GEOGRAPHICAL MOBILITY AND OREGON'S SHORT

TERM EDUCATIONAL GOALS

by

HENRY HAKANSON

A THESIS

Presented to the Department of Economics
and the Robert D. Clark Honors College
in partial fulfillment of the requirements for the degree of
Bachelor of Arts

November 2021

An Abstract of the Thesis of

Henry Hakanson for the degree of Bachelor of Arts
in the Department of Economics to be taken November 2021

Title: Geographical Mobility and Oregon's Short Term Educational Goals

Approved: _____*Professor William Harbaugh, Ph.D.*_____
Primary Thesis Advisor

Geographical mobility data from the Census Bureau's American Community Survey shows that interstate migration increases the number of highly educated workers in Oregon. Throughout 2011-2018, there were more people entering the state than leaving and those entering the state had on average a higher level of education than those leaving. Within each educational level of Oregon's population, geographical mobility did not change significantly over this period. These geographical mobility trends may help the government of Oregon meet its current goals of improving the overall education level of the state and meeting projected job openings with the introduction of highly educated workers into the labor market. However, this may or may not impact more complex and longer-lasting concerns of the education system, like social mobility and inequality. This paper also reflects on the formulation and planned implementation of Oregon's educational goals, suggesting that to meet the underlying concerns of the education system would require more drastic steps than those which the state government is making.

Acknowledgements

The thesis process for me was characterized by frustrations, all derived from self-doubt and bad luck, and without the patience, encouragement, and guidance of many individuals I would likely have further struggled or entirely failed to finish this. First I would like to thank Professor Bill Harbaugh, for encouraging me to pursue this topic, guiding me through the research process, and agreeing to serve as my Primary Thesis Adviser. I am much grateful to Associate Professor Aflredo Burlando and Associate Professor Liska Chan for their patience and assistance in serving on my thesis committee and changing plans when unexpected events interrupted the schedule of the thesis research process. Assistant Professor Jonathan Davis provided helpful advice on the scope of research papers about community colleges and good sources of data. Professor Michael Moffitt gave me broad research advice and helped me through the preparation and planning of this work. My Clark Honors College community---students, instructors, and administrators alike---encouraged me to finish this process and provided a fruitful and interesting learning environment which shaped my college experience. Finally, I would like to thank the late Professor Ed Whitelaw, a cherished friend, boss, and mentor, who always demanded that I perform my best work and showed how fun that can be.

List of Accompanying Materials

1. Geographical Mobility and Education Attainment

2. Percentage Tables by Mobility Status

3. Percentage Tables by Education Attainment

4. Estimate of Future Educational Attainment

List of Tables

Introduction

In order to address expected changes in Oregon's economy, as well as current issues like income inequality and low graduation rates, the state government has recently shown an interest in reforming public education. Recent major investments include introduction of the Oregon Promise grant program to provide low-income students access to higher education;[1] plans to increase Science, Technology, Engineering, and Mathematics (STEM) teaching in high schools and community colleges;[2] efforts to restructure Career and Technical Education;[3] and other commitments requiring great effort and expense. A common aim of all these efforts is to address inequalities in Oregon's education system, as required by the Higher Education Coordinating Commission's (HECC's) Equity Lens.[4] Another key aim, central to two of Oregon's most ambitious recent goals, is to improve education levels in Oregon's labor market in order to meet projected job growth.

There are two major education goals in Oregon for which geographical mobility could have major implications: first, to award Associate's degrees, equivalent certifications, or higher level credentials to 300,000 new workers between 2020 and 2030; second, to improve overall educational attainment levels such that by 2025, 40% of adult residents will have Bachelor's degrees or higher, 40% will have Associate's degrees, and 20% will have high school diplomas as their highest level of education.[5]

[1] Cox et al, 2020: ii.
[2] Oregon STEM Investment Council, 2020: 7.
[3] Oregon Department of Education, 2020: 1.
[4] Oregon Chief Education Office, 2017: 3.
[5] Higher Education Coordinating Commission, 2019: 1.

