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**Brain Drain and Higher Education Capacity: A Case Study of Nevada and the Western
Undergraduate Exchange**

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Brookings Public Policy Minor Culminating Project

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Introduction

Human capital, a measure of skills and education that influences an individual's capacity for productivity and earning potential, can yield myriad economic benefits (Pettinger, 2019). Not only can human capital lead to better employment opportunities and long-term economic security, it can also provide a path for upward mobility. However, the development of human capital depends in part on the implementation of public policies that promote educational equity and portability.

Policy initiatives such as the Western Undergraduate Exchange (WUE), a regional tuition saving agreement among colleges and universities operating in the western states, have the ability to increase mobility and promote human capital attainment. This brief will be focusing exclusively on how Nevada's higher education system and related programs, specifically the WUE, can be improved to further attract and attain a higher-skilled workforce. This paper will cover a literature review of brain drain and its effects, investigate Nevada's relationship with human capital and the WUE, as well as offer policy recommendations to improve attainment.

Brain Drain and Its Consequences

"Brain drain" is a popular topic amongst international research literature and is defined as highly-skilled individuals emigrating from one country to another for better economic opportunity (Lee, 2019). In this paper, brain drain is defined in the domestic sphere; examining the net loss of highly-trained or educated working-age people from a given state (Lee, 2019). Conversely, as states experience brain drain, others experience brain gain; described as highly-trained individuals moving into a different state where there are more opportunities for upward mobility (Lee, 2019). Brain gain can assist a country, state, or region economically through building a highly trained workforce that can improve the overall economic conditions of

the country alongside other attitudes. These two phenomena, brain drain and gain, help to identify the attainability and portability of a state's human capital in a geographical context. This allows for policy examinations that can aid a state in increased brain gain and identifies where an economy can diversify itself for long-term growth and potential diversification.

Leavers and Stayers

According to a brief from the Joint Economic Committee (2019), brain drain is impacting the country geographically. The data within this brief examines the United States' relationship with brain drain from 1970-2017. This study examines where highly-educated citizens are born and where they end up. The data defines highly-educated individuals as those who are in the top third of the national education distribution--described as having a bachelor certification or above by the United States Census Bureau (2020)--and fall in the age group of 31-40. This group of highly-educated individuals are categorized as being either "leavers" or "stayers" depending upon where they choose to live and work. Leavers are defined as individuals, ages 31-40, who fall within the top third of the national education distribution that leave their home states. Conversely, stayers are defined as individuals, ages 31-40, who fall within the top third of the national education distribution who stay in their home state. The use of leavers and stayers in this analysis will help to define a state's human capital attainability and pinpoint which states and geographical regions experience more brain drain.

Gross and Net Brain Drain/Gain

Not only do these data define leavers and stayers based on the nation's education distribution, but they go further to focus on a given state's top third education distribution to better define the type of brain drain/gain that a state is experiencing. This provides two different

types of terms when addressing the type of leavers and stayers: absolute brain drain and relative brain drain. Absolute brain drain is calculated by following those leavers and stayers who fall into the nation’s top third education distribution. Relative brain drain is calculated by following those leavers and stayers who fall into a given state’s top third education distribution.

In addition to the appraisal of these actors, the data utilizes measurements to describe the exact type of brain drain in a given state as demonstrated through “gross brain drain” and “net brain drain”. Gross brain drain measures how much a state loses in “homegrown” talent, meaning their most skilled residents leave to other states for better economic opportunity. Net brain drain measures how much a state is losing in homegrown highly-educated talent and how many stayers are entering the state (leavers-stayers=relative brain drain). These two different types of brain drain can heavily affect each other, such as a state having high gross brain drain but having a low net brain drain to offset the loss of highly-educated talent. The terms that are supplied to differentiate individuals and types of drain are explained in the table below.

Table 1: Summary of Terms

Absolute brain drain	Highly educated individuals who fall in the top third of the national education distribution who leave their home state.
Relative brain drain	Highly educated individuals that are in the top third of their home state’s education distribution who leave their home state.
Gross brain drain	Those leaving the state who are more highly educated than those staying in the state.
Net brain drain	The percentage of a state’s gross brain drain loss that exceeds the in-migration of out-of-state talent.

Adapted from the Joint Economic Committee (2019) brief, “Losing Our Minds: Brain Drain across the United States”

There are many combinations of gross and net brain drain that can affect a given state. Some states in the Mountain West region (Nevada, New Mexico, Utah, and Wyoming) have low gross brain drain but high net brain gain. This means that these states experience high

outmigration and though they are not losing large shares of their best-educated, they are attracting very few highly-educated individuals. Consequently, these states tend to have lower-educated populations than if there were no interstate migration.

The specifications of different types of brain drain assist in understanding the exact reason individuals are staying or moving from their hometowns. For example, in California, the state experienced 2.3% gross brain drain in 2017, meaning that 2.3% of people who moved out of the state were more highly-educated than those who remained in the state (Lee, 2019). Conversely, California experienced -20.2% of net brain drain (or a net brain gain) in 2017, signifying that the people who were born in California are more highly-educated than the members of their birth cohort who left the state (Lee, 2019).

