49	.7993			
52	.0060			
59	.1694			
70	.0013			

Nonwhite Females Cont'd.

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
56	54	.0096
	55	.0065
	56	.8996
	59	.0346
	64	.0005
	65	.0003
	66	.0442
	69	.0034
	70	.0013
57	51	.0300
	59	.9178
	69	.0483
	70	.0039
58	52	.0300
	59	.9178
	69	.0483
	70	.0039
59	53	.0002
	54	.0004
	55	.0002
	56	.0002
	59	.9468
	69	.0483
	70	.0039
64	64	.8934
	69	.0926
	70	.0140
65	64	.0516
	65	.8447
	69	.0897
	70	.0140
66	64	.0098
	65	.0067
	66	.8914
	69	.0781
	70	.0140
69	64	.0003
	65	.0003
	66	.0001
	69	.9731
	70	.0262
70	70	1.0000

Nonwhite Males

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>	<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
11	11	.0443	31	31	.6953
	21	.9450		32	.0912
	70	.0107		37	.1440
19	11	.0249		41	.0303
	19	.7789		42	.0202
	21	.0857		47	.0174
	29	.0993		70	.0016
	70	.0107		32	.7520
21	21	.8737		33	.0535
	22	.0591		38	.0869
	27	.0048	39	.0470	
	29	.0100	42	.0124	
	31	.0078	43	.0232	
	32	.0424	48	.0117	
	37	.0015	49	.0117	
	70	.0007	70	.0016	
22	22	.1129	33	.6140	
	28	.0454	39	.0118	
	29	.1156	43	.3527	
	32	.6523	44	.0009	
	33	.0109	45	.0040	
	38	.0513	49	.0152	
	39	.0109	70	.0014	
	70	.0007	37	.0240	
27	21	.0240	39	.5841	
	29	.6785	41	.0060	
	31	.0060	49	.3843	
	39	.2908	70	.0016	
	70	.0007	38	.0240	
28	22	.0240	39	.5841	
	29	.6785	42	.0060	
	32	.0060	49	.3843	
	39	.2908	70	.0016	
	70	.0007	39	.0035	
29	21	.7966	33	.0032	
	29	.1905	39	.6014	
	39	.0122	43	.0008	
	70	.0007	49	.3895	
			70	.0016	

Nonwhite Males Cont'd.

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
41	41	.7051
	42	.0811
	47	.0131
	51	.1745
	52	.0201
	57	.0032
	70	.0028
42	42	.6119
	43	.0934
	48	.0470
	49	.0470
	52	.1602
	53	.0231
	58	.0073
	59	.0073
	70	.0028
	43	43
44		.0036
45		.0160
49		.1658
53		.1520
54		.0009
55		.0040
56		.0015
59		.0410
70		.0014
44	44	.7525
	49	.0479
	54	.1863
	59	.0119
	70	.0014
45	44	.0317
	45	.7239
	49	.0448
	54	.0079
	55	.1792
	59	.0111
	70	.0014
47	41	.0240
	49	.7983
	51	.0060
	59	.1689
	70	.0028
48	42	.0240
	49	.7983
	52	.0060
	59	.1689
	70	.0028

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
49	43	.0035
	44	.0003
	45	.0001
	49	.8184
	53	.0009
	59	.1740
	70	.0028
51	51	.8348
	52	.1027
	57	.0534
	69	.0030
	70	.0061
52	52	.7889
	53	.1106
	58	.0434
	59	.0434
	69	.0076
	70	.0051
	53	53
54		.0043
55		.0189
56		.0071
59		.2272
64		.0002
65		.0010
66		.0004
69		.0114
70		.0028
54	54	.8910
	59	.0586
	64	.0447
	69	.0029
	70	.0028
55	54	.0376
	55	.8572
	59	.0548
	64	.0019
	65	.0430
	69	.0027
	70	.0028
56	54	.0009
	55	.0051
	56	.9136
	59	.0300
	65	.0003
	66	.0443
	69	.0030
70	.0028	

Nonwhite Males Cont'd.

