

The Economic Impact of the University of Oregon

FY2009-10

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Introduction

This report was prepared by Timothy Duy, a Ph.D. economist in the economics department at the University of Oregon and Director of the Oregon Economic Forum. The basic methodology follows that of a 2002 study performed by Larry Singell, Ph.D. economist and currently Associate Dean of the College of Arts and Sciences at the University of Oregon. The purpose of this report is to estimate the economic impact of the University of Oregon on the state of Oregon. Moreover, the analysis produces estimates of some of the fiscal benefits that the state derives from the University of Oregon. Note, however, due to a lack of appropriate data, the report likely underestimates the total fiscal impact of the UO. For example, the estimates of visitor impact is clearly underestimated as we lack information on out of state visits to the UO for a wide array of cultural and athletic events spanning from football to the Oregon Bach Festival to the Olympic Trials. Still, the report captures the University of Oregon's most significant direct and indirect impacts on the Oregon economy.

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Summary of Key Findings

The University of Oregon is a key driver of the Oregon economy. Direct spending by the UO, students, and visitors, accounted for over \$1 billion in FY2009-10. The total impact of this spending was nearly \$2 billion.

The University of Oregon creates and supports thousands of jobs, supporting households throughout the state. Using conservative estimates, the UO directly and indirectly supports 13,247 jobs in Oregon, with associated household earnings of \$658 million.

The University of Oregon effectively leverages state support via external funding sources. State appropriations account for just 7.8 percent of UO revenue. To adequately fulfill its mission, the UO compensates for low state support by relying on nonresident students, federal aid for tuition, and federal research funding. As a consequence of this external support, the UO generates \$33.64 of economic activity for each dollar of state appropriation.

The net cost to the state of supporting the University of Oregon is well below the state appropriation. Household earnings supported by the University of Oregon generated an estimated \$35.5 million of state income tax in FY2009-10. This offsets 61 percent of the \$58.5 million state appropriation.

Research activities provide clear support for the Oregon economy. Research related

activity generated \$125.4 million, or 16.7 percent, of UO total revenue in FY2009-2010. The vast majority of research awards, 92 percent, come from outside the state. For each dollar of state appropriations, UO researchers were awarded \$2.14 of external funding. The ultimate impact of research extends far beyond that of the initial revenue and spending. Research yields innovations that create jobs and support a higher quality of life for all Oregonians.

The total economic impact of the University of Oregon is likely underestimated. The report uses conservative estimates of direct spending, for example estimates of visitor activity supported by the presence of the UO are underestimated. Moreover, the impact of firms supported by UO research is not included (this could be a topic for future research). Finally, the UO performs a wide array of community services, such as job matching, internship programs, and cultural events that contribute to the state's economy but are beyond the scope of this report.

University Of Oregon Revenue

Table 1 reports the sources of University of Oregon revenue for FY2009-10. Note that state appropriations account for just 7.8% of overall revenues. Note further that much of the remaining 92.2% of revenues is derived from out-of-state sources. The ability of the UO to compensate for the low level of state support contributes greatly to the state's economy.

Tuition and fees are the primary source of UO revenue. Here the importance of nonresident students comes into play. Table 2 reports the most recent breakdown of students by residency status. In the fall term 2010, 41% of the UO's 23,389 students were nonresidents. 37.2% of the 19,543 undergraduates were nonresidents.

Table 1. University of Oregon Revenue by Source, FY2009-10

Source	
Tuition and Fees	\$243,053,802
Other Revenues	\$174,075,818
Gifts, Grants, and Contracts	\$125,395,261
Auxiliary Enterprises	\$114,369,890
State Appropriations	\$58,472,171
Sales and Other Revenue	\$29,361,648
Federal Stimulus	\$6,447,260
Other Governmental	\$1,874,192
Total	\$753,050,041

Table 2: Geographic Distribution of UO Students, Fall 2010

	Number of students	Percent of total
Resident Graduate	1,487	6.4%
Resident Undergraduate	12,270	52.5%
Nonresident Graduate	2,368	10.1%
Nonresident Undergraduate	7,264	31.1%
Total	23,389	100.0%

International Students: 3,339 Undergraduate and 401 Graduate.