Out-migration of talent does not may not negatively affect a state as long as the state is able to attract high-skilled individuals to make up for any loss. Still, even if a state does not experience substantial net brain drain, losing skilled residents can be a concern for a state's economic well-being. This is because there is a socio-political assumption that residents of the states will have a better understanding of their community and can efficiently contribute to its success (Lee, 2019). Keeping their original residents can increase human capital more aptly and is more convenient than seeking out-of-state talent.

Why Does Brain Drain/Gain Occur?

Both gross and net brain drain is caused by many different factors. This may include state tax laws, economic opportunity, home affordability, healthcare access, higher education opportunities, the quality of the K-12 system, and the list continues. There is not a single factor that can be blamed for a country or state's brain drain/gain, but effective public policy can

reverse brain drain and promote a highly-educated workforce, either home grown or from elsewhere.

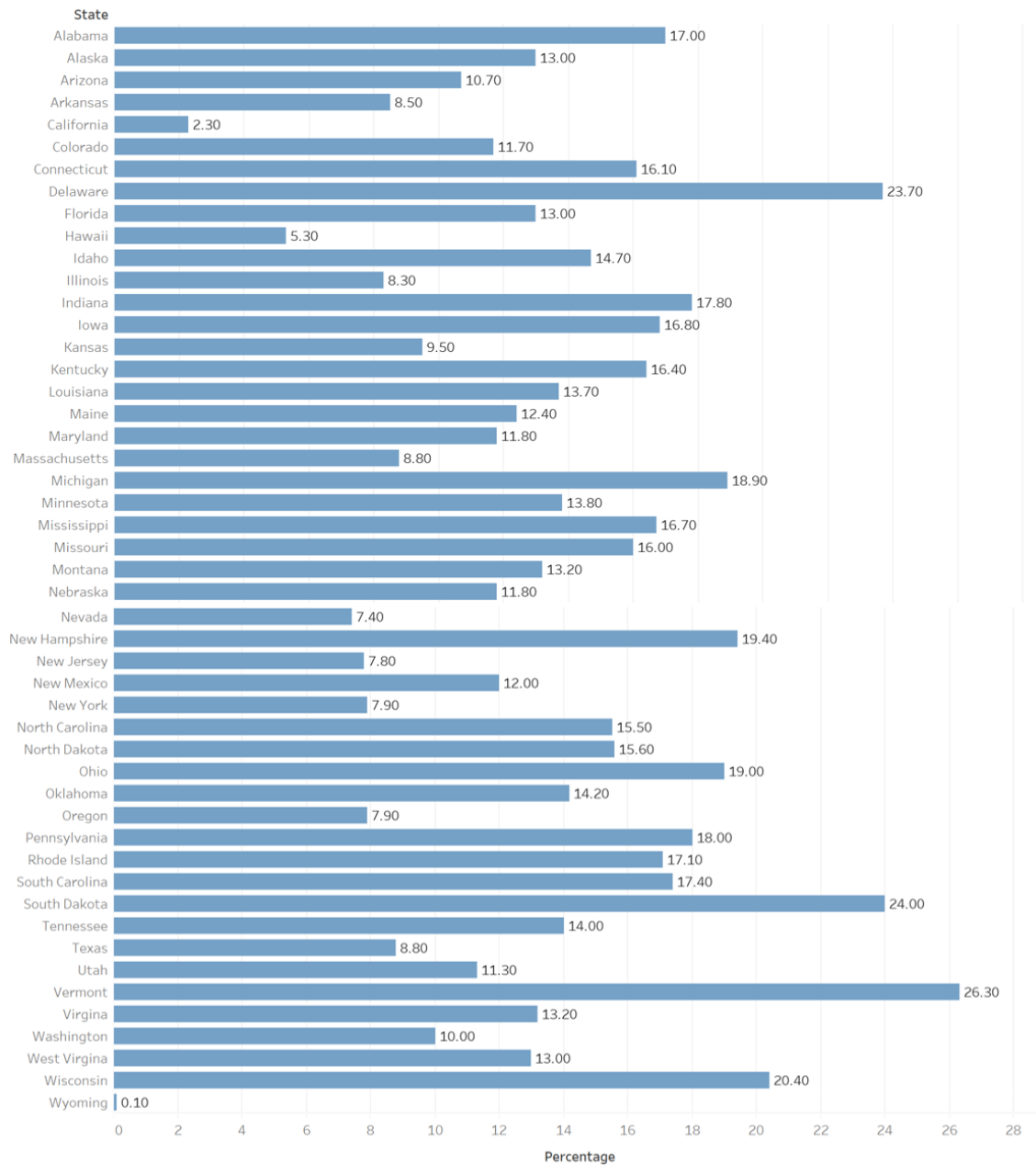
Brain drain/gain occurs in geographical patterns. Coastal states and states with dynamic economies continuously attract and retain new talent (Milligan, 2019). For example, the state of California and its continuously rapid-growth has generated some of the highest rates of brain gain in the country. California efficiently keeps its degree-holders in the state while also attracting college graduates from all over the world. This has proved advantageous to the state's labor market by ensuring a constant reservoir of talent to fill the state's need for highly-skilled workers (Johnson et al., 2015). Additionally, college graduates who move to California are more likely to be employed than those leaving the state (Johnson et al., 2015).

