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The Value-Added Earnings Test

How the interactive tool approximates the Workforce Pell value-added earnings calculation using public federal data, what each step measures, and the limits of what the approximation can show.

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ABSTRACT

The Value-Added Earnings Test is an interactive tool that approximates the earnings standard in the Workforce Pell final rule (34 CFR 690.90 to 690.97). A user selects a state and institution and sees which short-term certificate programs would pass a two-step test: first, whether a program's cost-of-living-adjusted median earnings clear 150 percent of the federal poverty line; and second, whether the amount left over still exceeds what the program costs in tuition and fees.

This note documents the public data behind the tool, the formula it applies, the population it covers, and the ways it departs from the official federal calculation. The tool is an approximation built entirely from published sources, not a reproduction of the Department of Education's number. The differences are material and are spelled out in full so that results can be read with the right caveats. A glossary at the end defines every technical term used here.

1 What the tool does

The interactive tool lets a user pick a state and an institution and then see which short-term certificate programs at that institution would pass a two-step screen. The screen mirrors the logic of the value-added earnings standard in the Workforce Pell final rule, applied to the best public data available for short-term programs.

1. **Value-added earnings.** Do a program's cost-of-living-adjusted median earnings exceed 150 percent of the federal poverty line for a single person?
2. **Tuition comparison.** Does the value-added amount that remains also exceed the institution's published tuition and fees?

A program passes only if it clears both steps. The tuition figure is pre-filled from public data, and a user can override it with the actual published cost of a specific program to test eligibility interactively. The result is a screening view, not the official eligibility determination.

2 The formula

Each program is scored with a single expression. Earnings are first adjusted for the local cost of living, then the poverty-line threshold is subtracted. What remains is the value added.

$$\text{Value-Added} = (\text{Median Earnings} \div \text{Regional Price Parity} \times 100) - \$23{,}940$$

A program passes Step 1 when the result is positive. It passes Step 2 when the result also exceeds published tuition and fees. $23,940 is 150 percent of the 2026 federal poverty line for a single individual.

3 Data sources

Every input is a published government dataset. No proprietary data, scraped data, or private APIs are used.

Source	Provider	Version	What it supplies
Post-Secondary Employment Outcomes (PSEO)	U.S. Census Bureau	2026Q2	Median earnings at Years 1, 5, and 10 after completion, and graduate counts, by institution, CIP code, and degree level.
Regional Price Parities (RPP)	Bureau of Economic Analysis	2024	State-level price index (all items) used to adjust earnings for cost of living. National average = 100.
Integrated Postsecondary Education Data System (IPEDS)	NCES, Dept. of Education	2023-24	In-state tuition and fees by institution, used to pre-fill the tuition input. Matched to PSEO institutions by name and state.
Federal Poverty Guidelines	Dept. of Health and Human Services	2026	150 percent of the federal poverty level for a single individual: $23,940.
Workforce Pell Guidance	Dept. of Education	2025	The Department's earlier methodology for the value-added earnings test, issued before the final rule; the final rule's text governs.

4 Population and filters

The tool includes PSEO records that match all of the following criteria:

- **Degree level 01.** Short-term certificates (under one year).
- **Aggregation level 42.** Institution by 4-digit CIP code.
- **Graduation cohort 0000.** All cohort years pooled (2001-2005, 2006-2010, 2011-2015, 2016-2020).
- **Industry level A.** All industries combined.
- **Geographic level N.** National scope; earnings are measured regardless of where graduates work.

This yields **10,025 program-institution records** across **512 institutions** in **25 states**. PSEO coverage is not national; it depends on state participation in the LEHD program and on data-sharing agreements with postsecondary institutions.

Why pooled cohorts

PSEO publishes four five-year graduation cohorts (2001-2005, 2006-2010, 2011-2015, 2016-2020) and a pooled all-cohorts aggregate. Individual cohorts each have significant limitations:

- **2016-2020.** Has Year 1 earnings only. Year 5 is unavailable because these graduates have not been out long enough.
- **2011-2015.** Has Year 1 and Year 5, but no Year 10.

- **2006-2010.** Has all three timepoints but covers only 5,264 records, with lower visibility rates (22 to 26 percent).

The pooled cohort maximizes cell sizes, reduces suppression, and provides the widest timepoint coverage. The trade-off is that it blends earnings across labor-market conditions from different periods. This parallels the Department of Education's own approach, which pools up to four years of completers to reach the 50-completer minimum.

5 Key approximations

This tool is an approximation, not a reproduction of the federal calculation. The following differences are material.

1. Year 1 earnings, with Year 5 for comparison

The final rule measures median earnings in the first full tax year after the award year in which students completed the program (34 CFR 690.91). The cohort measured is the completers of the award year that ended three full award years before the year being determined, so the three-year interval sets which graduates are counted, not how long after completion their earnings are measured. PSEO Year 1 earnings are the closest public match, and the tool shows them by default. Year 5 earnings are available as a longer-run comparison; because earnings generally grow over time, Year 5 results read higher than the federal measure would. PSEO pools graduating cohorts, so neither view reproduces the Department's single-cohort calculation.

