**Texas Higher Education
Coordinating Board**

Texas State Technical College System Returned Value Funding Model Methodology

July 2013

**Division of Planning and Accountability
Finance and Resource Planning**

Texas Higher Education Coordinating Board

Mission of the Coordinating Board

The Texas Higher Education Coordinating Board's mission is to work with the Legislature, Governor, governing boards, higher education institutions, and other entities to help Texas meet the goals of the state's higher education plan, *Closing the Gaps by 2015*, and thereby provide the people of Texas the widest access to higher education of the highest quality in the most efficient manner.

Philosophy of the Coordinating Board

The Texas Higher Education Coordinating Board will promote access to quality higher education across the state with the conviction that access without quality is mediocrity and that quality without access is unacceptable. The Board will be open, ethical, responsive, and committed to public service. The Board will approach its work with a sense of purpose and responsibility to the people of Texas and is committed to the best use of public monies. The Coordinating Board will engage in actions that add value to Texas and to higher education. The agency will avoid efforts that do not add value or that are duplicated by other entities.

Table of Contents

THECB June 200813

Background

In 2009, the General Appropriations Act, SB 1, 81st Texas Legislature, Section 52 (page III-62) directed the Coordinating Board (THECB) to study the feasibility of developing a "returned value" funding model based on increased economic value of the education services TSTCS provides in the state. The THECB collaborated with the Comptroller's Office and determined it was feasible to allocate funding to TSTCS using this type of system. The Texas Comptroller of Public Accounts' published a report on the findings.

In 2011, the General Appropriations Act, HB 1, 82nd Texas Legislature, Section 42 (page III-54) mandated the recommendation of a new Texas State Technical College System (TSTCS) funding model.

> *The Texas Higher Education Coordinating Board shall work with the Texas State Technical College System, the Legislative Budget Board and other relevant agencies to develop a new A&I funding formula to be implemented for the 2014-15 biennium for the Texas State Technical Colleges. The formula shall reward job placement and graduate earnings projections, not time in training or contact hours.*

In 2013, the General Appropriations Act, SB 1, 83rd Texas Legislature, Section 11 (page III-210) allocated formula funding for fiscal years 2014 and 2015 to the Texas State Technical System institutions using the value add methodology defined in this document.