Studies have shown that there are multiple factors that contribute to a migration of talent into a given region. Legislation, agility, education, health, pay, and motivation seem to be big driving factors to brain gain (Ben-Hur & Bris, 2017). Legislation that promotes research-focused policy, non-restrictive immigration laws, and lower risk of political instability is seen as an attractive incentive to young, educated minds. Additionally, agility, as in adaptability of market changes and inclusive corporation values, creates an attractive innovative economic atmosphere. Quality education and healthcare infrastructure are also imperative to talent attractiveness. Pay and motivation directly tied to the workplace is also a large contender to why some states have more brain gain than others.

Conversely, there are other states in certain geographical locations, such as the Rust Belt, Deep South, and parts of the interior Midwest that suffer from more immense brain drain. Less dynamic and diverse economies struggle to bring in highly-educated populations. Below are

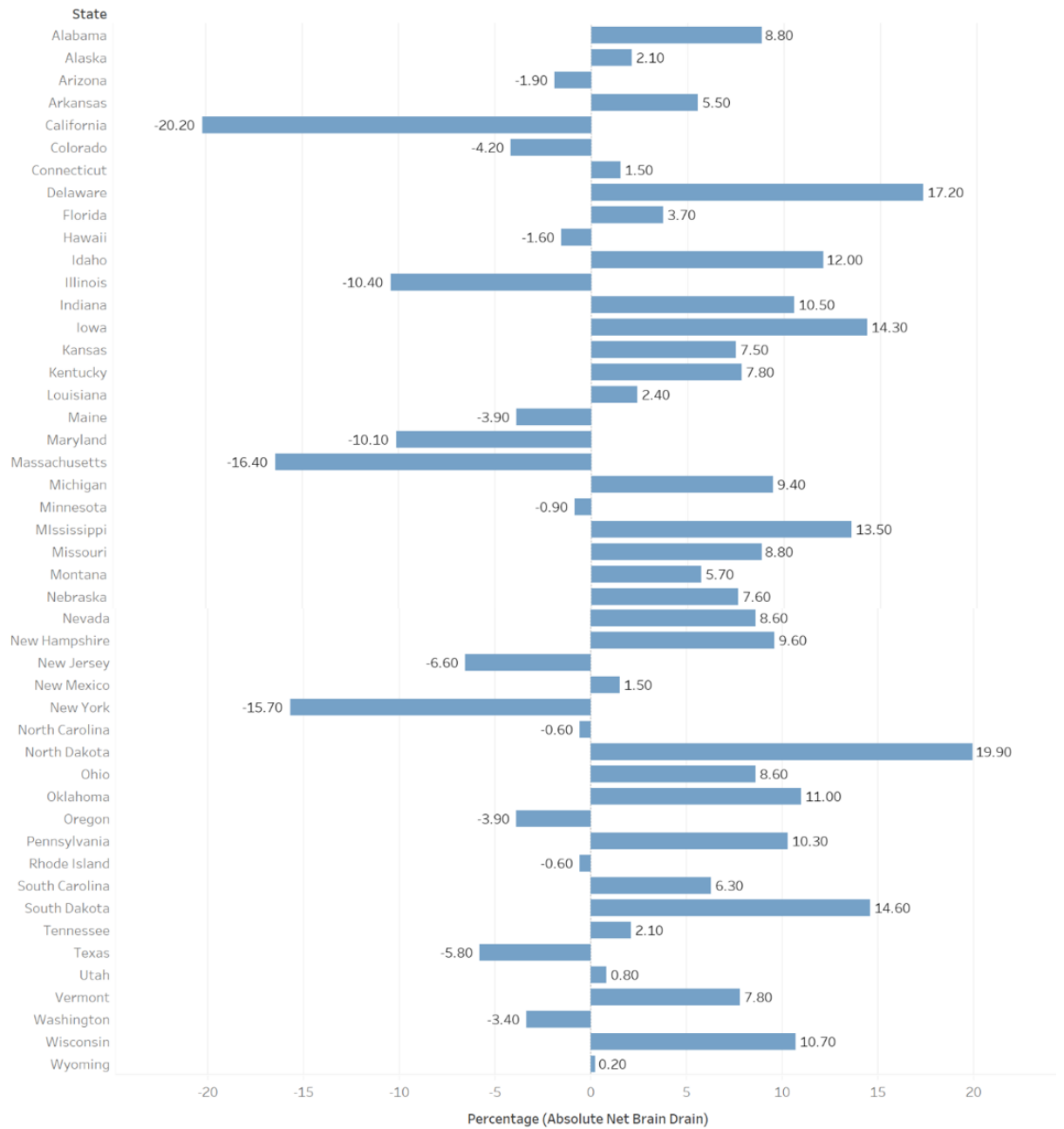
figures using data from the Joint Economics Report (2019) that summarize absolute gross and net brain drain percentage in.