The ability of the UO to attract nonresident students provides critical support for the UO in the light of declining state appropriations. Nonresident undergraduate tuition and fees for FY2010-11 are \$25,830, compared to \$8,190 for resident students. Moreover, the spending by nonresident students on tuition, housing, food, and other expense represents new dollars flowing into the Oregon economy, economic activity that would not take place in Oregon otherwise. The importance of student spending is detailed further below.

Moreover, a significant proportion of student spending is supported by out-of-state sources of financial aid. In FY2009-10, the UO distributed \$207 million of

financial aid. Of that aid \$65.5 million came from subsidized federal sources, \$21.2 million of which was grants, the most generous form of federal aid as it does not have to be repaid. The other \$44.5 million was subsidized loans for which the federal government bears a portion of the interest cost. In comparison, state aid program accounted for just \$7 million of student support.

Table 3. Financial Aid at UO FY2009-10

Federal Aid Programs	
Federal Grants	\$21,234,620
College Work-Study	\$1,721,954
Subsidized Loans	\$44,455,781
Unsubsidized Direct Stafford Loans	\$46,625,998
Parent/Grad Plus Loans	\$45,668,808
State Aid Programs	
State Need Grants	\$5,252,872
State Scholarship Programs	\$1,771,718
Scholarship Programs	
UO Scholarships - Merit-Based Only	\$12,227,605
UO Scholarships - Need-Based Only	\$3,602,072
UO Scholarships - Mixed Need-Based/Merit-Based	\$1,887,281
General University Scholarships	\$819,862
Diversity-Building Scholarships	\$1,505,717
Other Scholarships	\$1,076,033
Foundations and Non-UO Scholarships	\$18,897,979
Total All Programs	\$206,748,300

In addition to federal and state aid programs, the UO also contributes heavily to student scholarships. In an effort to contain the cost of high education, the UO contributed \$21.1 million to a variety of scholarship programs. Moreover, foundations and non-UO scholarship programs contributed another \$18.9 million in student aid, for a total of \$40 million. In sum, these numbers show the

UO as an institution committed to financing educational opportunities for Oregonians.

Another important source of external funding is via research (gifts, grants and contracts). Revenue for research is described in detail below.

University of Oregon Expenditures

Table 4 shows UO spending, excluding construction. UO direct spending totaled to \$645 million in FY2009-10. Instruction, research, and public service account for \$295 million, or 45.8%, of UO spending. While much of the funding for the UO comes from out-of-state, the majority of spending is in-state. This applies to not just salaries and benefits, which accounted for \$402 million, but also for spending on materials and supplies, including construction. These accounted for \$327 million of spending, of which \$230 million was transferred to Oregon suppliers. Moreover, the UO is a significant supporter of small businesses. As illustrated in table 5, 89.2% of UO vendors were small business vendors.

Table 4. FY2009-2010 Direct Expenditures Excluding Construction

Category	Expenditure
Instruction	\$183,120,637
Auxiliary Programs	\$141,990,893
Research	\$78,679,407
Institutional Support	\$54,216,755
Other Operating Expenses	\$46,014,962
Academic Support	\$38,390,106
Public Service	\$33,502,279
Operations and Maintenance	\$26,297,629
Student Services	\$25,483,584
Student Aid	\$17,121,748
Total Direct Expenditure	\$644,818,001

Table 5. University of Oregon Vendors

	Number	Amount
Small Business Vendors (under \$25,000 in volume)	6,051	
Total Oregon vendors:		\$230,309,651
Total Vendors all states:	6,784	\$327,127,489

