

Improving Student Workforce Outcomes and Colleges' Return on Investments (ROIs)

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Topics covered

- The database used to examine ROIs
- Sources of variation in the returns to CC training:
 - HS-GPA
 - CC field-of-study
 - Credits and credentials
- Policy implications: Helping students improve their choices
- Variation in returns across CCs with and without taking student characteristics into account
- Policy implications: Inducing CCs to improve student outcomes
- Limitations in what we know and ways to remove them

Data used to analyze labor market outcomes of CC students

- Data cover all 35,000 students graduating Florida public high schools in the Class of 2000 who:
 - Attended a Florida public community college from 2000 – 06.
 - Had some earnings from a Florida employer covered by UI wage records after leaving college.
- Members of the Class of 2000 attending CCs were excluded if they only:
 - Took CC classes while attending FL public 4-year colleges.
 - Attended CCs as dual enrollees prior to leaving HS.

Database Contents

- The database spans 1995 through 2007.
- For each student the database includes:
 - HS transcripts.
 - Demographics including receipt of Free and Reduced Price Lunches (FRLs) in 8th grade (as a measure of low-income).
 - College transcripts.
 - College Credentials.
 - Quarterly UI wage-record data.

Key created variables

- **HS-GPA.**
- **College concentration (field of study).**
 - based on most credits among 17 fields with at least 12 credits.
- **CTE—Career & Technical Education (Applied) Concentrations (11).**

Agriculture, Business, Communications, Computer Science, Education, Engineering, Healthcare, Personal Services, Protective Services, Social Services, Trade & Industry.
- **Arts and Sciences Concentrations (6).**

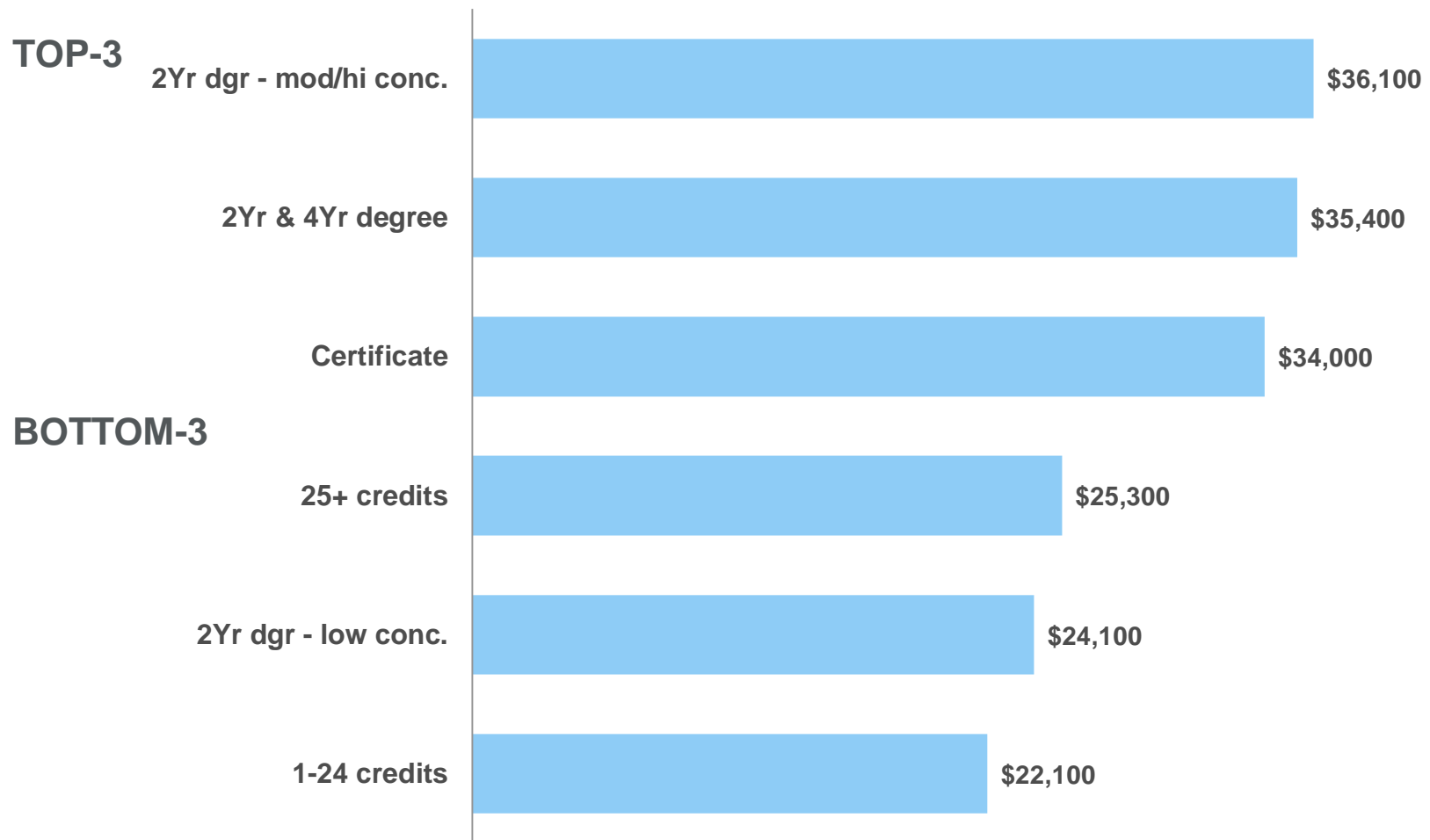
English, Fine & Performing Arts, Humanities, Math, Science, Social Science.

