

## Appendix 1: Total Costs to Taxpayers Associated with Teen Childbearing (in Millions 2004 \$)

State	Federal Costs	Percent Federal	State/Local Costs	Percent State/Local	Total Cost to Taxpayers
Alabama	\$93	52%	\$85	48%	\$178
Alaska	\$15	50%	\$15	50%	\$30
Arizona	\$126	50%	\$126	50%	\$252
Arkansas	\$56	50%	\$55	50%	\$112
California	\$421	47%	\$475	53%	\$896
Colorado	\$66	39%	\$101	61%	\$167
Connecticut	\$46	47%	\$52	53%	\$98
Delaware	\$9	32%	\$19	68%	\$28
District of Columbia	\$11	43%	\$15	57%	\$26
Florida	\$250	52%	\$231	48%	\$481
Georgia	\$167	48%	\$177	52%	\$344
Hawaii	\$7	33%	\$15	67%	\$22
Idaho	\$20	51%	\$19	49%	\$39
Illinois	\$206	44%	\$261	56%	\$467
Indiana	\$70	36%	\$125	64%	\$195
Iowa	\$35	42%	\$47	58%	\$82
Kansas	\$39	43%	\$51	57%	\$91
Kentucky	\$60	41%	\$87	59%	\$148
Louisiana	\$80	49%	\$85	51%	\$165
Maine	\$5	30%	\$11	70%	\$16
Maryland	\$65	34%	\$130	66%	\$195
Massachusetts	\$31	28%	\$79	72%	\$109
Michigan	\$105	35%	\$197	65%	\$302
Minnesota	\$49	35%	\$93	65%	\$142
Mississippi	\$67	49%	\$69	51%	\$135
Missouri	\$88	47%	\$99	53%	\$186
Montana	\$8	46%	\$10	54%	\$18
Nebraska	\$20	40%	\$30	60%	\$50
Nevada	\$36	54%	\$31	46%	\$67
New Hampshire	\$8	44%	\$10	56%	\$18
New Jersey	\$41	24%	\$126	76%	\$167
New Mexico	\$48	56%	\$38	44%	\$86
New York	\$185	44%	\$236	56%	\$421
North Carolina	\$128	41%	\$184	59%	\$312
North Dakota	\$7	59%	\$5	41%	\$13
Ohio	\$138	39%	\$214	61%	\$352
Oklahoma	\$67	45%	\$82	55%	\$149
Oregon	\$29	32%	\$62	68%	\$91
Pennsylvania	\$145	37%	\$244	63%	\$389
Rhode Island	\$8	24%	\$27	76%	\$35
South Carolina	\$80	51%	\$76	49%	\$156
South Dakota	\$12	61%	\$8	39%	\$20
Tennessee	\$71	39%	\$110	61%	\$181
Texas	\$552	55%	\$450	45%	\$1,002
Utah	\$28	45%	\$35	55%	\$63
Vermont	\$4	34%	\$8	66%	\$12
Virginia	\$66	38%	\$110	62%	\$177
Washington	\$43	38%	\$72	62%	\$115
West Virginia	\$15	39%	\$23	61%	\$38
Wisconsin	\$49	31%	\$107	69%	\$156
Wyoming	\$7	50%	\$8	50%	\$15
<b>U.S. Total</b>	<b>\$3,983</b>	<b>44%</b>	<b>\$5,026</b>	<b>56%</b>	<b>\$9,009</b>

## Appendix 2: Average Annual Cost Associated with a Child Born to a Teen Mother 17 and Younger

State	Average Cost	Rank (1=Highest)
Alabama	\$3,494	40
Alaska	\$5,909	6
Arizona	\$3,364	44
Arkansas	\$3,375	43
California	\$4,224	24
Colorado	\$4,056	27
Connecticut	\$6,850	2
Delaware	\$4,194	25
District of Columbia	\$5,791	7
Florida	\$3,652	37
Georgia	\$3,526	38
Hawaii	\$4,104	26
Idaho	\$3,863	34
Illinois	\$4,368	21
Indiana	\$3,953	32
Iowa	\$5,286	11
Kansas	\$4,238	23
Kentucky	\$4,279	22
Louisiana	\$3,143	48
Maine	\$4,448	19
Maryland	\$5,150	12
Massachusetts	\$6,001	5
Michigan	\$4,951	16
Minnesota	\$5,506	9
Mississippi	\$3,318	46
Missouri	\$4,043	28
Montana	\$3,285	47
Nebraska	\$4,393	20
Nevada	\$3,040	49
New Hampshire	\$5,327	10
New Jersey	\$5,017	14
New Mexico	\$2,991	51
New York	\$6,094	4
North Carolina	\$3,868	33
North Dakota	\$4,881	17
Ohio	\$4,534	18
Oklahoma	\$3,807	35
Oregon	\$4,972	15
Pennsylvania	\$5,563	8
Rhode Island	\$6,317	3
South Carolina	\$3,330	45
South Dakota	\$3,523	39
Tennessee	\$3,404	42
Texas	\$2,997	50
Utah	\$4,015	30
Vermont	\$7,836	1
Virginia	\$3,964	31
Washington	\$4,032	29
West Virginia	\$3,480	41
Wisconsin	\$5,133	13
Wyoming	\$3,790	36
U.S. Total Average	\$4,080	