2. Four-digit CIP codes instead of program level

PSEO publishes certificate earnings at the 4-digit CIP code level, which groups related programs together (for example, CIP 51.39 covers all practical-nursing programs). The actual Workforce Pell test operates at the 6-digit CIP or individual-program level. Institutions may offer several distinct programs within one 4-digit CIP with different earnings profiles and completer counts. The 4-digit aggregation is suitable for pattern analysis but does not represent the exact federal counting unit.

3. Graduates with earnings, not total completers

The graduates-with-earnings count shows program completers whose earnings appear in the LEHD database, which covers more than 96 percent of U.S. employment. LEHD is built from state unemployment-insurance wage records, supplemented with Census surveys and other federal administrative records. This count is a subset of total completers. The Department of Education's 50-completer minimum applies to actual completers, which may be higher than the LEHD-based count shown here.

4. Annual institution-level tuition

IPEDS reports a single annual, institution-wide in-state tuition and fees figure. It does not break out costs by program or by credential length. For short-term certificates (under one year), the actual program cost is likely lower than the annual figure. Users should override the pre-filled value with the actual published tuition for the specific program when it is available.

5. IPEDS-to-PSEO institution matching

PSEO and IPEDS use different institution identifiers. This tool matches them by normalized institution name and state, with fuzzy matching for minor name variations. Of 512 PSEO institutions with certificate data, **435 (85 percent)** were successfully matched to IPEDS tuition records. The remaining 77 institutions show no pre-filled tuition; users can enter it manually.

6 Data suppression

The Census Bureau suppresses PSEO earnings and graduate counts when the protected cell count falls below 30 after differential privacy is applied. This is a disclosure-avoidance measure that protects individual privacy.

Suppression is the dominant feature of this dataset. Of 10,025 program-institution records, **6,638 (66 percent) have suppressed earnings**. These programs cannot be tested for value-added and appear in the tool with a suppressed label. Every program with suppressed earnings also has a suppressed graduate count.

Suppression is not random. It correlates with program size, institutional scale, and state-level data infrastructure. Smaller programs at smaller institutions are more likely to be suppressed. That has significant implications for how the value-added test operates in practice, particularly for rural institutions and states with decentralized community college systems.

7 Coverage

PSEO is an experimental data product. Its coverage depends on three things:

- **State participation.** Only states with active LEHD data-sharing agreements contribute earnings data. As of 2026Q2, 30 states have certificate-level data in PSEO.
- **Institutional participation.** Within participating states, individual institutions must have data-sharing agreements with the Census Bureau.
- **Temporal coverage.** The all-cohorts pooling combines multiple graduation years to maximize cell sizes, but newer programs or institutions may not yet have enough cohorts to produce unsuppressed data.

Results should not be read as nationally representative. States and institutions absent from PSEO are missing because of data-sharing limitations, not because of program quality.

8 Limitations: what the tool can and cannot tell you

- **It is a screen, not the official determination.** The tool approximates the federal logic with public data. It does not produce the Department of Education's official value-added number and should not be cited as eligibility.
- **The Year 5 view is an upper bound.** Year 5 earnings are higher than earnings in the rule's measurement period, so a program that passes only in the Year 5 view may fall below the line under the federal measure.
- **It groups programs.** Earnings are reported at the 4-digit CIP level, so distinct programs that share a CIP are blended together rather than scored individually.

- **Two-thirds of programs cannot be tested.** Suppression removes earnings for 66 percent of records, and suppression is concentrated among smaller and rural programs, so absence from the results is not a quality signal.

9 Reproducibility

All data used in the tool is publicly available from the sources listed above. The Python build script (*build_value_added.py*) reads the raw PSEO CSV files, applies the value-added formula, matches IPEDS tuition by institution name, and generates the interactive page with the data embedded directly in it. No proprietary data or APIs are required, and the BEA Regional Price Parities are embedded in the script as published values. Anyone can reproduce the figures from the raw inputs and this note.

10 Glossary

Value-added earnings. Cost-of-living-adjusted median earnings minus 150 percent of the federal poverty line. The amount a program's graduates earn above a baseline standard of living.

PSEO. Post-Secondary Employment Outcomes: an experimental U.S. Census Bureau product reporting graduate earnings by institution, field, and degree level, built from LEHD wage records.

LEHD. Longitudinal Employer-Household Dynamics: the Census Bureau's linked employer-employee data, drawn mainly from state unemployment-insurance wage records, covering more than 96 percent of U.S. employment.

Regional Price Parity (RPP). A Bureau of Economic Analysis price index that measures the cost of living in a state relative to the national average (100). Used here to adjust earnings.

CIP code. Classification of Instructional Programs: the U.S. Department of Education's catalog of academic programs. PSEO certificate earnings are reported at the 4-digit level.

IPEDS. Integrated Postsecondary Education Data System: the Department of Education's census of colleges, the source of the institution-level tuition figures.

Suppression. Withholding a published value when the protected cell count is too small to release without risking individual privacy. In PSEO, cells below 30 after differential privacy are suppressed.

Median. The middle value: half are higher, half are lower. Used for earnings instead of the average so that a few very high earners do not distort the typical figure.

Citation

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