High, Moderate, and Low Earning Return Concentrations for each of four outcome groups

- **Outcome A: 2 & 4 year degrees:**
 - CTE—high; English—high.
 - Other Arts & Sciences—low (about 25% of group).
- **Outcome B: 2-year degree:**
 - Healthcare—high.
 - Business, Protective Services, Trade & Industry – moderate.
 - All else—low (about 60% of group).
- **Outcome C: Certificate requiring at least a year's worth of credits:**
 - Healthcare, Protective Services, Trade & Industry – high.
 - All else – low (about 5% of group).
- **Outcome D: 25+ Credits, no-credential:**
 - Business, Protective Services – high.
 - Other CTE (except Personal Services) – moderate.
 - Other Arts & Sciences (except Fine & Performing Arts) – moderate.
 - Personal Services, Fine & Performing Arts – Low (about 8 percent of group).

The Top-3 and Bottom-3 Outcomes Based on Median Annual Earnings

- Earnings are the highest annual earnings in the **3 years** after leaving school (or in the period that can be observed after leaving school).
- Earnings differences INCREASE over time between the Top-3 and Bottom-3 groups and the students with 2 & 4 year degrees and 2-year degrees in high return concentrations.



The Challenge for Increasing Earnings (and ROIs)

Transform students with the Bottom-3 outcomes to students with the Top-3 outcomes

How difficult would it be to make this transformation?

It might be easy if attaining the Top-3 outcomes did NOT require:

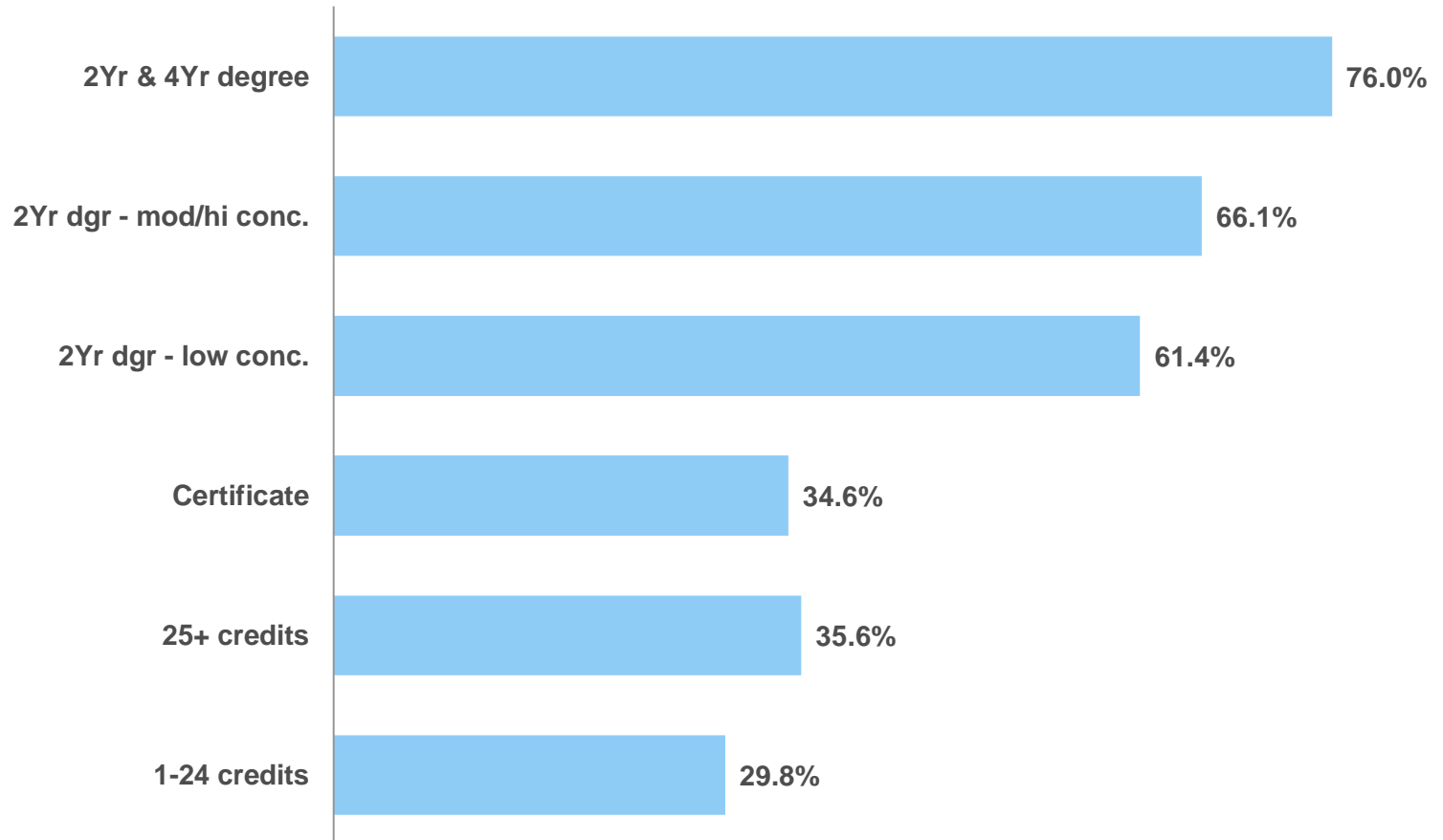
- Completing more courses.
- Completing more academically demanding courses.
- Having specialized non-academic skills.

and if the reason students made poor choices was LACK of sound information about:

- The options available at CCs.
- The student-specific factors associated with different outcomes.
- The effect of their choices on post-college earnings.

Is there a need to complete more academically challenging courses to have a Top-3 outcome?

Percentage of Students with A or B HS-GPAs
(as a measure of academic challenge)