## Appendix 3: Cumulative Number of Teen Births and Cumulative Costs, 1991-2004

State	Number of Teen Births	Rank (# of Teen Births 1= Highest)	Cost of Teen Births (in Billions of 2004 \$)	Rank (Cumulative Cost 1=Highest)
Alabama	143,078	15	\$3.4	13
Alaska	16,053	47	\$0.5	42
Arizona	158,350	13	\$3.4	12
Arkansas	91,804	27	\$2.0	29
California	855,973	1	\$17.3	1
Colorado	96,529	26	\$2.4	25
Connecticut	48,774	36	\$1.9	30
Delaware	18,624	42	\$0.5	43
District of Columbia	18,524	43	\$0.6	41
Florida	354,190	3	\$8.1	5
Georgia	249,071	7	\$5.7	9
Hawaii	25,383	40	\$0.4	44
Idaho	31,230	39	\$0.7	39
Illinois	308,795	5	\$8.7	4
Indiana	157,190	14	\$3.6	11
Iowa	53,620	34	\$1.5	33
Kansas	65,138	32	\$1.5	32
Kentucky	115,362	21	\$2.9	20
Louisiana	164,607	12	\$3.2	18
Maine	19,159	41	\$0.3	45
Maryland	101,436	24	\$3.4	14
Massachusetts	80,734	28	\$2.2	27
Michigan	218,028	8	\$5.8	8
Minnesota	75,211	29	\$2.3	26
Mississippi	116,913	20	\$2.7	22
Missouri	141,696	16	\$3.3	16
Montana	18,364	44	\$0.3	48
Nebraska	33,783	38	\$0.8	37
Nevada	48,982	35	\$0.9	36
New Hampshire	14,239	48	\$0.3	46
New Jersey	120,787	18	\$3.3	15
New Mexico	66,708	31	\$1.3	34
New York	317,653	4	\$8.9	3
North Carolina	212,975	10	\$5.2	10
North Dakota	10,403	50	\$0.2	51
Ohio	271,966	6	\$6.9	7
Oklahoma	108,981	23	\$2.5	24
Oregon	71,622	30	\$1.8	31
Pennsylvania	214,054	9	\$7.0	6
Rhode Island	18,264	45	\$0.6	40
South Carolina	119,026	19	\$2.7	23
South Dakota	16,566	46	\$0.3	47
Tennessee	165,677	11	\$3.3	17
Texas	745,080	2	\$15.1	2
Utah	56,216	33	\$1.3	35
Vermont	7,944	51	\$0.3	50
Virginia	140,557	17	\$3.1	19
Washington	114,445	22	\$2.2	28
West Virginia	45,341	37	\$0.8	38
Wisconsin	97,448	25	\$2.8	21
Wyoming	12,365	49	\$0.3	49
<b>U.S. Total</b>	<b>6,774,918</b>		<b>\$160.8</b>	