Figure 1: Absolute Gross Brain Drain, 2017



Adapted from the Joint Economic Committee (2019) brief, "Losing Our Minds: Brain Drain across the United States"

Figure 2: Absolute Net Brain Drain, 2017



Adapted from the Joint Economic Committee (2019) brief, "Losing Our Minds: Brain Drain across the United States"

As shown through these figures, some states such as Vermont suffer from high numbers of absolute gross brain drain but are offset by a lower percentage of absolute net brain drain. But,

states such as Delaware, experience both high percentages of gross and net drain, which can be seen as a less favorable combination. Nevada, having a higher absolute gross brain drain than its absolute net brain drain, is viewed as the “worst combination” by the Joint Economic Committee. This is because those who leave the state tend to be replaced by less-educated individuals. It is this combination that undercuts the state’s ability to develop and maintain a highly-skilled labor pool.

Table 2: Nevada Gross and Net Brain Drain Over Time (1970-2017)

Gross Brain Drain, (1970)	Gross Brain Drain (2017)	Change Over Time	Net Brain Drain, (1970)	Net Brain Drain (2017)	Change Over Time
-3.5	7.4	+10.9%	4.17	8.6	+4.43%

Adapted from the Joint Economic Committee (2019) brief, “Losing Our Minds: Brain Drain across the United States”

Nevada’s brain drain is an interesting case to study. Over time, Nevada has experienced many changes in its brain drain. In the 1970s, Nevada had a gross brain drain of –3.5 percent, meaning that people still living in Nevada were more highly-educated than the members of their birth cohort who moved out, similar to California. In comparison to 2017, Nevada now has grown to a gross brain drain of 7.4 percent, meaning that 7.4 percent of those who left the state were more highly-educated than those who remained in the state. Nevada has had one the largest increases of gross brain drain over this period of time at 10.82 percent. Regarding net brain drain, in 1970 Nevada had a net brain drain of 4.17 percent meaning that those leaving the state are better educated than those who moved in. In 2017, Nevada’s score was relatively the same at 4.45 percent. This is because the state suffers from high rates of outmigration, resulting in a 8.6 percent gap of net brain drain for the year 2017.

Comparatively, Nevada is at the bottom of the list for gross brain drain amongst Hawaii, California, and Wyoming. Though this has positive implications, Nevada also ranks higher for

net brain drain, meaning the state doesn't gain as many highly-educated workers compared to who leaves. For states with high gross brain drain, they may still attract highly-educated individuals to offset the imbalance, resulting in low net brain drain. Nevada does not have this because Nevada's entrants are not as highly-educated as its leavers.

This is the case for many reasons. Nevada has never been in high demand for a highly-educated workforce given its reliance on construction, mining, and tourism that do not require a highly-educated workforce. This has started to change within the state as sectors such as business services, logistics, healthcare, and technology increase. In the past, the lack of these industries drove some of the state's best and brightest to go to college elsewhere and not return (SRI, 2021). Consequently, Nevada's higher education attainment has been negatively impacted and plays into the state's high rate of outmigration. Moreover, since the start of the COVID-19 crisis, the need for economic diversification has been highlighted through the world's shift towards more localized production (SRI, 2021). With this, Nevada will be in need of smart supplier networks and will have to prioritize investment in technology and develop a skill-intensive workforce (SRI, 2021).

While there is opportunity for Nevada to strengthen its human capital attainability by strengthening certain sectors in the workforce, this has been slow to occur. For instance, while the state provided substantial tax abatements to attract the Tesla battery plant in the north, many of the jobs available to Nevadans are construction and warehouse jobs as California serves as the project's hub for science and innovation. Though seen as an opportunity to create additional jobs, it rather highlights Nevada as a rent-seeking state. The project also resulted in increased demand for government services while simultaneously depriving state and local governments the tax revenue needed to provide these services (NELIS, 2021).

This isn't an isolated incident, Wisconsin was similarly situated when they agreed to provide billions of state and local tax incentives to Foxconn, a major electronics manufacturer (Bartik & Austin, 2019). The construction of a new manufacturing plant was intended to provide thousands of jobs to local residents, but rather the adverse happened, and the manufacturer never returned money back to the state and subsequently pushed their local government into debt because of it (Bartik & Austin, 2019). Nevada falls into the same problem of providing tax incentives for Tesla, and although some jobs were created they tended not to require high skills. So, even though Tesla making its way to Nevada alludes to a diversification of industry in the state, it only works to perpetuate its current status.