> *Funding is recommended for and allocated among Texas State Technical Colleges (TSTCs) based on the additional direct and indirect state tax revenues generated as a result of the education provided to students by the TSTCs. The funding methodology is based on the following components:*
>
> *a.   The model includes the cohort of TSTC graduates (earning an associate's degrees or certificate), transfers, and leavers (students who were not found in Texas higher education for two years following the last time they were enrolled in the TSTC) with a minimum completion of nine semester credit hours from 2006 and 2007.*
> *b.   The cohorts were matched with Unemployment Insurance wage records for employment and wage information for five years after the students graduated from or left the TSTC to establish annual wages for each student. Direct value-added was defined as the incremental state tax revenue attributable to former TSTC students' jobs, based on the difference between former TSTC students' annual wages and a base wage representing a full-time employee earning minimum wage (7 percent of the wage delta). Indirect value added was defined as the direct value-added multiplied by 1.5, an economic multiplier derived from a U.S. Bureau of Economic Analysis study. Total direct and indirect values added were summed for each group of students by campus across five years.*
> *c.   Values-added were reduced by a certain percentage, based on the assumption that the benefits would accrue both to the state and TSTCs but with only a portion of the added value included in the formula calculations.*
> *d.   Values-added by campus were divided into the total TSTC value-added to define each institution's proportional share of overall formula funding.*
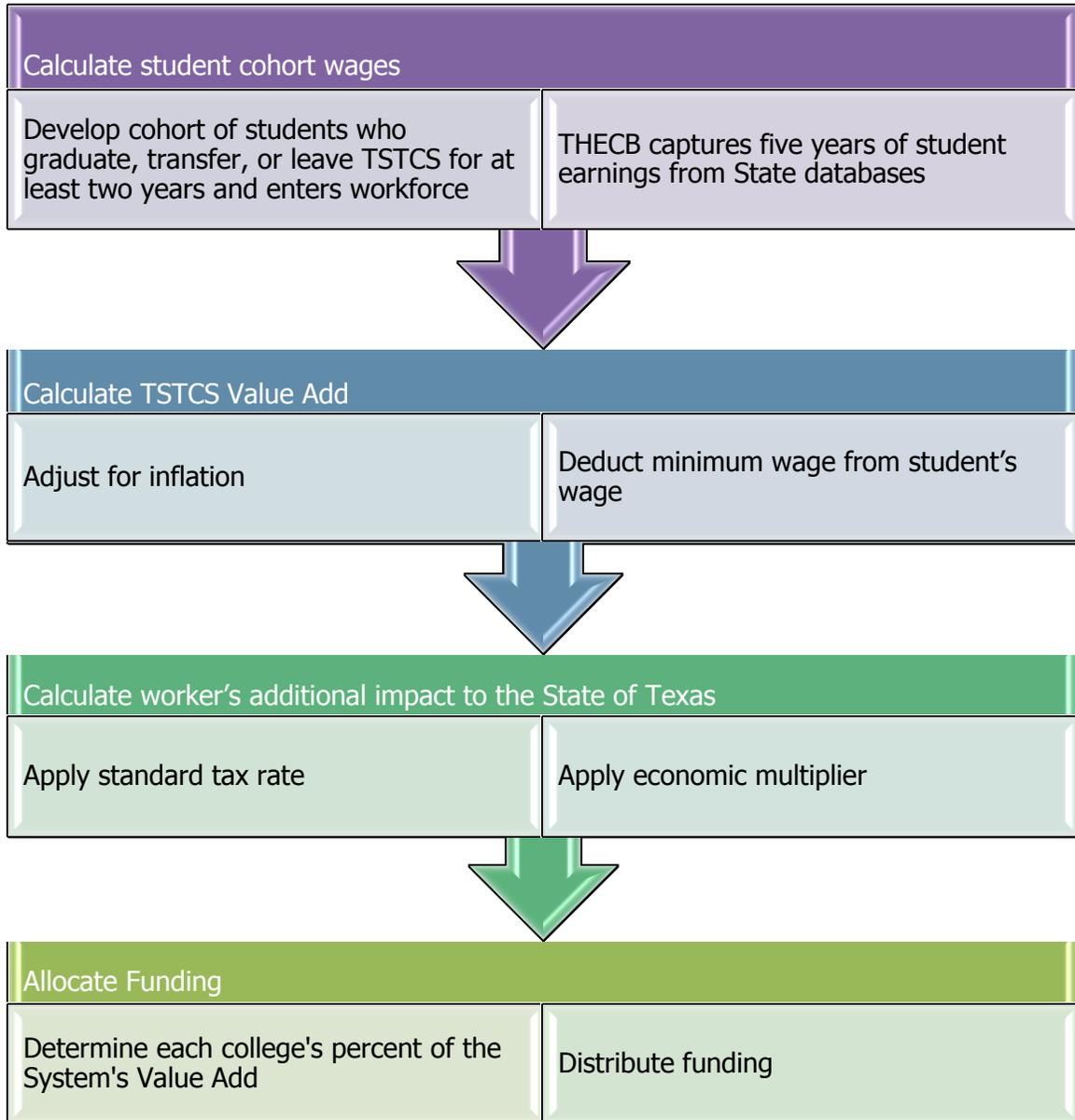>
> *The Texas State Technical College System shall continue to work with the Texas Higher Education Coordinating Board, the Legislative Budget Board and other relevant agencies to refine the new Returned Value Funding Formula for the TSTCs. It is the intent of the Legislature that recommended adjustments to the formula shall be ready for*

implementation in the 2016-17 biennium and shall further the goal of rewarding job placement and graduate earnings projections, not time in training or contact hours.

Process

TSTCS staff, Legislative Budget Board, the Ray Marshall Center at The University of Texas at Austin, and THECB staff developed a methodology based on a simplified version of the model suggested by the State Comptroller. The working group recommended a biennial review of the methodology. This methodology estimates the additional direct and indirect economic value provided to the State's economy due to the education students received in the TSTCS.