## Appendix 4: Cost Savings in 2004 from Decline in Teen Birth Rates from 1991-2004

State	Percent Decline in Teen Birth Rate from 1991-2004	Rank (Decline in Teen Birth Rate 1=Greatest Decline)	Savings in 2004 (In Millions of \$)	Rank (Savings 1=Highest)
Alabama	-28.8%	27	\$103	21
Alaska	-41.1%	8	\$29	36
Arizona	-24.6%	40	\$101	23
Arkansas	-24.2%	42	\$59	30
California	-46.5%	2	\$1,146	1
Colorado	-24.7%	39	\$64	29
Connecticut	-39.2%	13	\$103	22
Delaware	-28.0%	32	\$16	45
District of Columbia	-39.1%	N/A	\$42	N/A
Florida	-37.6%	16	\$432	3
Georgia	-29.7%	25	\$227	9
Hawaii	-39.0%	14	\$21	41
Idaho	-28.4%	30	\$26	38
Illinois	-37.7%	15	\$346	4
Indiana	-28.0%	33	\$123	17
Iowa	-25.6%	38	\$40	33
Kansas	-26.5%	35	\$37	35
Kentucky	-28.5%	28	\$107	19
Louisiana	-26.1%	37	\$106	20
Maine	-44.1%	4	\$22	40
Maryland	-40.1%	11	\$174	12
Massachusetts	-40.5%	10	\$144	13
Michigan	-42.1%	5	\$297	7
Minnesota	-28.4%	29	\$72	28
Mississippi	-27.4%	34	\$92	25
Missouri	-32.6%	20	\$136	14
Montana	-23.5%	44	\$6	49
Nebraska	-15.3%	50	\$14	46
Nevada	-31.4%	21	\$37	34
New Hampshire	-45.0%	3	\$21	42
New Jersey	-41.6%	7	\$186	11
New Mexico	-23.5%	43	\$26	39
New York	-40.9%	9	\$484	2
North Carolina	-30.3%	24	\$219	10
North Dakota	-23.4%	45	\$8	48
Ohio	-36.4%	17	\$300	6
Oklahoma	-22.9%	46	\$56	31
Oregon	-39.2%	12	\$83	27
Pennsylvania	-34.7%	18	\$287	8
Rhode Island	-26.4%	36	\$27	37
South Carolina	-28.1%	31	\$92	26
South Dakota	-19.1%	49	\$9	47
Tennessee	-30.3%	23	\$135	16
Texas	-20.2%	48	\$327	5
Utah	-29.2%	26	\$42	32
Vermont	-46.7%	1	\$20	43
Virginia	-34.1%	19	\$135	15
Washington	-41.7%	6	\$116	18
West Virginia	-24.5%	41	\$20	44
Wisconsin	-30.9%	22	\$97	24
Wyoming	-21.4%	47	\$5	50
U.S. Total	-33.5%		\$6,820	

## Appendix 5: Public Costs Associated with Children Born to Teen Parents (in Millions 2004 \$)

State	Lost Tax Revenue	Health Care	Child Welfare	Incarceration
Alabama	\$59	\$40	\$27	\$16
Alaska	\$4	\$13	\$8	\$11
Arizona	\$88	\$48	\$32	\$43
Arkansas	\$41	\$22	\$10	\$14
California	\$342	\$227	\$428	\$294
Colorado	\$48	\$15	\$45	\$32
Connecticut	\$20	\$23	\$34	\$37
Delaware	\$7	\$6	\$5	\$12
District of Columbia	\$8	\$7	\$23	\$0
Florida	\$146	\$96	\$89	\$105
Georgia	\$114	\$66	\$44	\$65
Hawaii	\$10	\$6	\$9	\$8
Idaho	\$12	\$8	\$6	\$7
Illinois	\$131	\$77	\$123	\$92
Indiana	\$64	\$37	\$40	\$33
Iowa	\$22	\$14	\$32	\$13
Kansas	\$30	\$12	\$23	\$14
Kentucky	\$50	\$33	\$36	\$20
Louisiana	\$59	\$31	\$21	\$34
Maine	\$6	\$17	\$4	\$5
Maryland	\$48	\$44	\$43	\$46
Massachusetts	\$34	\$37	\$65	\$29
Michigan	\$89	\$44	\$80	\$115
Minnesota	\$37	\$38	\$56	\$18
Mississippi	\$50	\$26	\$8	\$18
Missouri	\$58	\$41	\$52	\$30
Montana	\$6	\$5	\$5	\$5
Nebraska	\$15	\$11	\$16	\$9
Nevada	\$25	\$7	\$8	\$13
New Hampshire	\$3	\$8	\$9	\$5
New Jersey	\$46	\$47	\$50	\$57
New Mexico	\$31	\$26	\$9	\$10
New York	\$117	\$186	\$204	\$203
North Carolina	\$105	\$54	\$36	\$61
North Dakota	\$3	\$4	\$4	\$2
Ohio	\$104	\$67	\$92	\$90
Oklahoma	\$51	\$23	\$20	\$26
Oregon	\$27	\$16	\$32	\$28
Pennsylvania	\$93	\$68	\$168	\$87
Rhode Island	\$9	\$8	\$19	\$9
South Carolina	\$51	\$39	\$6	\$29
South Dakota	\$6	\$6	\$5	\$3
Tennessee	\$64	\$33	\$45	\$30
Texas	\$349	\$165	\$83	\$161
Utah	\$21	\$13	\$13	\$9
Vermont	\$3	\$5	\$8	\$3
Virginia	\$59	\$25	\$27	\$51
Washington	\$41	\$42	\$43	\$34
West Virginia	\$16	\$11	\$14	\$4
Wisconsin	\$41	\$23	\$38	\$50
Wyoming	\$4	\$3	\$3	\$4
<b>U.S. Total</b>	<b>\$2,868</b>	<b>\$1,925</b>	<b>\$2,300</b>	<b>\$2,094</b>