The latter goal is known as "40-40-20". Both of these goals are highly ambitious, which the Oregon Department of Education recognizes. According to the HECC, current state projections predict that 200,000 workers will gain relevant credentials between 2020 and 2030, so the goal of educating an additional 100,000 workers will require increasing the overall completion rate of community colleges and universities by 50%.[6] Data from the American Community Survey demonstrates that Oregon in 2019 was far behind the 40-40-20 goal, as shown in the following table:[7]

Label	Estimate	Margin of Error	Percent
Population 25 years and over	2988118	4526	(X)
Less than 9th grade	98217	5814	3.3
9th to 12th grade, no diploma	160182	8213	5.4
High school graduate (includes equivalency)	687243	12936	23
Some college, no degree	741058	14787	24.8
Associate's degree	269102	9721	9
Bachelor's degree	627911	12081	21
Graduate or professional degree	404405	10233	13.5

Table 1: ACS estimate of educational attainment in Oregon, 2019

It is worth noting that Oregon is relatively close to its goal regarding Bachelor's degrees but further behind on lower levels of education: 34.5% of residents have a

---

[6] Higher Education Coordinating Commission, 2019: 2.
[7] The information of this table is extracted from the American Community Survey "Oregon Education Attainment (Table S1501)" for the 1-year estimates of 2019.

Bachelor's degree or higher, while only 9% have Associate's degrees and 8.7% of adult residents have not earned a high school diploma. According to US News, Oregon has the third worst high school graduation rate in the US, tying with Colorado at 82%.[8]

Projected job growth in Oregon's economy plays a central role in the two major HECC goals discussed in this paper. An April 2021 report to a subcommittee in the Legislative Assembly demonstrates the centrality of jobs in the logic behind the 40-40-20 goal.[9] In the document's first few pages, it discusses the role of education level in Oregon unemployment rates, earnings, projected job growth, projected high-income job growth, firings in response to Covid-19, and social mobility before it mentions other benefits of increasing statewide education attainment. These statistics mentioned all concern Oregon residents' ability to acquire and keep jobs. In pointing to education as an opportunity to reduce social inequality, they also concern longer lasting and more complex issues than changes in the job market.

This paper assesses the impact of geographical mobility on Oregon's ability to achieve its educational goals. The number of highly educated adults entering and leaving the state will impact the labor market and may address short-term concerns about projected job openings. Movement within the state may also suggest regional- and local-level adjustments to labor markets, though not at a level of detail within the scope of this paper. The academic profile of groups leaving and entering the state could also impact the 40-40-20 goal if disproportionately higher- or lower-educated adults move across state boundaries. In order to address these issues, this paper analyzes state

---

[8] Kerr, 2021: 1.
[9] Cannon and Rodamaker, 2021: 7-14.

mobility reports from the American Community Survey (ACS) from the years 2011-2018. Net migration of adults with postsecondary credentials into the state suggests whether the influx of highly educated workers might meet projected job openings. Comparing the educational levels of groups according to their mobility status (eg within counties, across counties, across state lines) allows determining the academic profile of workers entering and leaving the state. Comparing the mobility status of groups according to their educational levels allows determining whether an individual's education will impact their likelihood of moving.

Literature Review

"Unleashing the power of the 21st Century Community College" by MacAllum, Yoder, and Poliakoff is an example from 2004 of the goal of many community colleges to adjust their structure in order to more flexibly respond to economic change.[10] The paper advocates for increasing the "labor market responsiveness" of community colleges, which it characterizes through seven factors: leadership and governance; organizational structure and staffing; organizational culture; resources and funding; information and data collection; relationship building with local institutions; and partnerships with local employers. The paper emphasizes the importance of noncredit programs, special arrangements with local businesses like large-scale internship programs, and how a college operates on a day-to-day basis. These three factors are probably harder to track quantitatively than simple statistics like enrollment numbers or graduation rates.They also require changes to colleges at the institutional level. This

---

[10] MacAllum et al, 2004.

suggests that coordinating a statewide education reform effort involving labor market

responsiveness relies on thorough qualitative analysis of each institution and its role in

its community.