Methodology Overview

Calculate student cohort wages	
Develop cohort of students who graduate, transfer, or leave TSTCS for at least two years and enters workforce	THECB captures five years of student earnings from State databases

Calculate TSTCS Value Add	
Adjust for inflation	Deduct minimum wage from student's wage

Calculate worker's additional impact to the State of Texas	
Apply standard tax rate	Apply economic multiplier

Allocate Funding	
Determine each college's percent of the System's Value Add	Distribute funding

Assumptions

1. The "returned value" funding model is used for the determination of the state general revenue portion of the TSTCS administration and instruction appropriations. State tuition also included in these funding strategies is additive to the general revenue appropriations.
2. Wages are limited to those reported in Unemployment Insurance (UI) wage records collected at the Texas Workforce Commission (TWC) for graduates, transfers, and leavers (students not reported in Texas higher education for two years after last enrolling in the TSTCS) employed in Texas.
    - Wages for students employed outside the State of Texas are not represented.
    - Wages not reported to the TWC are not represented.
3. Wages are limited to TSTCS graduates (associate's degree and certificate earners), transfers, and leavers who complete 9 or more semester credit hours at the TSTCS.

Methodology

<u>Calculate student wages</u>

1. Determine the two-year target period.
    - The target period is the fifth and sixth years prior to the latest available full year of Unemployment Insurance (UI) wage records.
    - The model includes five full years of wage data for each target year.
    - A two-year cohort is included to represent the results of a biennium.
    - The 2014-2015 biennium target period was fiscal year 2006 to 2007. Fiscal year 2012 was the latest full year of UI wage data available.
2. Identify the cohort.
    - Establish an unduplicated list of students enrolled in the TSTCS during the target period[1].
3. Calculate Student Hours.
    - Total each student's semester credit hours earned in the TSTCS.
    - Exclude hours earned at institutions outside the TSTCS.
4. Exclude students with low attendance.
    - Exclude students who attempted fewer than 9 semester credit hours in the TSTCS.
5. Categorize University Graduates.
    - Include students who received a university degree prior to attending TSTCS in this category.
6. Categorize Associate Graduates.
    - Include students who received an associate as the highest award earned degree during the target period in this category.
7. Categorize Certificate Graduates.
    - Include students who received a certificate as the highest award earned during the target period in this category.
8. Categorize Marketable Skills Awards.
    - Include students who received a marketable skills award as the highest award earned during the target period in this category.

---

[1] Unduplicated student enrollment as reported on the Student Report submitted to the THECB for the semesters included in the target period.

9. Exclude future TSTC Graduates.
   - Exclude students who received a TSTCS degree or certificate in the two years after the target period.
   - These students will be included in future cohorts.
10. Exclude returning students.
    - Exclude students who reenrolled in the TSTCS within 24 months after leaving.
11. Exclude dual credit students
    - Exclude students who only attended dual credit courses at the TSTCS except those who earned an award (including MSAs) during the period of study.
12. Categorize Transfers.
    - Include students who enrolled at a four-year university in the fall following the last semester enrolled in the TSTCS.
13. Categorize Leavers.
    - Place all remaining students in the cohort not otherwise categorized or excluded in the Leavers category.
14. Subcategorize students.
    - Include students who earned greater than 15 semester credit hours in the TSTCS in subcategory 1.
    - Include students who earned from 9 to 15 semester credit hours in the TSTCS in Subcategory 2.
15. Identify student wages.
    - Match students to their UI wage records for the next five years.
16. Exclude underemployed.
    - Exclude students found working in fewer than three quarters in any given year for calculating average wages for that year.

Calculate TSTCS Value Add

17. Calculate the Quarterly Inflation-Adjusted Wage.
    - Adjust each quarterly wage to current dollars using CPI-U inflation index[2].
    - Multiply each quarterly wage by the ratio of the current index value and the index value of the last month of the quarter of the wage.
    - For example, multiply a wage from the second quarter of 2012 by 1.0143 if the current quarter is March 2013. The inflator of 1.0143 is the ratio of the current index (232.773) divided by the index for the last month of the second quarter of 2012 or June (229.478).
18. Calculate Student Annual Inflation-Adjusted Wages.
    - The Texas Workforce Commission collects UI wage data quarterly.
    - Total individual student wages by year.
19. Calculate the Subcategory Annual Inflation-Adjusted Wages.
    - For each subcategory, average the Student Annual Inflation-Adjusted Wages by year and institution.
20. Calculate Average Annual Inflation-Adjusted Wages.
    - For each subcategory, average the five Subcategory Annual Inflation-Adjusted Wages.
21. Calculate the Annual Base Wage

---

[2] Inflation indices defined by the U.S. Department of Labor's Bureau of Labor Statistics Consumer Price Index - All Urban Consumers – U.S. City Average – All Items Price Index. The historical table can be found at: ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt

- The annual base wage is the product of the current minimum wage and 2080.
- The wage represents a person working full-time (40 hours per week for 52 weeks or 2080 hours) at a minimum wage.
- Since wages were inflation-adjusted to the current year, the methodology uses the current year's minimum wage.
- The minimum wage for 2013 was $7.25 per hour yielding an Annual Base Wage of $7.25 times 2080 or $15,080 for the 2014-2015 biennium calculation[3].