## Appendix 6: Decline in Teen Birth Rate per 1,000 Teens Aged 15-19 1991-2004 (by percent and state rank)

State	Teen Birth Rate			Rank (1= Greatest Decline)
	1991	2004	Percent Decline	
Alabama	73.6	52.4	-28.8%	27
Alaska	66.0	38.9	-41.1%	8
Arizona	79.7	60.1	-24.6%	40
Arkansas	79.5	60.3	-24.2%	42
California	73.8	39.5	-46.5%	2
Colorado	58.3	43.9	-24.7%	39
Connecticut	40.1	24.4	-39.2%	13
Delaware	60.4	43.5	-28.0%	32
District of Columbia	109.6	66.7	-39.1%	N/A
Florida	67.9	42.4	-37.6%	16
Georgia	76.0	53.4	-29.7%	25
Hawaii	59.2	36.1	-39.0%	14
Idaho	53.9	38.6	-28.4%	30
Illinois	64.5	40.2	-37.7%	15
Indiana	60.4	43.5	-28.0%	33
Iowa	42.5	31.6	-25.6%	38
Kansas	55.4	40.7	-26.5%	35
Kentucky	68.8	49.2	-28.5%	28
Louisiana	76.0	56.2	-26.1%	37
Maine	43.5	24.3	-44.1%	4
Maryland	54.1	32.4	-40.1%	11
Massachusetts	37.5	22.3	-40.5%	10
Michigan	58.9	34.1	-42.1%	5
Minnesota	37.3	26.7	-28.4%	29
Mississippi	85.3	61.9	-27.4%	34
Missouri	64.4	43.4	-32.6%	20
Montana	46.8	35.8	-23.5%	44
Nebraska	42.4	35.9	-15.3%	50
Nevada	74.5	51.1	-31.4%	21
New Hampshire	33.1	18.2	-45.0%	3
New Jersey	41.3	24.1	-41.6%	7
New Mexico	79.5	60.8	-23.5%	43
New York	45.5	26.9	-40.9%	9
North Carolina	70.0	48.8	-30.3%	24
North Dakota	35.5	27.2	-23.4%	45
Ohio	60.5	38.5	-36.4%	17
Oklahoma	72.1	55.6	-22.9%	46
Oregon	54.8	33.3	-39.2%	12
Pennsylvania	46.7	30.5	-34.7%	18
Rhode Island	44.7	32.9	-26.4%	36
South Carolina	72.5	52.1	-28.1%	31
South Dakota	47.6	38.5	-19.1%	49
Tennessee	74.8	52.1	-30.3%	23
Texas	78.4	62.6	-20.2%	48
Utah	48.0	34.0	-29.2%	26
Vermont	39.2	20.9	-46.7%	1
Virginia	53.4	35.2	-34.1%	19
Washington	53.7	31.3	-41.7%	6
West Virginia	58.0	43.8	-24.5%	41
Wisconsin	43.7	30.2	-30.9%	22
Wyoming	54.3	42.7	-21.4%	47
U.S. Total	61.8	41.1	-33.5%	

## Appendix 7: National Cost Estimate Methodology

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The costs presented in this paper are an estimate of the costs created by the actual number of births in 2004—140,761 births to girls age 17 or younger and 281,282 births to girls age 18 and 19 (Martin, et al). The costs are those incurred by federal, state, and local taxpayers in 2004; cost estimates to the mothers and to society at large are measured and presented in Maynard (1996) and Maynard and Hoffman (forthcoming).

Most of the information available to measure the costs of early childbearing examines these costs over a number of years following a birth. We follow that approach, typically measuring costs over the first fifteen years following a birth. In order to measure the costs of those births as of a single calendar year rather than over a fifteen year time period, it is assumed that the number of births is constant at the 2004 levels; this is equivalent to assuming a “steady-state” of the world exactly like 2004. Thus, for example, the cost analyses of early teen births assume there are 140,761 young teen mothers age 17 in their first year of motherhood, 140,761 young teen mothers age 18 in their second year of motherhood, and so on through the first fifteen years of motherhood. The analysis of costs of older teen births proceeds in exactly the same way, based on 281,282 births with years of motherhood beginning at age 19. Analytically, we are examining the costs contributed by 15 cohorts of teen mothers, identically sized to the 2004 birth cohort and distributed across the first fifteen years following a birth. The underlying information on costs over each year of a teen mother’s life-cycle is then used to measure the costs of these 15 cohorts of young women.<sup>16</sup> This procedure is identical to the approach taken in Maynard (1996).