In "A Framework for Higher Education Labor Market Alignment: Lessons and

Future Directions in the Development of Jobs-Driven Strategies", Cleary and Van Noy

provide an overview of the effort to adjust education institutions in order to serve labor

market demands.[11] On the first page, they note that policy makers often oversimplify

such an effort and underestimate its difficulty. The process they describe involves

intense revision of how an institution operates, which starts by collecting data on what

jobs will be available or what skills employers will seek. The authors specify that this

work "does not lend itself to a simple, 'one size fits all' approach." They also write that

analysis and criticism of institutions according to their labor market responsiveness has

focused on community colleges, rather than other higher educational institutions, and

that as of 2014 very little was known about how community colleges actually change

their practices to improve responsiveness.

"The Importance of Education-Occupation Matching in Migration Decisions" by

Quinn and Rubb is an analysis of migration patterns, both domestic and international

migration, of Mexican workers.[12] It finds that individuals who are over-educated for

their job are more likely to move and find new work and that under-educated workers

are more likely to stay and keep their job. It also finds that highly educated workers

who move are more likely to do so domestically than internationally, which the paper

---

[11] Cleary and Van Noy, 2014.
[12] Quinn and Rubb, 2005.

speculates is due to connections of highly educated workers with domestic employers. The implication of this for Oregon is that job openings may attract qualified workers, if there is a sufficient pool of workers able to move who are overqualified for their current jobs.

"The Promises and Pitfalls of Measuring Community College Quality" by Kurlaender, Carrell, and Jackson evaluates the role that student demographics has in determining the measurable quality of community colleges.[13] It finds that there are statistically significant differences in how community colleges in California perform, but that these differences are much less pronounced than descriptive statistics and college rankings would suggest. Academic performance prior to enrollment and socioeconomic status affect the likelihood of transferring to a 4-year institution, completing a degree, and persisting in community college attendance. This suggests that demographic shifts in an area may affect the perceived performance of that area's schools or colleges, without necessarily affecting the quality of those institutions or the ability of them to serve their students.

Oregon Educational Attainment Goals

To understand the nature of the higher education goals which this paper concerns, it is necessary to consider the Oregon government's reason for formulating those goals and its plans for implementing them. This section summarizes Oregon government documents that suggest the reasoning for its goals, then states the research aim of this paper.

---

[13] Kurlaender et al, 2016.

ORS 350.018 requires the HECC to set educational attainment goals that are "associated with current and projected job opportunities for adult Oregonians" and that "promote labor market success".[14] This is the legislative mandate behind the HECC goal of educating 300,000 workers between 2020 and 2030.

"Estimating the Adult Attainment Goal" by HECC Director of Research and Data Amy Cox is a presentation at the October 2018 HECC committee meeting that set the educational attainment goal of educating 300,000 workers between 2020 and 2030.[15] It shows in plain terms the logic for arriving at that specific number of workers to be educated: between 2017 and 2027, 120,000 jobs were projected to open for workers with postsecondary education and at the time about 20,000 students were expected to gain those credentials each year, so the HECC proposed educating an additional 10,000-12,000 adults each year. After explaining this logic, the presentation discusses subsidiary goals to reduce specific inequalities in education, including the goal of increasing annual graduation of Hispanic students by 144%. It tellingly makes no mention of how any of how the education system might accomplish any of these aspirations. The HECC, as instructed by the Legislative Assembly, produced an ideal outcome which was taken directly from job opening projections, implying that if 100,000-120,000 educated workers appeared in Oregon and worked in those jobs, that would constitute "labor market success" and no further effort would be necessary.

ORS 350.075 (1)(d) requires that HECC adopt a "strategic plan" for achieving its official goals.[16] The most recent strategic plan was written in 2016, before the

---

[14] Shecter and Hackenburger, 2021: ORS 350.018.
[15] Cox, 2018
[16] Shecter and Hackenburger, 2021: ORS 350.075.

attainment goal of training an additional 100,000 workers was set.[17] The 2016 Strategic

Plan is written to provide a general outline and addresses multiple concerns including

affordability and equity, but provides little insight at even a general level on how HECC

could expect to meet its educational attainment goals. Most of the strategies relate to

adjusting the allocation of the educational budget, making further funding requests for

research or capital, and requiring that each institution would file annual reports to the