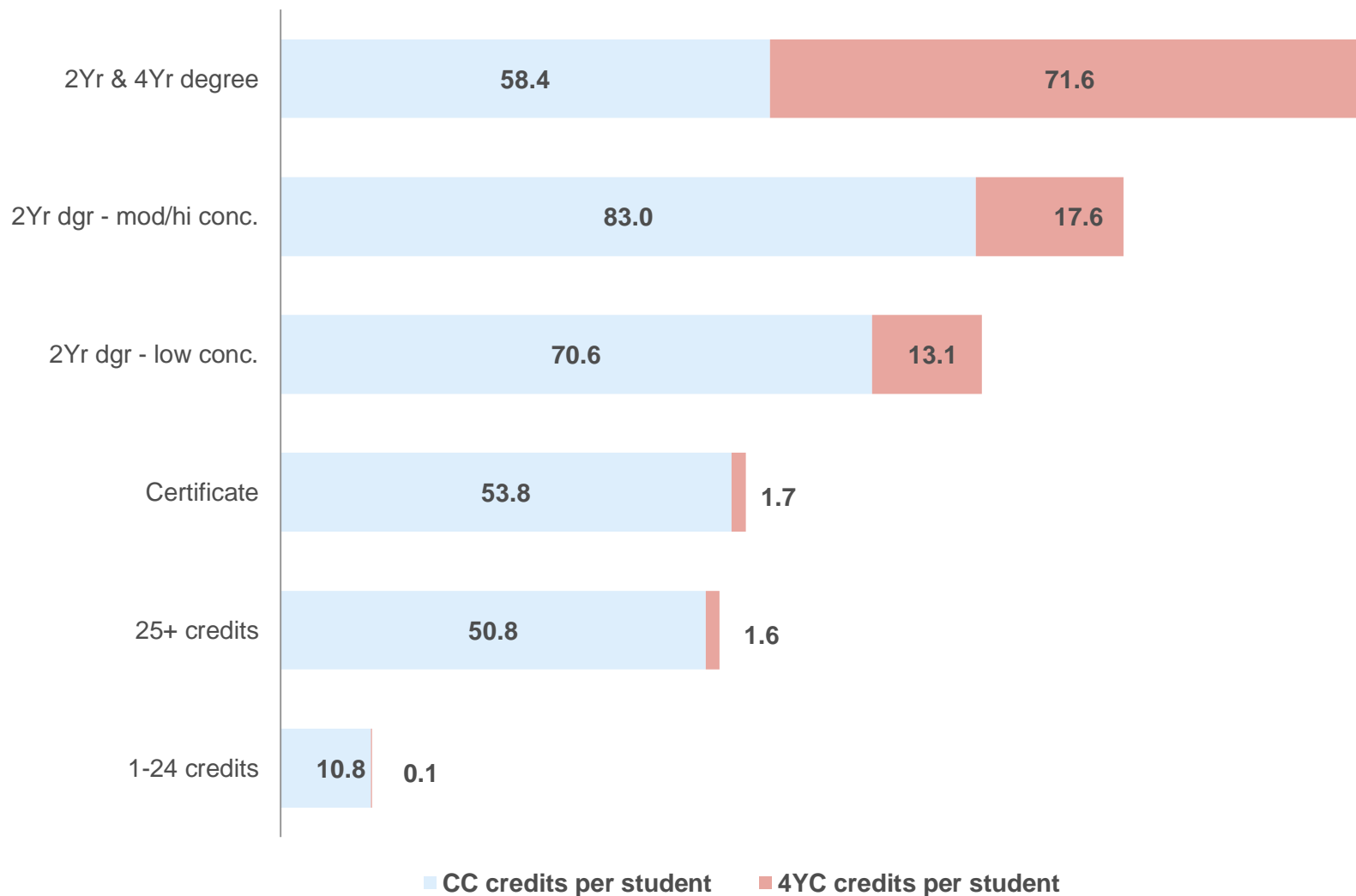


Conclusions about academic challenge

(based on differences in HS-GPA)

- Most, but not all, students with 2-year degrees with low-return concentrations:
 - Could have gotten 2-year degrees with higher return concentrations because the HS GPAs of students in the two terminal 2-year degree groups are about the same.
 - But could not have gotten 4-years degree since the HS-GPAs of students with 2 & 4 year degrees are higher than for the low-return 2-year degree students.
- Most students with no credentials could have obtained certificates because the Bottom-3 groups have about the same HS GPAs.

Is there a need to complete more courses to have a Top-3 outcome?



Conclusions about taking more courses

(based on differences in credits earned)

- Most students with 25+ credits could have obtained certificates since credits earned by these two groups are about the same.
- Most, but not all students with low return 2-year degrees could have obtained a 2-year degree with a higher returns since the difference in credits is modest.
- Students with low-return 2-year degrees would have a difficulty completing a 4-year degree because students with 4-year degrees completed many more credits and completed most credits at 4-year colleges.
- Students with 1-24 credits would have difficulty obtaining certificates because they would have to complete many more courses.

KEY POLICY-RELEVANT FINDINGS FROM THE EARNINGS ANALYSIS

- Students with certificates earn \$8,700 more per year than those with 25+ credits and no credential.
- Among students with 2-year degrees, those with hi/mod return concentrations earn \$11,300 more per year than students with low-return concentrations.
- Students with 25+ credits and Bottom-3 outcomes could substantially increase their earnings by changing the mix of credits completed without completing:
 - More courses.
 - More academically demanding courses.
- by obtaining:
 - Certificates.
 - 2-year degrees with high or moderate returns.