The costs measured here are annual costs as if they were incurred in 2004. All characteristics of

government programs and taxes that are used to compute costs are based on data for 2004, unless otherwise noted. In the short run, if one assumes that the underlying causal impacts of a teen birth are unchanged, it is possible to use the estimates presented here to estimate the costs for other years as well. As a first approximation, simply adjusting for the difference in the number of births and the inflation rate would give a reasonable estimate of the costs in a future year. Further adjustments for the cost of specific government programs and services or in the impact of a teen birth would be necessary for years further in the future.

All gross impact analyses are based on models that control only for age and mother’s age at first birth. Net impact analyses are based on the fullest set of available controls. The extent of control variables available varies across the studies. The analyses of foster care and child abuse/neglect use a more limited set of control variables, because they are based on Illinois administrative records. Analysis of the health care utilization, educational attainment, and teen fertility of the children of teen mothers use an extensive set of family background variables. Impact analyses for mothers’ earnings and receipt of public assistance are based on two methods: 1) a traditional approach that uses regression analysis to control for an extensive set of background variables ; and 2) a newer natural experiment approach that also controls for permanent unmeasured individual and neighborhood traits.<sup>17</sup> The cost estimates are based on results from the natural experiment approach. The analysis of incarceration uses a different approach — differences in incarceration rates of brothers — to also control for otherwise unmeasured permanent individual traits of the mother.

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16 One difference between this measure of costs and the corresponding costs from the standpoint of a young mother is that in this approach all costs occur in the same year rather than over fifteen years. The technical import of this difference is that the costs do not have to be discounted in this computation.

17 The estimation uses a teen miscarriage as an instrumental variable to approximate a random-assignment of a teen birth.

The methodology of the latter two studies is conservative and may underestimate the benefits of a delay in age at first birth that results from an intervention program. An effective teen pregnancy prevention program may provide would-be teen mothers with life skills that are valuable not only in negotiating issues involving teenage sex and contraception, but also in their schooling, in the labor market, and in the marriage market. The methodology used in these studies measures the impact of a delay that occurs either randomly (via a miscarriage) or naturally (the delay between the birth of a first and second son). Neither estimate therefore

captures the impact of a “treatment” that that may alter outcomes positively. As a result, these estimates may underestimate the potential gains of an effective intervention program with broad impacts.

Cost estimates for outcomes involving children take account of the potential impact of a delay in age at first birth on the total number of births over the first fifteen years following a first birth. For early teen births, this involves a reduction in total births from an average of 2.37 to 1.97. For later teen births, delay increases the average number of births from 2.35 to 2.45.

## Sources for National Estimates of Impacts and Costs:

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### Costs for Children of Teen Mothers

**Health and Medical Care.** Estimates are taken from Wolfe and McHugh (forthcoming) and are based on analyses of the 2002 Medical Expenditure Panel Survey. Information on health status, medical visits, and expenditures are taken from Tables 2-6. Net cost estimates are taken from Table 9, equation (2); these estimates allow child health to adjust when age at first birth is delayed. Cost estimates include the impact of a delay in age at first birth on total fertility over the first fourteen years of motherhood.

**Foster Care and Abuse/Neglect.** Estimates are taken from Goerge, Harden, and Lee (forthcoming). Data come from the Illinois Integrated Database on Children and Family Services and Illinois birth certificate data. Gross impact estimates are based on a comparison of mean foster care placement rates and abuse/neglect reports in the first five years after birth by age of mother at first birth. Net impacts are based on a logit model that further controls for characteristics of the mother. Simulations of the impact of a delay in age at first birth hold all characteristics of the mother except age at first birth constant. Data on total foster care placements and costs are derived from published tables in Scarcella et al. Cost estimates adjust for foster care placements after the first five years following the approach in Maynard (1996).