Though brain drain is a complicated problem with multiple variables that eb and flow as the state diversifies its economy, investing in higher education to attract and/or keep highly-educated individuals in the state is a good start. Nevada's two universities, the University of Nevada, Las Vegas (UNLV) and the University of Nevada, Reno (UNR), have both achieved Carnegie R1 status in the last three years. However, the universities are not the only higher education institutions in Nevada that can aid in this mission. The Nevada System of Higher Education (NSHE) consists of eight institutions. These include UNLV, UNR, the College of Southern Nevada (CSN), Nevada State College (NSC), Truckee Meadows Community Colleges (TMCC), Western Nevada College (WNC), Great Basin College (GBC), and the Desert Research Institute (DRI). For Fall 2019, 105,227 undergraduate students were enrolled in NSHE institutions (IPEDS, n.d.).

Though Nevada sees large numbers of local residents attending their higher education institutions, there is also a fair amount of out-of-state students in NSHE. Furthermore, there are Nevada hometown residents who leave the state to attend school out of state. To try and create an

opportunity for students who desire an out-of-state experience, programs have been created to help assist students in their endeavor. One of the largest west coast programs that assists students in their out-of-state admissions is the Western Undergraduate Exchange (WUE). WUE allows students to attend different universities outside of their resident state and receive in-state tuition at select universities in these states. The states that participate in WUE include Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming.

WUE is not the only program of its kind and is among other tuition saving agreements such as the Academic Common Market in the Southern region of the country, the New England Regional Student Program, and the Midwest Student Exchange. WUE has provided an opportunity for Nevada, as well as other western states, to increase a highly-educated population. Through this program, Nevada's institutions have seen record highs for student enrollment, though attainment of these individuals after graduation continues to be an obstacle.

Still, while WUE promotes better accessibility to schools outside of a student's home-state this still doesn't automatically assume that a student will be paying less to attend these institutions. WUE only acts to provide out-of-state students with an in-state tuition rate. It does not cover housing or provide grants to lessen the tuition and provide support to students. Subsequently, this type of program may only be an option for families that can afford these additional costs. Due to this, WUE may be utilized more by students from more affluent backgrounds and may do little to promote upward mobility. Richard Reeves, in his book, *Dream Hoarders* (2017), argues that the American upper-middle class monopolizes the top end of the higher education sector. Interestingly enough, education is often viewed as the "great equalizer" and the status of higher education credentials often passes on intergenerationally (Reeves, 2017,

p. 64). Almost half the children of educated parents end up in the same top education bracket themselves (Reeves, 2017, p. 64). Though this is the case, using education levels as a factor of human capital and using WUE as a measure of mobility for the state of Nevada can highlight opportunities for better policy implementation.

WUE Case Study

WUE is one of many programs that falls under a larger organization, the Western Interstate Commission for Higher Education (WICHE, n.d.). WICHE offers similar tuition break programs for graduate students, professional programs, and online courses. The information in this brief will be focusing on the impacts of undergraduates participating in WUE. WUE was founded in 1987 as a regional tuition savings agreement administered by WICHE (WICHE, n.d.). WUE allows students from one of 16 WICHE states and territories in the Western U.S. (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming) to enroll as nonresidents in 160+ participating public colleges and universities. These students pay 150 percent (or less) of the enrolling institution's resident tuition which annually saves students an average of \$9,000+ each on the nonresident tuition (WICHE, n.d.).

Though 160+ colleges and universities participate in these programs, that does not mean that all institutions in these states participate in WUE. For example, many schools in the University of California System do not take part in WUE due to capacity restraints as well as other institutions such as Arizona State University and the University of Colorado--Boulder (WICHE, n.d.). All of Nevada's institutions participate in WUE.

How Does the WUE Play Out For States?

California is the biggest contributor to the WUE population. California has a large population of 39 million residents, with 14 percent of this population, roughly 5 million residents, between 20 and 29 2 (Census Reporter, 2020). Additionally, California has 150 public higher education institutions to support their population (Ballotpedia, n.d.). As California works to keep up with their influx of inhabitants and demands for higher education, enrollment standards and tuition costs for its public institutions increase at or near capacity (Wong, 2015). As a consequence, qualified in-state students get turned away as six out of the nine UC schools had an average GPA of admitted students of 4.0 (Wong, 2015). Additionally, schools like Berkeley, UCLA, and UC San Diego have median scores of 2140, 2120, and 2070 on the 2400 SAT test, respectively (Wong, 2015). From 1996 to 2013, the gap between applicants to California public universities and admitted students has more than doubled (Wong, 2015). Furthermore, the in-state tuition rate of UC schools falls between \$13,000-\$14,500 a semester whereas many of the WUE schools offer tuition between \$6,000-\$18,000 (WICHE, n.d.).