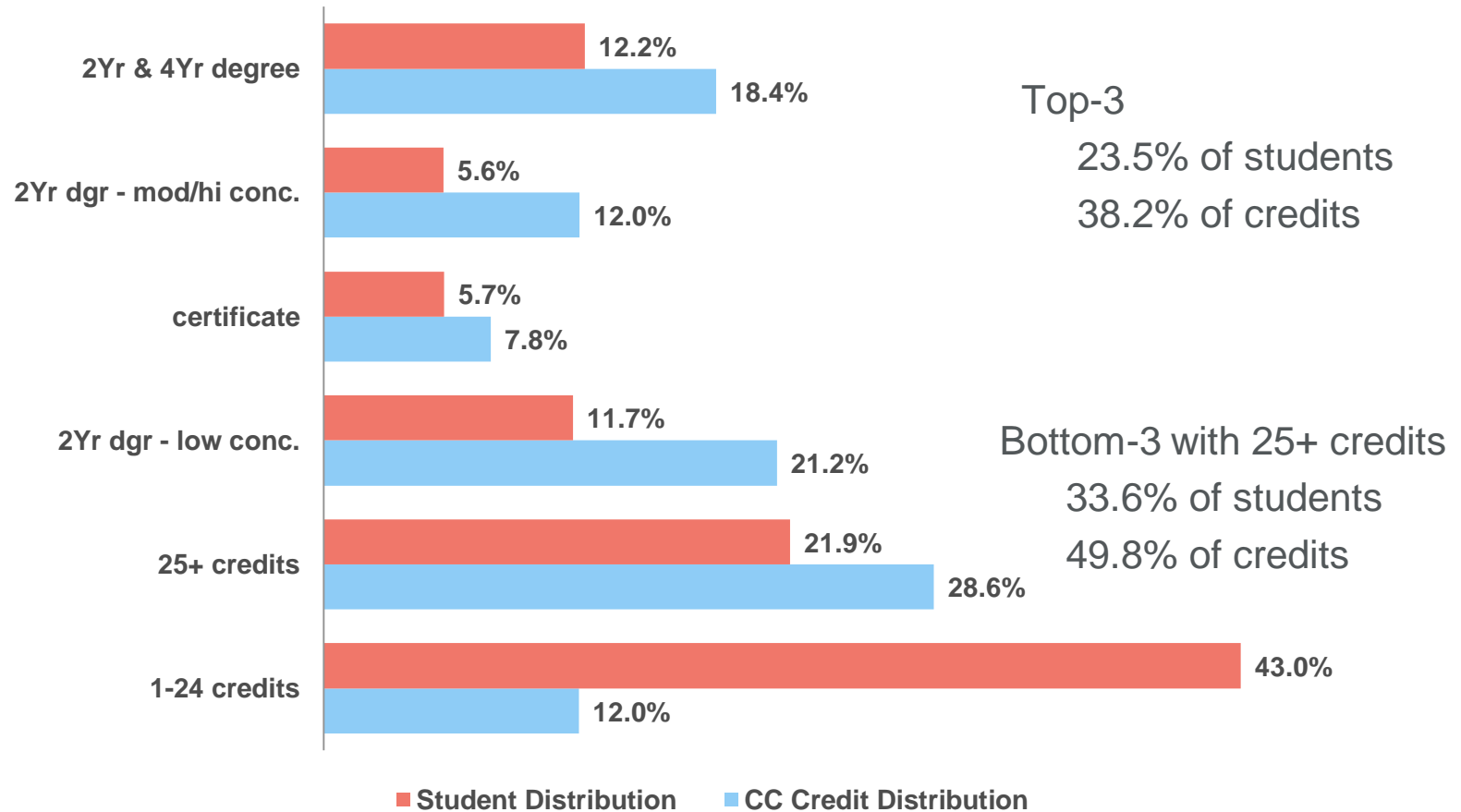
Policy Implications: Improve Student Choices

- Student choices can be improved by assessment and counseling (A&C) that provides the information needed to make sound decisions.
- Discussions with CC and One-Stop staff strongly endorse the view that:
 - Students lack the information required to make sound decisions.
 - CCs lack the resources to provide A&C.
 - The techniques used by One-Stops are effective in improving the information bases.
 - One-Stops lack the resources to provide A&C to most trainees.
- The extent to which providing resources will improve workforce outcomes is unclear
 - The quality of the A&C might vary substantially.
 - There are many other impediments besides poor information that affect outcomes.

Focusing CCs on Improving Workforce Outcomes

- Changing students demand is important because CCs will try to meet the demand for higher return courses.
- But CCs' incentives to help students improve their choices are limited.
- At present, few CCs have or use information about the returns-on-investments, and most performance measures that are used are related to obtaining degrees.
- Questions examined:
 - What are the returns on investment?
 - To what extent do resources go to high-return outcomes?
 - What type of performance measures would provide an accurate view of how one CC's performance compares to that of its peers?