22. Calculate the Incremental Average Annual Inflation-Adjusted Wage.
   - Deduct the Annual Base Wage from the Average Annual Inflation-Adjusted Wages.
   - This estimates the incremental wage earned due to attending the TSTCS.
   - Admission to a TSTCS institution requires a high school diploma or equivalence.
   - The model assumes a person with these credentials would be qualified for most minimum-wage full-time positions.
23. Calculate the Total Incremental Average Annual Inflation-Adjusted Wage.
   - Multiply the Incremental Average Annual Inflation-Adjusted Wage by five. This accounts for the five-year scope of the model.

Calculate worker's additional impact to the State of Texas

24. Calculate Direct Value Add.
   - Multiply the Total Incremental Average Annual Inflation-Adjusted Wage by the State Effective Tax Rate of 7 percent[4].
25. Calculate Indirect Value Add.
   - Multiply the Direct Value Add by the economic multiplier of 1.5[5].
26. Calculate the Per Student Value Add.
   - Sum the Direct Value Add and Indirect Value Add for each subcategory.
27. Calculate the Value Add.
   - Multiply the Per Student Value Add by the respective number of students in each subcategory.
28. Calculate the Fundable Value Add.
   - Reduce the Value Add of each subcategory by 50 percent.
   - The Return Value is designed to be split equally between TSTCS and the State.

Allocate Funding

29. Calculate the System Fundable Value Add.
   - Sum all subcategories for all colleges.
30. Calculate the College Fundable Value Add.

---

[3] United States Department of Labor Wage and Hour Division (WHD) History of Federal Minimum Wage Rates Under the Fair Labor Standards Act, 1938 – 2009 http://www.dol.gov/whd/minwage/chart.htm

[4] The Texas Comptroller of Public Account's response to HB 1935, 81st Texas Legislature, Regular Session, Section 403.359 dated October 11, 2010 states the effective tax rate for the State is 7.7 percent. The working group, defined in the background of this document, agreed to round the rate down for simplicity. http://www.window.state.tx.us/specialrpt/hefs/96-1431.pdf

[5] The working group adopted an economic multiplier of 1.5 for this model to account for the additional economic impacts beyond the incremental salary earned by the students. This was based on the U.S. Department of Commerce Bureau of Economic Analysis study conducted in June 2011 titled Estimating the Local Economic Impacts of University Activity Using a Bill of Goods Approach http://www.bea.gov/papers/pdf/ Estimating_the_Local_Economic_Impacts_of_University_Activity_Using_a_Bill_of_Goods_Approach.pdf.

- Sum the subcategories for each college.

31. Calculate Funding Key.
   - Divide each College Fundable Value Add by the System Fundable Value Add.
   - A funding key enables the legislature to reallocate funding in the event the available formula general revenue varies from the System Fundable Value Add.

32. Distribute between strategies.
   - Using each institution's contact hours (including the 10 percent critical fields bonus), distribute the allocated funds between academic and technical strategies.

Limitations

1. The UI wage record data includes the wage earned, but not the workers' occupations or the number of hours they work.
   - The worker's full-time or part-time employment status cannot be determined.
   - It cannot be determined if the student's employment utilizes the education received at the TSTCS.

2. Multiple factors determine wage levels.
   - Along with qualifications, various economic factors can suppress or elevate earnings.
   - This methodology does not make allowances for factors unrelated to the education received at the TSTCS.

This document is available on the Texas Higher Education Coordinating Board
Website: **http://www.thecb.state.tx.us**

For more information contact:

Susan Brown
Assistant Commissioner
Planning and Accountability, Finance and Resource Planning
Texas Higher Education Coordinating Board
P.O. Box 12788
Austin, TX 78711
(512) 427-6153
susan.brown@thecb.state.tx.us

Gary Johnstone
Deputy Assistant Commissioner
Planning and Accountability, Finance and Resource Planning
Texas Higher Education Coordinating Board
P.O. Box 12788
Austin, TX 78711
(512) 427-6139
gary.johnstone@thecb.state.tx.us