California's relatively limited higher education capacity means that many students attend schools outside of the state. For these students, WUE provides a chance for them to go elsewhere in the region without having to pay out-of-state tuition and with easier entry standards than most of the UC campuses. So, California students seek relief through WUE for tuition breaks in other states. This also explains why California is unable to allow their University of California System to participate in WUE as they have such a high demand and not enough capacity and would rather fill their institutions with non-Californian admits paying full freight than the WUE students who would be paying less than an average out-of-state student (David Damore, personal communication, April 2021). Moreover, in the last twenty years

California's population increased by 2.3 million, but only two higher education institutions, UC Merced in 2005 and California State University Channel Islands in 2002, have been established in the same amount of time (Hans et al., 2021). Consequently, California is not building enough higher education capacity to serve its population benefits WUE.

Thus, there are two drivers of the WUE market. One, being California students, and the other being a more organic occurrence. For instance, if an individual lives in a smaller state that may not offer a broad portfolio of higher education opportunities they may utilize the WUE to pursue degrees that they could not obtain in their home states. This also means that the other WUE states have built more capacity than their home-state markets need. This makes schools with more capacity than can be supported by in-state students beneficiaries of WUE exchanges. Indeed, without the WUE, these schools would be unable to generate the tuition needed to support and sustain their infrastructure.

Not only does Nevada share a border with California, making it an attractive destination for California, one of Nevada's universities, UNR, has excess capacity and as a consequence, heavily recruits these students UNR is a campus with a population of 20,000+ students on a 290 acre campus (UNR, n.d.). This makes UNR the perfect place for WUE students to flock to, as UNR is in need of students to fill its campus.

UNR calls this "controlled growth" that helps to promote the school while not losing profit. According to an article published by the *Reno Gazette Journal* titled, "UNR grows out-of-state student population," UNR believes that promoting a population of out-of-state students creates well-rounded graduates and content that out-of-state students perform better academically and can fill Nevada's gaps in the workforce. However, out-of-state students who receive discounted tuition tend to cost the university more to educate than they pay (McAndrews,

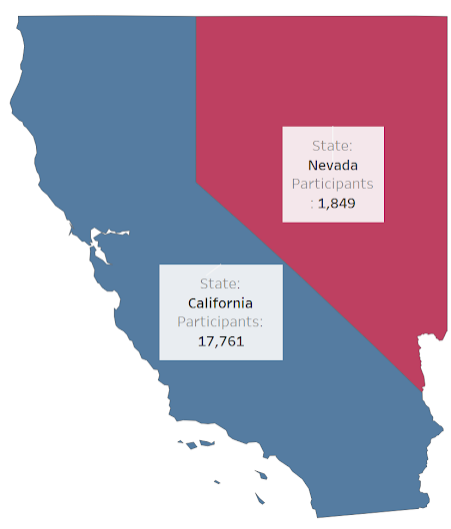
2015). Moreover, many WUE students who attend UNR leave Nevada after they graduate (McAndrews, 2015).

As a result of California students utilizing WUE to attend UNR, the university has reached record student enrollment rates, at one point reaching nearly 21,000 students with 17 percent of the population being out-of-state freshman (McAndrews, 2015). UNR's non-resident undergraduate enrollment rate has more than doubled in the last ten years (McAndrews, 2015). At the same time, the pandemic has highlighted the risk of UNR's heavy reliance on WUE and out-of-state students. In just this last year, UNR's enrollment dropped 6 percent whereas UNLV's stayed the same (Wootton-Greener, 2020).

Nevada's other flagship university, UNLV, does not benefit the same way UNR does from the WUE agreement. Unlike UNR, UNLV has more than 28,000+ students on a 350 acre campus which is split among three different locations around the city . The main UNLV campus in the heart of Las Vegas is only 330 acres to supply the population. As a result, UNLV is not a net gainer from WUE because it simply does not have the capacity to take in California students the way that UNR is able to.

Below is a sequence of figures that identify California and Nevada's WUE exchanges. Specifically, the figures summarize the number of local students who utilize WUE, how many students that the states receive from WUE, and how many students the two states exchange with each other.

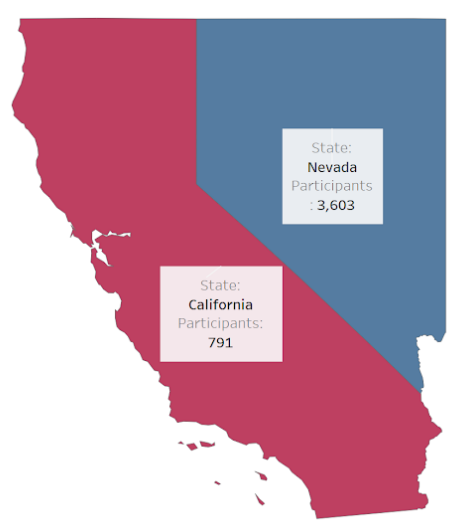
Figure 3: Number of Participating WUE Students by State, 2020



Adapted from the WICHE (2020), “Fact Sheet: California and WICHE” & “Fact Sheet: Nevada and WICHE”

In this figure, it is observed how many students both states gave to the WUE in 2020. California sent out 17,761 students in total across participating WUE universities whereas Nevada sent out 1,849.

