ATTACHMENT

Overview of Potential Alternative Efficiency Measures for Consideration

Examples of costs in relation to participant services and outcomes

(1) **Unit Costs** = total cost by service / total participation by service.

Expenditures			Participation			Unit Costs		
Core	Intensive	Training	Core	Intensive	Training	Core	Intensive	Training
$	$	$	#	#	#	$	$	$

Pros:

- It is applicable to most programs.
- It makes it easier to understand how costs apply to participant services.

Cons:

- Tracking program services and costs by year requires great effort and attention to detail; it therefore would be more susceptible to human error.
- It is of limited use in assessing program effectiveness, because it is not an outcome-based measure.

(2) **Cost per Participant (CP)** = This measure is calculated by taking the total program costs in terms of expenditures and dividing by the number of participants served during the year by the particular program.

$$\textbf{CP} = \frac{\textbf{All Program Expenditures}}{\textbf{All Program Participants}}$$

Pros:

- It is applicable to most programs.
- Data is readily available.
- Easy to understand.
- Can be immediately generated each year.
- Not costly or burdensome.

Cons:

- It is of limited use in assessing program effectiveness, because it is not an outcome-based measure.

(3) **Cost per Exiter (CE)** = It is calculated by taking total program costs in terms of expenditures and dividing by the number of exiters terminating the program during the year by the particular program.

$$\textbf{CE} = \frac{\textbf{Total Program Expenditures}}{\textbf{Total Exiters Termination Program}}$$

Pros:

- It is applicable to most programs.
- Data is readily available.
- Easy to understand.
- Can be immediately generated each year.
- Not costly or burdensome.

Cons:

- It is of limited use in assessing program effectiveness, because it is not an outcome-based measure.

(4) **Cost per Entered Employment (CEE)** = This measure is calculated by taking total program costs in terms of expenditures and dividing by the number of exiters entering employment in the first quarter following exit from the particular program.

$$\textbf{CEE} = \frac{\textbf{Total Program Costs}}{\textbf{First Quarter Exiters Entering Employment}}$$

Pros:

- It is applicable to most programs.
- Data is readily available.
- Easy to understand.
- Can be generated about two quarters after the end of each program year.
- Not costly or burdensome.
- Measure is an outcome-based efficiency measure. Therefore, it is of substantial use in understanding program effectiveness.

Cons:

- Does not capture those who entered employment in the same quarter of exit.
- Puts a premium on quick labor exchange at a time we are trying to improve skills.

(5) **Cost per Retained Employment (CRE)** = This efficiency measure is calculated by taking total program costs in terms of expenditures and dividing by the number of exiters who are employed in both the second and third quarters after the exit quarter.

$$\textbf{CRE} = \frac{\textbf{Total Program Costs}}{\textbf{Exiters Employed in Q2 \& Q3 after Exit}}$$

Pros:

- Potentially applicable to most programs.
- Data is readily available.
- Relatively easy to understand.
- Relatively low cost and low burden to produce.
- It is an outcome-based efficiency measure. Therefore, it is of substantial use to understanding program effectiveness and costs.

Cons:

- Lengthier lags in data (must wait for several quarters after the end of the program year).

(6) **Cost per $1,000 Increase in Earnings (CIE)** = Total program cost divided by total earnings change from 2nd and 3rd pre-program quarters to 2nd and 3rd post-program quarters for participants or exiters.

$$\textbf{CIE} = \frac{\textbf{Total Program Costs}}{\textbf{Total Participant or Exiters Earnings Change from 2}^{\textbf{nd}}\textbf{ and 3}^{\textbf{rd}}\textbf{ pre-program quarters}}$$

Pros:

- Potentially applicable to most programs.
- Data is readily available.
- Relatively low cost and low burden to produce.
- It is an outcome-based efficiency measure. Therefore, it is of substantial use to understanding program effectiveness and costs.

Cons:

- Somewhat difficult to understand.
- Lengthier lags in data (must wait several quarters after the end of the program year).