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
57	51	.0300
	59	.9164
	69	.0475
	70	.0061
58	52	.0300
	59	.9164
	69	.0475
	70	.0061
59	53	.0007
	54	.0001
	55	.0003
	56	.0002
	59	.9451
	69	.0475
	70	.0061
64	64	.9084
	69	.0756
	70	.0160
65	64	.0383
	65	.8738
	69	.0719
	70	.0160
66	64	.0010
	65	.0052
	66	.9007
	69	.0771
	70	.0160
69	64	.0001
	66	.0003
	69	.9644
	70	.0352
70	70	1.0000

White Females

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>	<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>	
11	11	.0068	31	31	.6958	
	21	.9890		32	.0912	
	70	.0042		37	.1436	
19	11	.0175		41	.0304	
	19	.7823		42	.0202	
	21	.0893		47	.0183	
	29	.1067		70	.0005	
	70	.0042		32	32	.6943
21	21	.8741			33	.0759
	22	.0591			38	.1047
	27	.0018			39	.0576
	29	.0131			42	.0114
	31	.0078			43	.0148
	32	.0423			48	.0262
	37	.0015			49	.0146
	70	.0003	70		.0005	
22	22	.1027	33		33	.6078
	28	.0119		39	.0142	
	29	.1558		43	.3514	
	32	.6001		44	.0060	
	33	.0089		45	.0048	
	38	.0320		49	.0154	
	39	.0883		70	.0004	
	70	.0003		37	31	.0240
	27	21			.0162	39
29		.8904	41		.0060	
31		.0138	49		.3853	
39		.0793	70	.0005		
28	70	.0003	38	32	.0240	
	22	.0081		39	.5842	
	29	.8985		42	.0060	
	32	.0219		49	.3853	
	39	.0712		70	.0005	
29	70	.0003	39	32	.0026	
	21	.7191		33	.0114	
	22	.0012		39	.6142	
	29	.2050		42	.0006	
	32	.0001		43	.0022	
	39	.0743		49	.3685	
	70	.0003		70	.0005	

White Females Cont'd.

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
41	41	.7059
	42	.0812
	47	.0131
	51	.1757
	52	.0202
	57	.0033
	70	.0006
42	42	.5569
	43	.0595
	48	.0343
	49	.1495
	52	.1542
	53	.0148
	58	.0086
	59	.0216
	70	.0006
43	43	.6080
	44	.0272
	45	.0194
	49	.1451
	53	.1514
	54	.0060
	55	.0048
	56	.0010
	59	.0367
70	.0004	
44	44	.7691
	49	.0313
	54	.1827
	59	.0165
	70	.0004
45	44	.0424
	45	.6941
	49	.0638
	54	.0106
	55	.1728
	59	.0159
70	.0004	
47	41	.0240
	49	.7992
	51	.0060
	59	.1702
	70	.0006

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
48	42	.0240
	49	.7992
	52	.0060
	59	.1702
	70	.0006
49	43	.0028
	44	.0009
	45	.0003
	49	.8192
	53	.0007
	54	.0001
	55	.0001
51	59	.1753
	70	.0006
	51	.8363
	52	.1250
	57	.0339
52	69	.0034
	70	.0014
	52	.7625
	53	.0704
53	58	.0429
	59	.1092
	69	.0136
	70	.0014
	53	.7203
	54	.0287
	55	.0229
54	56	.0049
	59	.2085
	64	.0015
	65	.0012
	66	.0002
	69	.0112
	70	.0006
55	54	.8697
	59	.0791
	64	.0464
	69	.0042
	70	.0006
	54	.0502
	55	.8223
59	.0766	
55	64	.0027
	65	.0435
	69	.0041
	70	.0006

<u>DONOR</u>	<u>RECEIVER</u>	<u>PROB.</u>
56	54	.0056
	55	.0065
	56	.9053
	59	.0269
	64	.0005
	65	.0003
	66	.0493
	69	.0005
	70	.0006
57	51	.0300
	59	.9180
	69	.0506
	70	.0014
58	52	.0300
	59	.9180
	69	.0506
	70	.0014
59	52	.0001
	53	.0002
	54	.0004
	55	.0003
	56	.0003
	59	.9467
	69	.0506
	70	.0014
64	64	.9065
	69	.0365
	70	.0070
65	64	.0518
	65	.8681
	69	.0731
	70	.0070
66	64	.0099
	65	.0067
	66	.9448
	69	.0316
	70	.0070
69	64	.0006
	65	.0005
	66	.0001
	69	.9766
	70	.0222
70	70	1.0000