Table 6. University of Oregon Employment by Category

Category	Full Time Headcount	Headcount	FTE
University Administrators	30	38	34
Faculty	1,173	1,786	1,452
Other Professional	955	1,145	1,061
Clerical/secretarial	544	671	621
Technical/Paraprofessional	198	286	252
Skilled Craft	138	141	140
Service and Maintenance	321	392	357
Graduate Students	na	1,340	550
Student Employees	na	2,922	na
Total	3,359	8,721	4,467

The UO is also one of the largest and most stable employers in the state. Table 6 presents UO employment by category in FY2009-10. Notice that the UO employs a wide variety of workers. A third of the full time equivalent headcount is faculty and administrators. Other professionals – generally above average wage jobs – account for 24 percent of employment. A significant portion, 31 percent, is an array of positions including clerical, technical, skilled, or maintenance positions – all of which serve a vital role in the functioning of the University of Oregon. Finally, the UO employed 1,340 (FTE of 550) graduate students and 2,922 (no FTE available) undergraduate students.

The UO employees more Oregonians than any firm on the Oregon Business Magazine list of Top 150 private companies in the state. According to Greenlight Greater Portland (using 2006 numbers), UO employment stands close to that of Nike

(5,000 employees), Esco Corp. (4,000), and US Bank (4,921). Also note the demand for education tends to be countercyclical – it moves opposite to the overall business cycle. When general economy activity is flagging and unemployment is rising, people often return to school or delay enter into the workforce to gain new skills. Consequently, the UO is a stable employer, which serves as an economic counterweight during recessions, particularly at the local level.

Economic Footprint of the University of Oregon

The Multiplier Effect

The total economic impact of University of Oregon spending is considerably greater than the direct spending. Direct spending is magnified throughout the economy via what economists call multiplier effects. These effects arise because one firm’s spending is another firm’s income. For example, when the university spends money for new construction, firms in the region who are awarded contracts to perform the work will find it necessary to hire labor and purchase supplies and equipment. Increasing wages subsequently supports consumer spending throughout the region, creating additional demand for goods and services. Likewise, suppliers and subcontractors will realize rising demand for their services, and boost spending accordingly.

As a consequence of this chain of events, aggregate spending, earnings, and jobs all expand beyond the University’s initial expenditure. The spending that results from the University’s original direct expenditure is known as the indirect expenditure. The sum of the direct and indirect expenditure is the total

expenditure, or total impact, of University of Oregon spending.

When conducting economic impact studies, researchers are faced with choosing appropriate multipliers. Multipliers at the local level may understate the economic impact to the state as a whole as some of the purchases will likely “leak” out of the county and into surrounding regions. For example, some University suppliers are located outside of Lane County. Moreover, the University’s spending included expenditures for the White Stag building in Portland, the Oregon Institute of Marine Biology in Charleston, and the Pine Mountain Observatory in Central Oregon. Similarly, multipliers at the state level may overestimate the total impact as some purchases leak out of the state. Also, it is best to choose multipliers that match the actual sector in which the spending occurs, as best as the available data will allow.

The multipliers in this study come from the Regional Input-Output Modeling System (RIMS II) developed by the US Bureau of Economic Analysis. The RIMS II multipliers are commonly used in economic impact studies, and are available at local and state levels of aggregation. To estimate the total impact of the University of Oregon, we focus on UO expenditures, using the convention that these expenditures reflect the final demand for the University’s product. The RIMS II multipliers for the relevant sector – junior colleges, colleges, universities, and professional schools – are reported in Table 7.

Table 7. Final Demand Multipliers for Junior Colleges, Colleges, Universities, and Professional Schools

	Output	Earnings	Jobs
Statewide	2.1381	0.7309	29.0234
Lane County	1.8181	0.6679	27.5989
Average	1.9781	0.6994	28.3112

The multipliers presented in table 7 represent the final demand impact to output, earnings, and jobs (per \$1 million of initial spending). For the purpose of this study, we use the average of the state and local multipliers. Note that the multiplier for jobs of nearly 30 jobs for each \$1 million of spending may overestimate the impact on total jobs. This is likely due to the composition of this sector, which includes institutions that have lower labor costs, such as community colleges, than research institutions such as the University of Oregon and Oregon State University. However, alternative estimates are available. The RIMS II multipliers also include estimates of direct effect multipliers, through which we can estimate the total impacts of UO spending on household earnings and jobs if such data exists. Thus, we can construct alternative estimates of the economic impact of the UO not just from aggregate spending, but also on the basis of payroll and employees. Note, however, that we lack data on the “full time equivalent” of student employees, and thus we may underestimate the complete jobs impact. The direct effect multipliers are reported in Table 8.

