

Appendix G

Training investment data

Data sources:

The following data were used for the analyses of cost-effectiveness and return on investment from training:

- (1) Client identification and new file ID set-up, prepared by Donna Safely, MOED and David Stevens, UB-JFI.
- (2) Client demographics and training data in starting SPSS file, prepared by Donna Safely, MOED.
- (3) Wage record information for up to and including 4 quarters prior to starting training, and up to and including 11 quarters after exiting program, prepared by David Stevens, UB-JFI.
- (4) Child Care Voucher data from Maryland Child Care Administration, prepared by Jane Staveley, Maryland Dept. of Human Resources (DHR) and David Stevens, UB-JFI.
- (5) TANF/TCA data from DHR, prepared by Jane Staveley, DHR.
- (6) Food Stamps data from DHR, prepared by Jane Staveley, DHR.
- (7) Annual/modified "Adjusted Gross Income"; federal, state and local income taxes paid; federal, state, and local earned income credits (EIC); state and local poverty level credit. All calculated from starting wage record data and family status and size information, following IRS tax form rules and tax tables, for 1999, 2000, 2001, 2002, and 2003, using TurboTax™, by David Bosser, JOTF, and Lindsey Woolsey, JHU-IPS.

Initial demographics of the two training groups:

- "dislocated workers" are twice as prevalent within the ITA group (57%) compared to in the customized group (28%);
- females make up three-quarters of the customized group, but only just over half of the ITA group;
- 55% of the customized group and 59% of the ITA group are single persons with no dependents; 45 other members of the customized group who are not single have 91 dependents, and the 47 non-single members of the ITA group have 78 dependents; thus, the 216 trainees are associated with another 169 individuals economically dependent on their success: 385 people in total are "affected" by how this training works out;
- the customized group is, on average, younger than the ITA group, with a median age of 35 compared to 40;
- around three-quarters of each group has at least a HS/GED;
- college grads are slightly more prevalent in the ITA group (13%) than in the customized group (10%);
- the customized group has double the level of "employed" clients compared to the ITA group (21% compared to 10%);
- a higher share of the ITA group is "unemployed" (84%) compared to the customized group (64%);
- the share of clients "economically disadvantaged" is higher for the customized group (59%) than for ITA-funded training group (41%);
- the share of ex-offenders in the study population overall is low (under 7%), but they are slightly more represented in the ITA group (10%) than in the customized group (3%);
- more customized trainees report an annual family income of \$0 than do in the ITA group (40 compared to 28);
- individual median wages (from wage record data) of clients for the four quarters before the start of training activity was lower for the customized group (\$6,526) than for the ITA group (\$9,092);

- 8% of clients overall had no earnings in any quarter of the four preceding training; each quarter before training had at least 22% of its clients with a "\$0" income;
- about one-third of the customized group received Food Stamps in the four quarters prior to the start of training, compared to only 14% of the ITA group.

Training intervention: cost and time

- the average cost of training is \$2,348 for the customized group, compared to \$3,892 for the ITA group: the ITA option is two-thirds more expensive than the customized; this difference is even more pronounced if we instead look at the medians (\$1,894 for customized vs. \$3,992 for ITAs – a 111% difference);
- the aggregate amount of money spent on training (excluding employer contributions to customized training) for the customized group is \$237,000, compared to \$448,000 for the ITAs;
- the median number of days between "start of training activities" and "exit" is 187; this is shorter for the customized group (with a median of 164 days) than for the ITA group (223 days);

Wages and work-week outcomes:

- the median hourly wage of those reporting any earnings after training was \$9.98 for the customized group and \$10.05 for the ITA group;
- the average hours in a work week was lower for the customized group (34.7 hours) compared to the ITA group (37.9 hours); if we exclude those with "0" hours, this gap is erased (38.9 for customized and 38.2 for ITAs);
- median earnings in the period for four quarters after exit are \$19,120 for the customized group, compared to \$17,191 for ITAs;

Wages before and after training:

- overall, 73% of all clients show a four-quarter wage *improvement* in the four quarters after exit compared to the four quarters before start of training activities (no adjustment is made for average wage gain or inflation, which also could have contributed to the raise); 26% show a wage *decline*; the share of clients with wage decline after training is lower for the customized group (22% with a decline) than for the ITA group (30%);
- the median absolute 4-quarter wage *change* for all 216 clients is \$7,154; the median change is higher for the customized (\$9,669) than for the ITA group (\$5,572);
- the aggregate wage gain for all trainees in the customized group (101 cases) was \$840,697, compared to \$668,085 for the larger (115 cases) ITA group;

Benefits before and after training:

- *TANF/TCA*: only 3 clients received TANF/TCA benefits in the 12 months prior to start of training, and only 3 received it in the three months after; in the entire 81-month span of the TAND/TCA dataset (1/97-9/03), 41 of the 216 clients did receive benefits at *some* time;
- *Food Stamps*: 76 of the 216 clients (35%) had been in receipt of food stamps at sometime in the 37-month period from April 1998 to April 2001. These 76 client recipients averaged 16.3 months of Food Stamp receipts each, with an average monthly receipt of \$268.04.