(7) **Cost per $1,000 in Post-Program Earnings (CPPE)** = Total program cost divided by total earnings in 2nd and 3rd post-program quarters for participants of exiters multiplied by $1,000.

$$\textbf{CPPE} = \frac{\textbf{Total Program Costs}}{\textbf{Total Participant or Exiters Earnings in 2}^{\textbf{nd}}\textbf{ and 3}^{\textbf{rd}}\textbf{ post-program quarters multiplied by \$1,000}}$$

Pros:

- Potentially applicable to most programs.
- Data is readily available.
- Relatively low cost and low burden to produce.
- It is outcome-based.
- Unlike the prior measure, does not weight prior employment earnings against post program earnings.

Cons:

- Lengthier lags in data (must wait several quarters after the end of program year).
- Somewhat difficult to understand.

(8) **Cost per Exiter or Participant Receiving a Particular Service (CPS)** = Total program cost of a particular service divided by the number of exiters or participants receiving a particular service.

$$\textbf{CPS} = \frac{\textbf{Total Cost of Particular Program}}{\textbf{Participants or Exiters Who Received Particular Service}}$$

Pros:

- Easy to understand.
- No lags in data. Data can be immediately generated at the end of each year.

Cons:

- Only applicable to programs that distinguish types of service.
- Data is readily available for some programs, but not all.
- Is not an outcome-based efficiency measure.
- May be burdensome to generate.

(9) **Cost per Placement in Employment or Education** = Total program cost divided by the number of participants or exiters in employment or enrolled in post secondary education and/or advanced training or advanced training occupational skills in the 1st quarter after exit.

$$\textbf{CPEE} = \frac{\textbf{Total Program Costs}}{\textbf{Number of Exiters or Participants Employed or in Post Secondary Education Programs after 1}^{\textbf{st}}\textbf{ Quarter Exit}}$$

Pros:

- The data is relatively easy to understand.
- Relatively low cost and low burden to produce.
- The measure is outcome-based so it is of substantial use to understanding program effectiveness.

Cons:

- Limited to primarily the Workforce Investment Act Youth program.

(10) **Cost per Individual Attaining a Recognized Degree or Certificate** (Credentials include but are not limited to, a high school diploma, GED, or other recognized equivalents, post-secondary degrees/certificates, recognized skill standards, and licensure or industry-recognized certificates.) = Total training program cost divided by the number of participants or exiters receiving a training service attaining a recognized credential during participation or by the end of the 3rd quarter after exit.

$$\textbf{CID} = \frac{\textbf{Total Training Program Costs}}{\textbf{Number of Participants or Exiters who Attained Certification or Degree by the end of 3}^{\textbf{rd}}\textbf{ Quarter after exit}}$$

Pros:

- The measure is an outcome-based measure, so it is of substantial use in understanding program effectiveness.

Cons:

- Only applicable to programs that provide services and identify individuals as receiving training and types of credentialing.
- Data is readily available for some programs, but not all.
- The measure is somewhat difficult to understand.
- Potentially lengthy lags in data.

(11) **Return on Investment (ROI).** ROI is a way of summarizing how large the gain on an investment, such as workforce development, actually is. In its simplest form, ROI is calculated by dividing the gain by the size of the investment. This equation can be written as B/C, where B is the sum of all benefits that result from the investment over the period considered and C represents the costs. For a workforce program, one would divide the increase in earnings due to the program by the cost of the program. In more sophisticated analyses, ROI calculations take into account the timing of the gains due to the program. Economists typically compute a variation called the internal rate of return (IRR), which is based on the costs and benefits over the life of the investment. The IRR can be calculated, using a financial calculator or a spreadsheet, by solving the following equation for i:

$$0 = -C_0 + (B_1 - C_1)/(1+i) + (B_2 - C_2)/(1+i)^2 + (B_3 - C_3)/(1+i)^3 + \ldots + (B_N - C_N)/(1+i)^N$$

Where B_t is the benefit received in year i, C_t is the cost incurred in year i, and N is the last year that benefits or costs occur. (The four dots mean that the formula includes the same type of term for all years between year 3 and year N.) The IRR is preferred to the simpler versions of ROI because it takes into account the timing of the costs and benefits.

Pros:

- Potentially applicable to most programs.
- Measure is an impact-based efficiency measure, which controls for factors that could potentially influence/bias results. Therefore, it is of the greatest utility in understanding program cost-effectiveness.
- This measure controls for difficulty or cost of serving different populations (e.g., hard-to-serve, service mix, and economic conditions).

Cons:

- Data is very costly to produce.
- The measure is difficult to understand.
- Lengthy lags in data.