**Incarceration.** Estimates are taken from Scher and Hoffman (forthcoming), which updates Grogger's analysis of incarceration in *Kids Having Kids*. Data come from the National Longitudinal Survey of Youth 79 (NLSY) -Young Males sample, which includes a nationally representative sample of males who were between ages 14 and 21 in 1979. Gross impact estimates are based on a comparison of mean incarceration rates by age of mother at first birth. Net impact estimates are based on a model that controls separately for mother's age at first birth and mother's age at the birth of the

respondent child. In this specification, the impact of a teen birth on the probability that a son will be incarcerated is estimated conservatively from the difference in siblings' probabilities of incarceration. The less conservative estimates of net impacts are based on a model that relates the probability of son's incarceration to mother's age at first birth, rather than mother's age at the birth of the particular child. Impact estimates of the probability of ever being incarcerated are derived from logit models. Impact estimates of total years in prison are derived from Poisson models. Cost estimates are based on total years in prison. Data on incarceration are from Harrison and Beck (2005). Prison costs are for 2001 are from Stephan (2004); 2001 costs are adjusted to 2004 prices. Cost estimates adjust for the undercounting of short prison spells inherent in the data and the unobserved lifecycle from age 40 to end of life.

**Educational Attainment and Lost Tax Revenue.** Estimates are taken from Hoffman and Scher (forthcoming), which updates the analysis by Haveman, Wolfe, and Peterson in *Kids Having Kids*. Data come from the NLSY79-Young Adult sample, which includes children of the original NLSY79 sample of young women, ages 14-21 in 1979. Gross impact estimates are based on a comparison of mean high school graduation rates by age of mother at first birth. Net impact estimates are based on a model that controls for a large set of individual and family characteristics. High school graduation models are estimated by logit, years of education by tobit.

Costs are based on the net impact of a teen birth on the probability of high school graduation and value additional education using average earnings differences by level of education in 2003 (Source: Table 9. Earnings in 2003 by Educational Attainment of Workers 18 Years and Over, by Age, Sex, Race Alone, and Hispanic Origin, available at <http://www.census.gov/population/www/socdemo/education/cps2004.html>). Earnings are a weighted

average of male and female earnings for workers age 25-64, after adjusting for labor force participation. Additional years of education are assumed to be 80% high school and 20% post-secondary.

To compute public sector costs, it is assumed that earnings are received for 43 years (ages 22 through 65). All tax costs are as of 2004, computed at a 23.31% rate that reflects a Federal marginal tax rate of 15% and an average state income and sales tax rate of 8.31%. These are estimates of the rates that would apply to an individual with \$15,000 earnings and one child. State tax data are taken from the Tax Foundation, compiled by the Federation of Tax Administrators. The tax data is available at <http://www.taxfoundation.org/taxdata/show/228.html>.

## Costs for Teen Mothers

**Earnings, Taxes, and Public Assistance.** All estimates are taken from Hoffman (forthcoming) which updates and corrects errors in the analysis by Hotz, McElroy, and Sanders in *Kids Having Kids*. As explained more fully in Hoffman, the cost estimates in Hotz, McElroy, and Sanders have substantial numerical errors and should not be relied on for any purpose. The most significant error results from an incorrect rescaling of incomes from the observed years (1978-1991) to constant 1994 dollars.<sup>18</sup> This scaling error inflates estimates of the effect of a teen birth on all earnings and income measures, especially at older ages (later calendar years) where the scaling error is larger. A substantial portion of the positive “rebound effect” estimated by Hotz, McElroy, and Sanders is due to this error.

The estimates presented are based on data from the NLSY79 from 1979 through 2000. Estimates of gross impacts are based on OLS estimation of a model that controls only for a teen birth, age and/or age squared, and interactions between a teen birth and age and/or age squared. Estimates of net impacts are based on an instrumental variables estimation that uses a teen miscarriage as an instrument for a teen birth. Age/age squared and age/age squared x teen birth interactions are included and are used to construct age profiles for each of the outcome variables.

## Costs for the Partners of Teen Mothers

**Earnings and Taxes.** These estimates are taken from the analysis by Brien and Willis in *Kids Having Kids*. The estimates were rescaled to 2004 prices and then adjusted for the difference in the number of teen births in 1996 and 2004 and the probability that a birth is marital (because earnings estimates for men are conditional on marital status). Marital status if a birth is delayed is not observed and is not estimated by Brien and Willis; following the procedures used in Maynard (1996), it is assumed that a delay would eliminate two-thirds of the difference in the probability of a marital birth between partners of teen mothers and partners of women who have a first birth at age 20 or 21. Earnings and tax loss estimates are based on the first eighteen years of fatherhood, but are converted to a 15 year equivalent. All tax costs are as of 2004, computed at a 23.31% rate that reflects a Federal marginal tax rate of 15% and an average state income and sales tax rate of 8.31%. Cohort size in 2004 at each year of adult age is equal to the size of the teen birth cohort in 2004.