The size of CC Investments by Student Returns

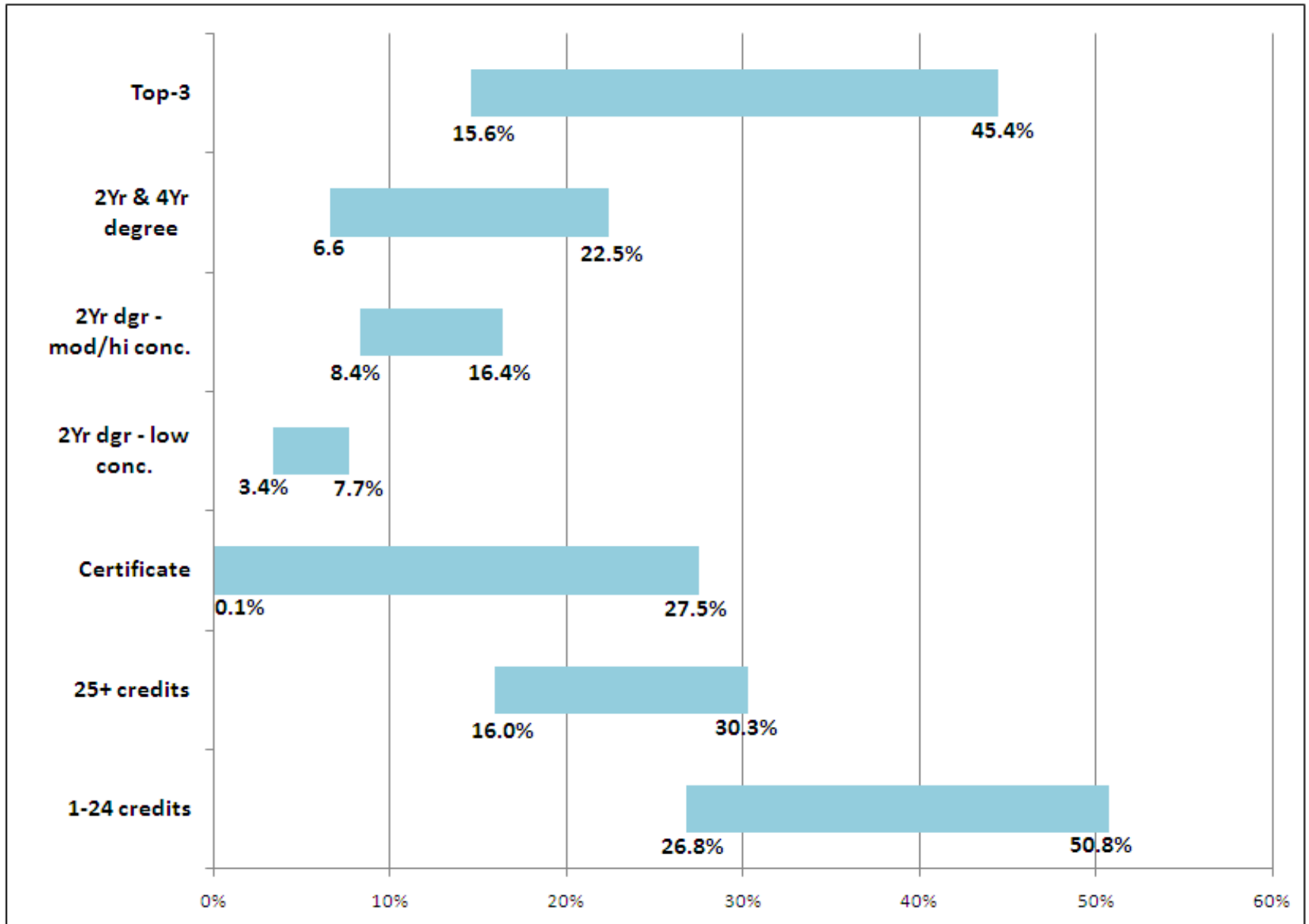


- The investments and the returns are high for Top-3 students.
- The investments are high but the returns low for Bottom-3 students with 25+ credits.
- The investments and the returns are low for Bottom-3 students with 1-24 credits.