HECC about specific issues. Regarding the 40-40-20 goal, the main strategies are to

produce interim goals, define more loosely what constitutes an Associates-level

"credential", and collect data on educational attainment in Oregon.[18] The 40-40-20

section also mentions formulating a separate goal that "reflects the actual and projected

labor market demands and employment opportunities," in similar language to that of

ORS 350.018.[19] Despite this explicit mention of responding to current and projected job

openings, the Strategic Plan does not reflect a "labor market responsiveness" approach

to reforming the educational system. There is a section on Economic and Community

Impact, but it focuses on incentivizing research and development. Career and Technical

Education (CTE) is mentioned twice in the main body of the document: once in a

strategy to make its courses more easily transferable to meet certification or degree

requirements;[20] a second time in passing to mention that local employers use CTE for

advanced training, though without a specific strategy mentioned regarding CTE.[21]

---

[17] Higher Education Coordinating Commission, 2016.
[18] Higher Education Coordinating Commission, 2016: 13.
[19] Higher Education Coordinating Commission, 2016: 2.
[20] Higher Education Coordinating Commission, 2016: 20.
[21] Higher Education Coordinating Commission, 2016: 34.

The 2016 Strategic Plan was updated with a 2-page Strategic Framework in 2017.[22] It features four key approaches: increasing reporting and data collection; reallocating public funding; coordinating with schools to increase career advising and make it easier for students to transfer credits; and increasing outreach. Further study may demonstrate whether these efforts succeed in increasing enrollment and graduation rates.

If the Oregon state government wants to increase labor market responsiveness in its educational system, papers like "Unleashing the power of the 21st Century Community College" provide frameworks of the comprehensive, expensive, and challenging restructure of institutions that would be necessary. The heavy emphasis on data collection and reporting in the HECC's current strategy suggests that experimental trials in reform could be thoroughly tracked and analyzed, if the state government is considering such reforms. These measures would reflect a change in the priorities of the education system. If the state government does not want to change those priorities, and instead simply wants Oregon to have a more highly educated populace and to have highly educated workers fill projected job openings, geographical mobility may affect the ability of the state to reach those outcomes.

Research Design

This paper analyzes geographical mobility concerning Oregon over the years 2011-2018, with a focus on mobility into and out of the state. It arranges data from the American Community Survey (ACS) into tables, which allows for comparison of ACS

---

22 Higher Education Coordinating Commission, 2017.

estimates of interstate migration. It also calculates and arranges into tables the educational profile of groups according to their mobility status (eg within counties, across counties, across state lines) and similarly the mobility status of groups according to their educational attainment. In other words, through the tables in this paper it is possible to read that X% of individuals entering the state had Bachelor's degrees in 2011, or that Y% of individuals with graduate degrees changed counties within Oregon in 2013, along with many similar statistics. Hereafter these tables featuring percentages are referred to as "percentage tables". The primary statistic this process seeks is the total net migration in the period 2011-2018 into the state of individuals with at least some secondary education and with at least Bachelor's degrees. Comparing the percentage tables allows determining the educational composition of those entering the state and whether geographical mobility with respect to educational attainment has changed over time. This suggests whether or not these trends may help predict mobility in the years 2020-2030. Finally, this paper reflects on what implications the results might have for Oregon's educational goals.

Data

The American Community Survey (ACS) is a demographic survey conducted by the Census Bureau.[23] The survey is conducted year-round by randomly selecting around 195,000 addresses from across the US each month, including PO boxes that are listed as individuals' primary addresses, and interviewing in-person a sample of those who live in group living situations, like nursing home residents. The Census

---

[23] United States Census Bureau, 2017: 6.