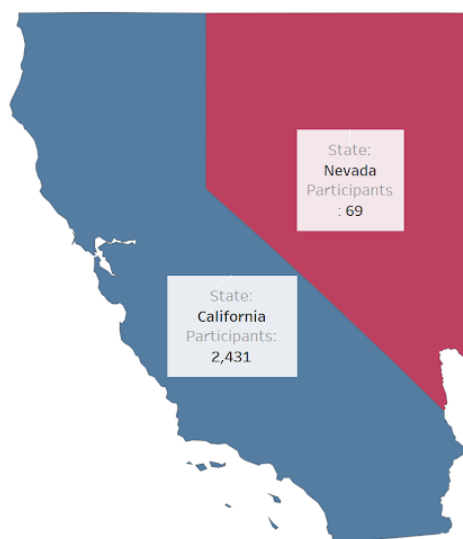
Figure 4: Received WUE Students, 2020



Adapted from the WICHE (2020), “Fact Sheet: California and WICHE” & “Fact Sheet: Nevada and WICHE”

In this figure, it is observed how many students both states received for the year 2020. Nevada received 3,603 students whereas California received 791.

Figure 5: Exchange of WUE Students Between States, 2020



Adapted from the WICHE (2020), “Fact Sheet: California and WICHE” & “Fact Sheet: Nevada and WICHE”

In this figure, the transaction between California and Nevada is observed. Out of the 17,761 students California gives to WUE, 2,431 of these residents attended Nevada schools. Out of Nevada’s 1,849 participating residents, 69 of these students attended a participating California school. Nevada is the second most selected school by California students through WUE under Arizona who received 4,062 California residents for 2020. It is important to note that all of these figures have been affected by the pandemic through the decrease of college enrollment for the 2020 year (Whitford, 2021).

This should heavily affect Nevada’s net brain drain, as this program is bringing in 3,603 individuals for education that can later contribute to a highly-skilled workforce for Nevada. Unfortunately, these educated students do not stay in Nevada. Rather, they return right back to

the state they came from, especially California. The utilization of WUE as it currently operates perpetuates net brain drain for the state of Nevada. Pouring state resources into programs that do not support the long-term condition of Nevada, WUE does little to benefit or increase brain gain.

According to a *Wall Street Journal* dataset that tracks university alumni after graduation, <1% of UNR alumni stay in the city of Reno, Nevada (Dougherty et al., 2018). Most of these alumni end up in Sacramento, San Francisco, Los Angeles, and San Diego. Less than 10% stay in the state of Nevada, more specifically in Las Vegas (Dougherty et al., 2018). Utilizing the same dataset but focusing on UNLV alumni, it is observed that more than 50% of UNLV's alumni stay in the city of Las Vegas (Dougherty et al., 2018). The other destinations of these alumni are lower than 5% or 10% of graduates going to Los Angeles (Dougherty et al., 2018). Though this data covers the overall university population and not just WUE students, it is still shown that UNR alumni more often leave the state of Nevada after they graduate. Participating in WUE to only support university alumni that do not contribute to the state after they graduate is an unwise decision for Nevada. Moreover, participating in a program that does not support the university that contributes the most alumni to its workforce is a major misallocation of resources and support.

The high levels of net brain drain could be offset by Nevada resident's utilization of WUE. Like California, if Nevada students utilized the program and graduated with bachelor's degrees so they could come and contribute to Nevada's workforce, it wouldn't be as detrimental. Once again, this is not the case for Nevada. Compared to the 3,000 students who are coming to Nevada on WUE, nearly half that amount of Nevada residents leaves to utilize the same out-of-state benefits through WUE. In 2020, 1,849 Nevadans left the state to utilize the WUE, which is a gravely missed opportunity for growth. Though, this does make sense. UNLV works

to admit many of its in-state residents, being one of the only universities in the nation to have an increasing in-state resident rate and a declining out-of-state rate (Klein-Shiro, forthcoming).

UNR is the opposite of this, with a growing out-of-state population compared to a smaller in-state population (Klein-Shiro, forthcoming). Moreover, half of UNR's students are from families in the top 20 percent of the national income distribution with very few from the bottom 20 percent (Reeves, 2018). UNLV, on the other hand, takes many more students in the middle 60 percent and actually takes the most middle income students in the Mountain West region.

States participating in WUE do not receive any special grant to support the out-of-state WUE students, instead the incentive is for universities to receive additional tuition that they wouldn't otherwise have. Other helpful implications include an opportunity to receive higher educated individuals to contribute to their workforce and support the economy if they choose to stay near their alma mater. All very helpful if students who utilized the program to attend Nevada universities stayed in the state and contributed to the workforce. Unfortunately, this isn't the case. WUE is a game of capacity and, as it relates to Nevada, only serves to support UNR for the four years of a single student's undergraduate career.