Conclusion about increasing ROI

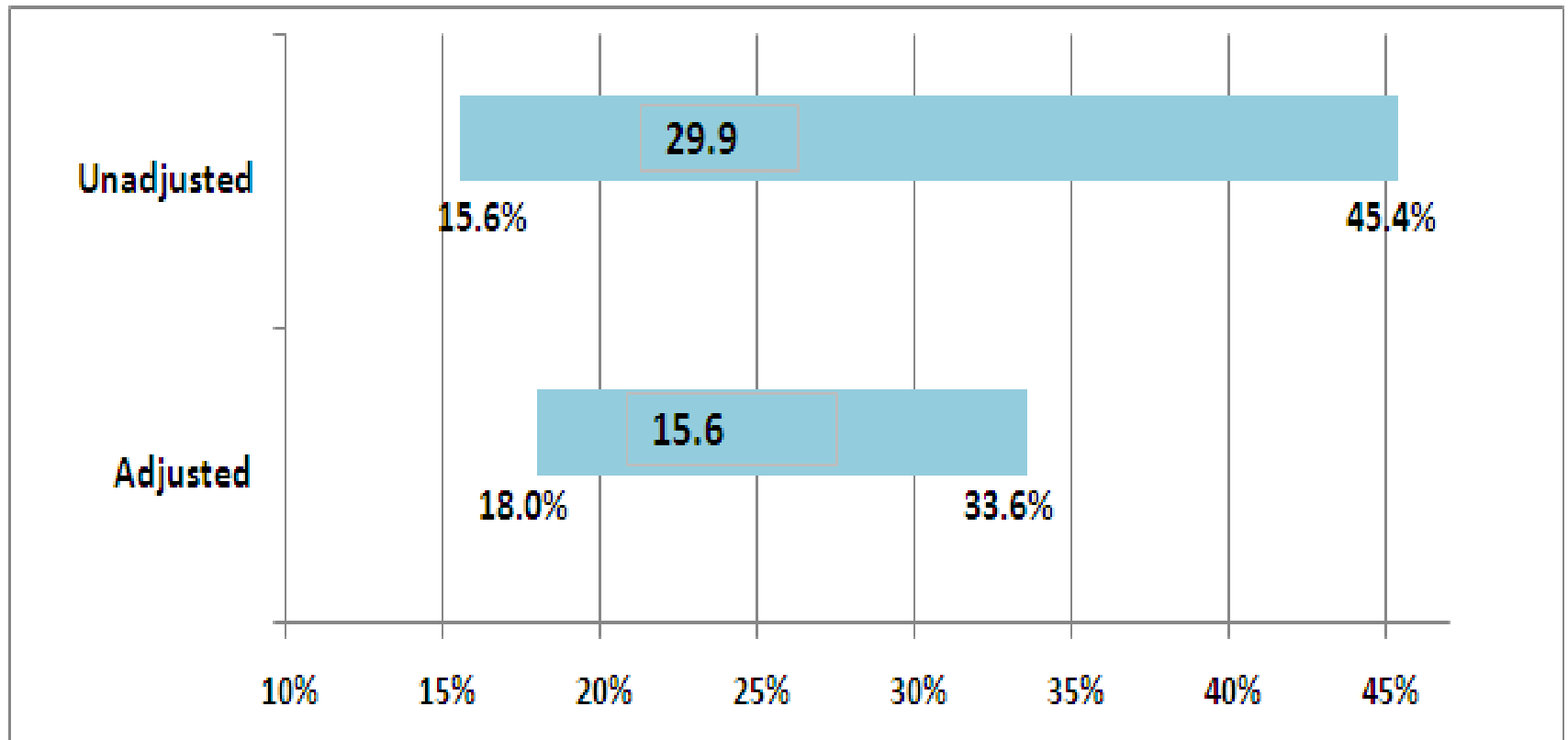
- The two key groups to focus on are students with:
 - 2-year degrees with low return concentrations.
 - 25+ credits with no credentials.
- This reinforces the view that the “low-hanging fruit” is having:
 - More two-year degree students concentrating in high and moderate return concentrations.
 - More 25+ credit students with no credentials obtaining certificates.