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18 The error is equal to the cumulative increase in the Consumer Price Index from 1978 to the data year in question and ranges from 0% for 1978 incomes to over 100% for 1991 incomes. The average scaling error is 68%. There are also probable errors in the coding of teen fertility and welfare receipt, incorrect use of sample weights, and the inclusion of data points corresponding to ages that were outside the years available in the NLSY79. See Hoffman for further details.

## Appendix 8: State Cost Estimate Methodology

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Cost estimates for states are based on national estimates for all teen births in 2004. The costs are measured relative to a delay of a first birth to age 20 or 21. As described in the Appendix 7, National Cost Estimate Methodology, the costs are “net costs;” that is, they are costs associated with being a teen at time of birth rather than other risk factors in the lives of the young women who have an early birth. Further details on the construction of national costs can be found in Appendix 7. All references to states include 50 states plus the District of Columbia. Comparable data were not available to replicate the analysis at the local level, nor for Indian Tribes or U.S. territories within the scope of this project. Wherever possible, state specific data were obtained for 2004, or were adjusted to 2004 from the most recent available year.

State costs are derived from the national costs by adjusting the national figure for the number of teen births in a state and for the particulars of a state’s tax and spending programs that may cause it to have larger or smaller costs than it would based on the number of teen births alone. Detailed information about the sources for state data are shown below.

The computation of state costs from national costs uses three multiplicative terms: 1) the state share of teen births; 2) the per client cost of a particular program relative to the national average; and 3) the utilization rate for a particular program relative to the national average, scaled relative to the state’s share of teen births. In effect, the latter two terms adjust the pro-rated costs for differences across states in the cost or generosity of particular programs and the rate of utilization of those programs. A state with cost and enrollment rates equal to the national average would have state costs strictly proportional to their share of teen births.

A specific example may be useful. In 2004, 19,240 young women age 17 and younger had a birth in Texas. These births accounted for 13.7% of all births to women age 17 and younger nationally. Foster care and associated child welfare costs for children of young teen mothers were estimated to be \$1.84 billion nationally. Texas’s pro-rated costs on the basis of teen births alone would be \$251.5 million. But Texas has a very low enrollment rate for foster care relative to the national average. In addition, cost per foster care case in Texas is slightly below the national average. Both of these factors reduce foster care costs for children of teen mothers in Texas below what would be expected based on their share of births. Texas’s adjusted cost for foster care equals \$66.1 million.

To identify how costs are allocated between different levels of government, the match or actual cost-sharing rates for each program were applied to the total costs for each program. Specifically, the analysis identified the share of costs for each program within a state that is borne by the federal government and federal taxpayers, and the share that is borne by state and local government and taxpayers. In some states, public assistance (specifically TANF and Food Stamps), health programs (specifically Medicaid and SCHIP), and child welfare are administered at the county level. In these cases, local government typically pays a share of the non-federal costs that would be borne entirely at the state level in states that are non-county administered.

On the tax side, the methodology incorporates the income and sales tax structure for each state and reflects the fact that some states do not have income or sales taxes.

## Data Sources for Estimating State-Specific Costs of Teen Childbearing

**Teen Births.** Martin J.A., Hamilton B.E., Sutton P.D., Ventura S.J., Menacker F., Kirmeyer S. (2006). Births: Final Data for 2004. *National Vital Statistics Reports*, 55 (1). Hyattsville, Maryland: National Center for Health Statistics. Births in prior years from National Vital Statistics Reports.

**State Sales Tax Rates.** Tax Policy Center. For tax tables, see <http://www.taxpolicycenter.org/TaxFacts/tfdb/TFTemplate.cfm>. Year: 2004.

**State Income Tax Rates.** Tax Foundation. Data compiled by the Federation of Tax Administrators from various sources. State Individual Income Tax Rates, local rates excluded. [www.taxfoundation.org/taxdata/show/228.html](http://www.taxfoundation.org/taxdata/show/228.html) Year: 2005.