Bureau analyzes the data from these surveys and produces reports that estimate the demographics of specific areas for each year. 1-year estimates use data collected in this manner over a year, while 5-year estimates use 60 months' data collection. For instance, the 5-year estimate of Oregon's education attainment in 2018 uses survey responses from throughout 2014-2018 and the corresponding estimate for 2019 uses data from 2015-2019. According to the Census Bureau, this means that 5-estimates allow greater accuracy than 1-year estimates but cannot be compared year-to-year.[24]

This paper uses data from two ACS estimates: one that tracks migration into various communities and one that tracks migration out of various communities and into Oregon. One has the title "Geographical Mobility in the Past Year by Educational Attainment for Current Residence in the United States (TableID B07009)," but this paper hereafter refers to it, specifically its 1-year estimate, as "Migration In." The other has the title "Geographical Mobility in the Past Year by Educational Attainment for Residence 1 Year Ago in the United States (TableID B07409)," but this paper hereafter refers to it, specifically its 1-year estimate, as "Migration Out."

For each given year, "Migration In" provides the estimated population of Oregon in that year and the subset of that population who resided the year before in: the same house, the same county, the same state (Oregon), a different state, and a different country. In other words, it tracks migration into a residence from across various borders. It also shows the educational attainment levels in each of these subsets. For instance, "Migration In" for 2018 shows that about 24,000 of the adults who had entered Oregon that year from another state possessed a Bachelor's degree.

---

[24] United States Census Bureau, 2018: 15.

For each given year, "Migration Out" provides the estimated population of Oregon in the year prior and the subset of that population who resided now in: the same house, the same county, the same state (Oregon), and a different state. The ACS cannot estimate the number of residents who left to another country, since it only conducts surveys within the United States.

To reiterate the meaning of dates in these estimates: "Migration In" for 2019 uses survey responses collected that year to estimate the population of Oregon in that year, 2019; "Migration Out" for 2019 uses survey responses collected that year to estimate the population of Oregon in the prior year, 2018. To compare the number of adults who entered Oregon in 2018 with the number who left that year, one must consult "Migration In" for 2018 and "Migration Out" for 2019.

This study also includes a forecast of educational attainment in Oregon, to consider the possibility of the state meeting the 40-40-20 goal if current demographic shifts continue. The data for this forecasting comes from the ACS table "Educational Attainment (TableID S1501)" for the years 2010-2019. The analysis of this spreadsheet does not require comparing data tables as required to calculate net migration, so it is possible to include the year 2019.

For the years 2010-2014, "Educational Attainment" does not include estimates of the total number of people with given levels of education; instead, it provides an estimate of the total population 25 and older in Oregon and the percentage of that population with each level of education. In other words, it is possible to find that in 2014, 19.2% of Oregonians 25 and older had a Bachelor's degree as their highest level of education out of a population that age of 2,746,957; but the table does not show the

actual number of Oregonians with a Bachelor's degree in that year. That must be calculated using the percentage and the total population.

Methodology

This paper compares the data reported in "Migration In" for the years 2011-2018 with the data reported in "Migration Out" for 2012-2019. It produces three sets of tables, then reflects on their information.

First, this study compiles tables of "Migration In" and "Migration Out." To preserve space and enhance readability, these tables do not include the standard error of each statistic as provided by ACS. They do include calculations of average and standard deviation of each statistic when compared year-by-year. To clarify, this merely demonstrates how much ACS estimates have varied over the years, not the accuracy of the estimates themselves. In addition, the first set of tables includes a third table which subtracts the "Migration Out" numbers from the "Migration In" table. This allows determining net migration and also allows comparing differences in the ACS estimates of Oregon's resident population. This first set of tables is called "Geographical Mobility and Education Attainment."

Next, this study calculates the percentage of each mobility-based subset of Oregon's population that has attained different educational levels. For instance, "Migration In" for 2018 shows that about 24,000 of the adults who had entered Oregon that year from another state had earned a Bachelor's degree, out of a total of about 88,000, which is about 27% of the total. Such calculations of percentages are compiled into a second set of tables called "Percentage Tables by Mobility Status." Consulting

these tables allows determining the educational profile of adults leaving or entering

Oregon according to their mobility status.

The third set of two tables, called "Percentage Tables by Education Attainment,"

calculates a similar percentage, but instead compares the mobility decisions within each

education level.

All three sets of tables are available as Accompanying Materials.

Also in Accompanying Materials is a forecast of educational attainment for the

years 2020-2030, called "Estimate of Future Educational Attainment." This spreadsheet

compiles educational profile data in the form of percentages from the ACS, calculates

the total number of individuals with various levels of education using those percentages,

analyzes them using linear regression to forecast for the years 2020-2030, and

calculates those forecasts back into percentage tables of a similar format to those of the

ACS "Educational Attainment" tables.