The other six NSHE institutions do not receive nearly the number of students that UNR does. Nevada is using resources and tax money to fund the education of out-of-state students and then losing them as soon as they graduate. The investment of human capital doesn't come back to the state the way officials would like. Instead, it funds UNR monetarily and clout-wise temporarily. It's no wonder that UNR officials support WUE's program as it is a way to receive academic achievement students and extra money that they wouldn't otherwise have. But, for the state of Nevada and the rest of the higher education institutions, there isn't nearly as much gain.

Policy Recommendations

Long-Term

There are many solutions that can help Nevada develop its human capital. Tak. Currently, the state of Nevada offers two scholarships for their residents attending in-state institutions. The two scholarships are the “Millennium Scholarship” (a merit-based award) and the “Promise Scholarship” (a need-based award). The Millennium Scholarship does not pay all a student’s full-time tuition. The value of the award is \$80 per credit hour for a 12-15 credit course load (Nevada State Treasurer, n.d.). At the end of an undergraduate career, the scholarship will pay for \$10,000 of a student’s education. The Promise Scholarship can offer coverage of up to three years' worth of tuition. However, the process of applying for the Promise Scholarship is much more tedious than the Millennium, as applicants are required to complete the FAFSA, attend a mandatory training session, log community service hours, and complete a placement exam (NSHE, 2019). According to the Nevada Department of Education, the state puts \$11.4 million into these scholarships for in-state residents (NDOE, 2019).

The inclusion of better postgraduate study incentives would help keep graduates here and further educate themselves. For instance, the UNLV School of Medicine has worked to prioritize students who have admitted in-state students for their undergraduate career or have grown up in the state. Having more opportunities such as these at UNLV and UNR graduate programs may incentive students to continue their education within Nevada. Not only postgraduate study incentives, but workforce opportunities. Internships in related fields of study for students to take advantage of can help tie a graduate to the state. This would prove especially advantageous for California students utilizing WUE, as they’d be able to live in a more affordable state than California and bring diversification and highly-skilled labor to the workforce.

As it currently stands, the Clark County School District (CCSD), the largest school district in the state of Nevada and within the nation's five largest, does little for college preparation in their K-12 curriculum. CCSD doesn't require financial literacy and instead offers it up as an elective credit (CCSD, 2012). The different college preparation courses that are offered vary from school to school in the district and are only used as elective credits rather than required curriculum pillars. This leaves students lost after high school graduation, especially those who do not come from a background of college-educated family members. The lack of programming of this type hurts students' college prospects. The adoption of a required college readiness course senior year could benefit many students and encourage college attainment that would later benefit Nevada's workforce.

Short-Term

Though there are many long-term solutions that can be implemented to assist the state of Nevada in human capital attainment, there are also short-term solutions that can help while these changes are being made. One very important short-term recommendation would be to increase the amount of data collection and transparency among Nevada institutions and WICHE's programs. As it currently stands, raw data regarding WUE student demographics (such as race, income, etc.) are not readily available through the WICHE website. To retrieve this data, one must go through the process of personally requesting via email, though the data does nothing to disclose personal information on students, thus not creating a liability. Additionally, data collection and transparency with higher education institutions that participate in WUE would be a helpful tool in recording outcomes of the program. These innovations would be a simple but effective feat that could easily be implemented during the COVID-19 crisis. Much of this information is already being reported by institutions, it is merely presenting this data and making

it accessible for those who wish to access it. It may require some additional administrative oversight, but there would be no need for additional hires to ensure this change. Data collection is a solution that can create space for better policy that can do more for the state and its residents.

Another short-term solution would be the adoption of AB 450 which is a bill which directs the governor to appoint a committee that oversees workforce training and programs offered by community colleges in the state. The passing of this bill would create opportunities for conversations regarding workforce diversification and human capital attainability through higher education.

Conclusion

Nevada has the opportunity to diversify its workforce to better retain highly-skilled labor and promote sustainable human capital. The analysis in this brief explains much of Nevada's current relationship with its economy and highlights its heavy reliance on physical labor. Opportunities to transcend this can be presented through higher education attainability and reevaluating the current structures and programs in place. Better means of human capital not only improves the quality of life for families in the state, but also creates a more dynamic workforce that will be able to adapt to economic changes.

For example, since the start of the COVID-19 crisis, Nevada had the most unemployment claims filed in the Mountain West region (Gilbertson et al., 2020). This may be directly related to how many of Nevada's employees could not easily adapt their jobs into a virtual setting. Hospitality based industries alongside others such as mining and construction cannot be done virtually and put many of the state's workforce on unemployment in the midst of the pandemic. Additionally, much of the world is making these moves to more localized production of skill and

goods (SRI, 2021). Nevada prioritizing human capital and mobility through means of policy will help to secure long-term growth for the state.

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