**TANF.** US Department of Health and Human Services. State and Federal Spending, Basic Assistance. Year: 2004.

**Federal:** Table A — Line 5A Combined Federal Funds Spent in FY 2004 through 4th Quarter [http://www.acf.hhs.gov/programs/ofs/data/2004/tableA\\_summary\\_2004.html](http://www.acf.hhs.gov/programs/ofs/data/2004/tableA_summary_2004.html)

**State:** Table B — Line 5A State Maintenance of Effort (MOE) Expenditures in the TANF Program in FY 2004 [http://www.acf.hhs.gov/programs/ofs/data/2004/tableB\\_2004.html](http://www.acf.hhs.gov/programs/ofs/data/2004/tableB_2004.html) and

Table C — Line 5A State MOE in Separate State Programs in FY 2004 [http://www.acf.hhs.gov/programs/ofs/data/2004/tableC\\_2004.html](http://www.acf.hhs.gov/programs/ofs/data/2004/tableC_2004.html)

Average monthly caseloads for FY 2004 as of 03/14/06. US Department of Health and Human Services, Office of Family Assistance. <http://www.acf.dhhs.gov/programs/ofa/caseload/2004/family04tanf.htm>

**State and Federal Food Stamp Program Expenditures.** Average monthly participation for

2004 (households). USDA Food and Nutrition Service. <http://www.fns.usda.gov/pd/fsfyhh.htm>

State and Federal Administrative Expenditures. National Data Bank Version 8.2 Public Use: communication from FNS research staff, State Administration Branch, Food Stamp Program, USDA Food and Nutrition Service. FY 2005. Non-Federal expenditures include both state and local government funds.

**Housing.** Annual average annual cost per voucher for FY 2005. US Department of Housing and Urban Development (HUD) Voucher Management System (VMS) courtesy of Center for Budget and Policy Priorities. Section 8 housing voucher data was used as a proxy for all subsidized housing expenditures.

National average administrative cost per case. Center for Budget and Policy Priorities, Sources and methods used to estimate components of changes in section 8 expenditures from 1996 to 2003, Table 1. Year: 2003.

**Medicaid.** Total child enrollment. Center for Budget and Policy Priorities, “Medicaid: Improving Health, Saving Lives”. [www.cbpp.org/7-19-05health.htm](http://www.cbpp.org/7-19-05health.htm) Year: 2002.

Total Medicaid Spending, Children. Centers for Medicare and Medicaid Services. [www.cms.hhs.gov/MedicaidDataSourcesGenInfo/02\\_MSISData.asp](http://www.cms.hhs.gov/MedicaidDataSourcesGenInfo/02_MSISData.asp) Included children and eligibility status unknown. Year: 2003

Federal/State spending share (FMAP). Federal Register/Vol. 70, No.229/Wednesday, November 30, 2005/Notices. Rates apply to 2006-07.

**SCHIP.** Number of Children Enrolled. Kaiser Commission on Medicaid and the Uninsured, “SCHIP Enrollment in 50 States, December 2004 Update”, September 2005, Table 1.

[www.kff.org/medicaid/upload/7348.pdf](http://www.kff.org/medicaid/upload/7348.pdf). Used December 2004 point estimate.

SCHIP Spending. 2002-2003 State Health Expenditure Report, Co-Published by the Milbank Memorial Fund, the National Association of State Budget Officers, and the Reforming States Group, June 2005, Table 16. [www.milbank.org/reports/05NASBO/NASBO2005.pdf](http://www.milbank.org/reports/05NASBO/NASBO2005.pdf)

Federal/State spending share (Enhanced FMAP for SCHIP). Federal Register/Vol. 70, No.229/Wednesday, November 30, 2005/Notices. Rates apply to 2006-07.

**Child Welfare.** Total foster care caseload, 2004 Green Book: Table 11-7. Year: 2001.

Total child welfare expenditures. The Urban Institute, "The Cost of Protecting Vulnerable Children: Understanding State Variation in Child Welfare Financing," 2006. Includes federal, state and local spending for IV-B, IV-E, SSBG, and SSI. The expenditures also include Medicaid and TANF

funds used for child welfare (the TANF and Medicaid data above do not include expenditures for child welfare). To fully estimate the cost of children in foster care, the decision was made to include all of these funding streams because many children who experience abuse and neglect and end up in foster care funds use multiple funding sources (including funding for child protective services and adoption). [www.urban.org/publications/311314.html](http://www.urban.org/publications/311314.html) Year: 2004.

**Incarceration.** Number of inmates. Bureau of Justice Statistics, Prisoners in 2004 NCJ 21067. <http://www.ojp.usdoj.gov/bjs/abstract/p04.htm> Prisoners in the Federal system are not attributed to any state, as these inmates are serving time for the federal government, and the budget and guidelines for these facilities are different than those for state systems.

Prison Costs from Bureau of Justice Statistics, State Prison Expenditures, 2001. <http://www.ojp.usdoj.gov/bjs/abstract/spe01.htm> Costs adjusted to 2004 prices.