The process of compiling ACS data and calculating population estimates out of

percentages is straightforward. Because ACS tables only use one decimal point for

percentages, the estimates calculated in this spreadsheet are rounded to the nearest

1000.

The linear regression model uses the FORECAST function of Microsoft Excel.

The equation for FORECAST has the formula $a+bx$, where:

$$a = \bar{y} - b\bar{x}$$

and:

$$b = \frac{\sum(x-\bar{x})(y-\bar{y})}{\sum(x-\bar{x})^2}$$

14

In this case, the input data for x is the year of each ACS estimate and the input data for y is the estimated population for each entry in the ACS estimate. The spreadsheet also shows the slope of the linear regression, b, rounded to the nearest 100.

After compiling the tables, this study draws some simple and clear observations from them. In making these observations, this paper rounds all estimates to the nearest 1000 adults, though the tables in the Accompanying Materials do not feature rounding. This paper makes no effort to draw precise trends; the tables are dense summaries of ACS estimates, so rigorous statistical analysis of their contents would be inappropriate. However, broad, imprecise trends might suggest whether recent historical data could reasonably establish expectations about geographical mobility in the near future.

Finally, this paper reflects on how the takeaways from ACS estimates might relate to Oregon's educational attainment goals.

Results

The first set with three tables, the spreadsheet "Geographical Mobility and Education Attainment" from Accompanying Materials, show that there was a net migration during 2011-2018 into Oregon from other states of roughly 136,000 adults, of which 32,000 had graduate degrees, 33,000 had Bachelor's degrees, and 51,000 had some college or Associate's degrees. Populations with higher education have less relative variation in net interstate migration, although the standard deviation is high even for adults with graduate degrees. This suggests that it might be easier to predict the mobility trends of highly educated adults than those of less educated adults.

It is worth noting that the ACS estimates differ in their approximations of the number of Oregonian residents each year. Theoretically, "Migration In" and "Migration

Out" should show the same number of residents each year for every item other than interstate migration: the number of residents moving to another house in the same county in 2013 should equal the number of residents moving from another house in the same county. The only difference between the two estimates of the total population should be accounted for by net interstate migration and the fact that "Migration In" includes migration from abroad. However, the discrepancies do not give advantage to approximations of highly educated workers: "Migration In" shows fewer adults with Bachelor's degrees and graduate degrees than "Migration Out" for almost every item every year, suggesting that the given net migration of these groups is probably underestimated rather than overestimated.

The second set with two tables, the spreadsheet "Percentage Tables by Mobility Status" from Accompanying Materials, shows that the population crossing state boundaries either into or out of Oregon has been more highly educated than the overall population of Oregon. It further shows that the population entering the state is more highly educated than the population leaving the state. The following table compares the educational levels of those who entered and left Oregon throughout 2011-2018:

Educational level of those entering OR	Percent among those entering	Educational level of those leaving OR	Percent among those leaving
Less than high school graduation	6.4	Less than high school graduation	7.2
High school graduate (includes equivalency)	18.3	High school graduate (includes equivalency)	20.0
Some college or associate's degree	32.6	Some college or associate's degree	31.2
Bachelor's degree	25.1	Bachelor's degree	25.4
Graduate or professional degree	17.6	Graduate or professional degree	16.2

Table 2: Comparison of average migration into and out of Oregon by educational level

There are differences in the second set's two tables' estimates of mobility within Oregon, though those differences do give advantage to approximations of highly educated workers, vary widely, and have much smaller average magnitude than the differences between mobility into and out of Oregon. This suggests that the educational profile of adults entering Oregon is actually different from the educational profile of adults leaving Oregon.

The third set with two tables, the spreadsheet "Percentage Tables by Education Attainment" from Accompanying Materials, shows more clearly the relatively high mobility trends of highly educated adults and the role that interstate migration has in increasing the percentage of highly educated adults in the state. Also, the percentage of adults with graduate degrees entering and leaving the state has varied little from year to year, as well as the percentage of adults with some college. The percentage of adults with Bachelor's degrees entering the state features more variation across the years, though in each year it has been higher than the percentage of adults entering the state

with less education and the percentage of adults with Bachelor's degrees leaving the state.