Variation in Outcomes across the 28 FL CCs

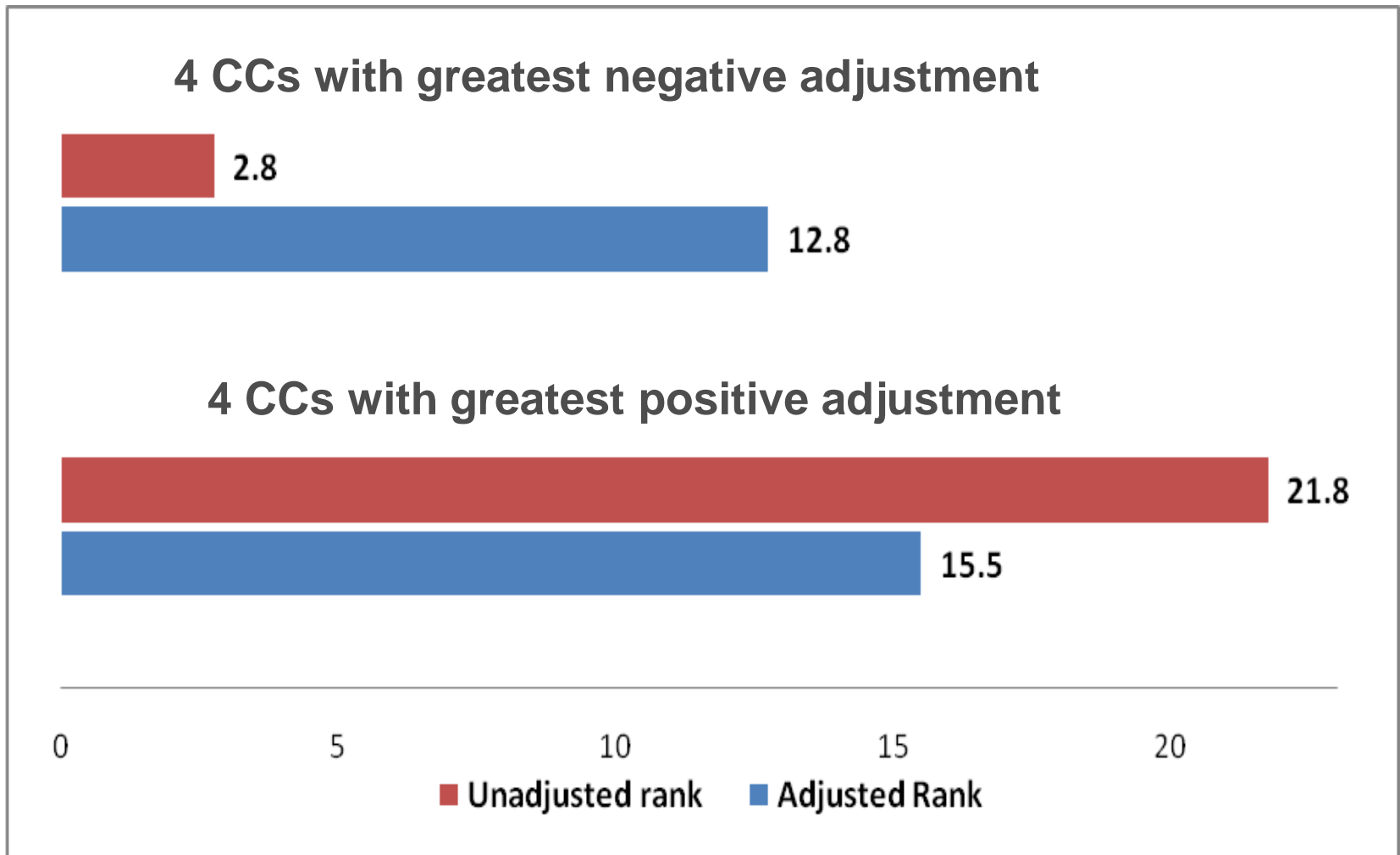


Why is there so much variation across CCs?

- About 67 percent of the variation is due to differences in the:
 - HS-GPAs of the students.
 - Percentage of students coming from rural high schools.



The Effect of the Adjustment at the Extremes



Policy Implications: Changing CC Incentives

- The adjusted measures of cross-college differences in ROIs show promise in giving CCs the information they need to:
 - Set realistic goals.
 - Alter resource distributions.
 - Monitor change over time.
- Changes outside of a CCs control could contribute to increasing ROIs
 - Including workforce outcome as a measure used for accreditation.
 - Changing state and federal funding formulas to:
 - Reward much above average performance and impose sanctions when performance is much below average.
 - Give more equal treatment to academic and CTE components.
 - Take differences in cost and returns into account in funding CC slots.

Limitations

- Data related
 - Workforce outcomes need to be tracked for longer periods
 - More education and training providers need to be included
 - For-profits
 - Certificate programs run by K-12 systems
- Effectiveness of Assessment and Counseling
 - Demonstrations should be conducted to assess the effectiveness of various ways of providing these services.
- Altering CC Incentives
 - Demonstrations should be conducted to assess the effectiveness of:
 - Altering measures available to CC administrators
 - Altering the way funds are provided to CCs by:
 - States
 - Federal Student Financial Aid programs