The smallest monthly check was \$4, and the largest was \$647. During the 37 months, the smallest total amount received by any individual client in receipt was \$25, and the largest was \$18,755. When adding receipts for two periods -- 4 quarters before start of training activity and the 4 quarters after exit -- then in the customized group, 34 clients received Food Stamps, with a median level of receipts of \$1,163, and in the ITA group 16 clients received Food Stamps, with a median level of receipts of \$849. The change in the aggregate value of Food Stamps by the customized group between pre-training and post-exit was a drop of \$54,885, and for the ITA group the same drop was \$16,093. However, because the Food Stamp data series stops in April 2001, we are missing more post-data than pre-data, so this comparison is skewed.

- *Child Care Vouchers*: only 10 of 216 clients had any child care vouchers in either the 4 quarters before starting training or the 4 quarters after exit; the total sum involved before start of training was \$31,948, with individual client child care voucher values varying from \$226 to \$8,160; 9 of the 120 cases saw a decline in their child care voucher value post-exit, with the aggregate value falling to \$6,377 -- an 80% decline.

Taxes before and after training:

(covered in detail in Section 2.8)

What else we have learned for future applications:

- *Limitations of the self-reported annual family income variable.* "Annual family income" or "AFI" (as reported by clients with varying family sizes) may be a very poor measure of actual income, compared to the quality of data in the wage record database ("WRD") (which is reported by the employer, verified by the state, and organized around the individual's social security number). The fact that the data we have from these two series are not for exactly coincidental time periods will inevitably interrupt their numeric relationship, but even so, AFI should generally be equal to, or greater than, the WRD number because potentially more earners are present in the AFI numbers than in the WRD numbers. However, for the 79 cases with non-zero values on both variables, 28 (or 35%) showed *a family income less than the individual's income*. One likely conclusion is that applicants for needs-based services and benefits have an incentive to under-report, and that many do so.
- *With increasing distance downstream from exit, the earnings data in each quarter become "thinner".* Beyond 4 quarters post-exit (i.e. after just one year later), there is considerable fall-off in earnings information and an increasing number of cases with "missing" earnings. By quarter #6 post-exit, over half the clients have "missing" earnings data, and by quarter #8 (i.e. two years after exit), 94/101 of the customized group and 91/115 of the ITA group (or 85% of all 216 cases), are listed as "missing" for earnings. Partly this may reflect the increasing impact of lags in reporting as we move further downstream from exit and closer to the present day. The implication is we have relatively more information on older cases than recent ones, and a systematic bias in results. Since the customized training model has been relatively constant through this period while the "true-WIA ITA" model has evolved more recently, then this time question may also bias the results by training group.
- *Lack of spousal wage information is a large problem for estimating several components of the overall budget.* Some 44% of all trainees have dependents, and 18% (some of

whom may overlap with the 44%) are likely to be part of a 2-parent family or share the additional income(s) of other earner(s). Both these variables in turn have large impacts on:

- the type of tax form used (single, joint, separate, 1040/1040A/1040EZ), which we are trying to replicate;
 - the size of "Adjusted Gross Income" for tax purposes, because there may be more than one income and because of the number of exemptions that can be claimed;
 - EITC, where eligibility and dollar value is a function of total family income level and the number of dependents;
 - taxes paid, since EITC is subtracted from the taxable income step.
- ***Different databases have different lags in compilation, introducing systematic bias between different components of the budget.*** Clients in this study exited as late as June 2002. Wage record data is available for all clients for the 4-quarter period after exit, but Food Stamp data is only available up to April 2001. Of the 216 trainee cases, 53 received Food Stamps in the 4-quarter period before the end of the Food Stamp data set, but only 36 had a "start of training activities" date during that period (thereby allowing summing of pre-training Food Stamp dollars). Only 8 had an "exit" date during that period (allowing summing of post-exit Food Stamp dollars). The reason why this is important for our overall calculations is that Food Stamps receipt is not tied to workforce program participation. Food Stamps can carry on after exit, but projecting beyond the April 2001 cutoff to make up for not having these data would not be reliable, because the 77-case, 36-month Food Stamp database shows the general pattern of Food Stamp receipt to be "intermittent": only 26 cases have uninterrupted periods of receipt. Thus, we have more complete information on wages than on benefits, more complete information on "pre" than "post" situations, and more complete information on earlier starters and exiters than we have on later clients. As a result, any pre- versus post- comparisons would inevitably overstate the "savings" to the budget from "reduced" food stamp payments.