The projections for educational attainment in Oregon suggest that if demographic trends from 2010-2019 continue, Oregon may meet its goals regarding high levels of education but struggle to meet its goals regarding the low-educated. The projections show that, at this rate, 40% of Oregon's population 25 and older will have Bachelor's degrees or graduate degrees. Only 10.1% will have Associate's degrees, but high school graduates and individuals with some college education may qualify for certification which the HECC would consider to be at the Associate's level. The proportion of individuals with high school diplomas as their highest level of education will decrease, along with the proportion with less than high school education, suggesting that those graduates will attend college. 6.9% of the adult population will still not have a high school diploma, a strong improvement from today but still a frustratingly high proportion. These findings suggest that to achieve the 40-40-20 goal, the Oregon government may not need to act with regards to universities but that it may need to invest more in community colleges and increasing the high school graduation rate.

By definition, these projections reflect changes in Oregon's educational profile over the last decade. They reinforce the notion that Oregon has increasing numbers of highly educated workers and provide optimism regarding high school and community college students. The following table, formatted in the same manner as the ACS tables, provides estimates from the ACS for 2010 and 2019 and this study's projection for 2030:

Educational Attainment by Percentage	2010	2019	2030
Population 25 years and over	2614886	2988118	3463000
Less than 9th grade	4.1%	3.3%	2.7%
9th to 12th grade, no diploma	7.2%	5.4%	4.2%
High school graduate (includes equivalency)	25%	23%	19.8%
Some college, no degree	27.2%	24.8%	22.9%
Associate's degree	7.8%	9%	10.1%
Bachelor's degree	18.3%	21%	24.1%
Graduate or professional degree	10.5%	13.5%	15.9%

Table 3: Projected educational attainment in Oregon

Overall, the ACS data suggests that interstate migration may introduce highly educated workers to the Oregon labor market at a pace comparable to the HECC goal of dramatically increasing the graduation rates of colleges and universities. Although there is variation within the data, the overall trends have not changed consistently over the years, suggesting that they may continue in the near future. Net interstate migration introduced an average of 8,000 workers with at least a Bachelor's degree and 6,000 workers with some college each year, while the HECC hopes to provide an Associate's degree, equivalent certification, or more education to 10,000-12,000 adults per year.

Conclusion

If the Oregon state government is concerned about labor market issues that might arise from projected job openings, it should take into account the role of interstate migration. Every year, thousands of Oregonians with bachelor's degrees or graduate degrees leave the state, some of whom may have been educated in Oregon. If the HECC manages to meet its goal and provide higher education to 100,000 more adults than it

expects to by 2030, some of those educated adults could leave the state. Recent trends show that net migration will increase the size of the educated workforce by a comparable amount in any case.

Perhaps more important, the Oregon state government has not made radical changes since formulating its goals and has made no indication of how it expects to meet them. The language of ORS 350.018, which specifically mentions formulating goals with labor market changes in mind, indicates that the Legislative Assembly is seeking labor-market-oriented changes to the educational system. It may help the HECC and educational institutions throughout the state for the Assembly to consult experts on the cost, efficacy, and consequences of various available reforms, so that it may specify its expectations and commitment to this effort.

It may be that upon further consideration labor-market-oriented reforms would be undesirable to the state government. Graduation rates, bolstered by interstate migration, could meet projected job openings without significant reforms. Educational institutions serve diverse needs, as enumerated in ORS 350.001, ORS 350.005, and ORS 350.009 which provide the general purposes and values of higher education in Oregon.[25] The 40-40-20 goal of increasing overall education levels of adults throughout Oregon is not tied closely to projected labor market shifts and according to the HECC

---

[25] 350.001 describes various long-term benefits to the state of having a generally well-educated citizenry. 350.005 focuses on the benefits to individual Oregonians of having a functioning education system, and describes the duty of the system to provide equal access to education for all Oregonians. 350.009 lists the education system's "fundamental goals" as creating an educated citizenry, ensuring that all students have a high-quality learning environment, advancing innovation, and contributing to communities throughout Oregon. All of these are accessible through oregon.public.laws.

was formulated to improve social mobility and inequality in the state.[26] Meeting that goal may require entirely different changes than would be necessary to create a labor-market-responsive educational system. Recent efforts, mentioned in the introduction of this paper, to ease the transfer process, provide more career counseling, and increase STEM education and CTE in community college might help address both concerns. Similarly, the prevalence of funding requests and reallocation in the HECC Strategic Plan suggests that increasing the overall state funding of public education would help address prospective changes in the labor market without frustrating other goals of the education system. The size of the gap between the 40-40-20 goal and Oregon's current education levels, particularly concerning the large number of adults without high school diplomas and the low number of adults with Associate's degrees, suggests that major reforms aimed at high schools and community colleges may be necessary to address long-term issues in the education system.

Further investigation on the impact of geographical mobility on Oregon's educational goals would require further study. To analyze mobility trends at the county level is possible with data through the ACS, although the Census Bureau does not provide 1-year estimates for areas with less than 75,000 residents. Considering the ethnicities and income levels of groups in geographical mobility trends could provide insight on how the diversity of specific areas and schools or colleges may shift.

---

[26] Higher Education Coordinating Commission, 2019:1.

Bibliography

Cannon, Ben and Rodamaker, Ramona. *Introduction to Postsecondary Education and Workforce Training in Oregon*. Salem: Higher Education Coordinating Commission, 2021.

Cleary, Jennifer and Van Noy, Michelle. *A Framework for Higher Education Labor Market Alignment*. New Brunswick, NJ: Rutgers University, Heidrich Center of Workforce Development, 2014.

Cox, Amy. *Estimating the Adult Attainment Goal: Meeting of the Higher Education Coordinating Commission*. Salem: Higher Education Coordinating Commission, 2018.

Cox, Amy et al. *Senate Bill 81 (2015): The Oregon Promise --- Report from year 5*. Salem: Higher Education Coordinating Commission, 2020.

Higher Education Coordinating Commission. *Oregon Higher Education Strategic Framework 2017-2021*. Salem: Higher Education Coordinating Commission, 2017.

Higher Education Coordinating Commission. *Oregon Higher Education Strategic Plan 2016 – 2020*. Salem: Higher Education Coordinating Commission, 2016.

Higher Education Coordinating Commission. *What You Need to Know About: Oregon's Higher Education Goals*. Salem: Higher Education Coordinating Commission, 2019.

Kerr, Emma. "See High School Graduation Rates by State" *Usnews.com*, 28 Apr. 2021, https://www.usnews.com/education/best-high-schools/articles/see-high-school-graduation-rates-by-state.

Kurlaender, Michal et al. "The Promises and Pitfalls of Measuring Community College Quality." *RSF: The Russell Sage Foundation Journal of the Social Sciences* , Vol. 2, No. 1, 2016, pp. 174-190.

MacAllum, Keith et al. *Unleashing the Power of the 21st Century Community College*. Washington, DC: Academy for Educational Development, 2004.

Oregon Chief Education Office. *Oregon Equity Lens*. Salem: Higher Education Coordinating Commission, 2017.

Oregon Department of Education. *Oregon's Career and Technical Education (CTE) Plan Approved by U.S. Department of Education*. Salem: Higher Education Coordinating Commission, 2020.

Oregon STEM Investment Council. *2021-2025 STEM Educational Plan.* Salem: Higher Education Coordinating Commission, 2020.

Shecter, Robb and Hackenburger, Lisa. *oregon.public.law*. Boulder, CO: Public Technologies LLC, 2021.

United States Census Bureau. *American Community Survey: Information Guide.* Suitland, MD: United States Census Bureau, 2017.

United States Census Bureau. *Understanding and Using American Community Survey Data: What All Data Users Need to Know.* Suitland, MD: United States Census Bureau, 2018.

Quinn, Michael, and Rubb. Steven. "The Importance of Education-Occupation Matching in Migration Decisions." *Demography*, vol. 42, no. 1, 2005, pp. 153–167.