Table 8. Direct Effect Multipliers for Junior Colleges, Colleges, Universities, and Professional Schools

	Earnings	Jobs
Statewide	1.6759	1.4448
Lane County	1.5046	1.3499
Average	1.5903	1.3974

I analyze construction spending separately. The data to isolate construction spending is readily available, and such spending has lower multipliers than overall university spending. In other words, including construction spending as UO expenditure would overstate the overall economic impact. Also, note that the total economic impact of the UO extends beyond that of its direct spending. It also includes off-campus student expenditures. Similar to

construction, such spending has lower multipliers. The multipliers for construction and student spending are for Lane County alone, as it assumes that the vast majority of such spending occurs locally. This may tend to underestimate the total impact of such spending.

Direct UO Spending and its Impact

Table 4 reported the direct expenditures of the University of Oregon for Fiscal Year 2009-10. University of Oregon direct expenditures totaled \$645 million in FY2009-10. The estimated total impact of this spending is reported in Table 9. The total impact of UO spending is estimated to have contributed \$1.28 billion to the Oregon economy in FY 2009-10, raising household earnings in the state by \$451 million and creating as many as 18,256 jobs.

The last number, however, appears suspect, as noted earlier. The total demand multiplier for jobs is well above that of other sectors, such as construction, which has a multiplier of just 16.6 jobs per million of spending, a little over half the RIMS II estimates for the sector that includes universities. Additional estimates of the total impact on household earnings and jobs, derived from UO data on payrolls and employees and the direct effect multipliers in Table 8, are presented in

Table 10.

As expected, the total impact on jobs is greatly reduced, falling to a more realistic 6,242 jobs. If the UO’s 2,922 student employees are included (recall there is not FTE comparisons for this category), the total impact on jobs would rise another 4,083 for a total of 10,325. Interestingly, note that the estimated total impact of the direct spending on payrolls is \$446 million, almost the same as that derived from the final demand multipliers in table 9. The consistency of this estimate across methodologies lends further support to the observation that the final demand multiplier on jobs was an inflated estimate. For the purpose of this report, I use the lower estimate of total job impact (6,242), recognizing that this is a lower bound estimate. The estimate of 18,256 can be considered an upper bound estimate.

Construction Spending and its Impact

The University of Oregon is growing, creating a demand for new buildings ranging from academic space to research facilities to student space to athletic facilities. Projects under construction or recently completed include the Living Learning Center, the Lorey I. Lokey Laboratories, the Integrated Sciences Building, and the Mathew Knight Arena. The financing on these projects comes from

Table 9: Economic Impact of University of Oregon Direct Spending

	Direct Expenditures	Multipliers			Total Impacts		
		Output ^a	Earnings ^b	Jobs ^c	Output	Earnings	Jobs
UO Direct Spending	\$644,818,001	1.9781	0.6994	28.3112	\$1,275,514,488	\$450,985,710	18,256

^a Each entry in this column represents the total dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

^b Each entry in this column represents the total dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

^c Each entry in this column 3 represents the total change in number of jobs that occurs in all industries for each additional 1 million dollars of output delivered to final demand by the industry corresponding to the entry. Because the original RIMS employment multipliers are based on 2007 data, these multipliers are converted to 2009-2010 dollars to match the timing of this study.

Table 10: Economic Impact of University of Oregon Spending, Direct Effect on Earnings and Jobs

	Earnings ^a	Jobs	Multipliers		Total Impacts	
			Earnings ^b	Jobs ^c	Earnings	Jobs
UO Payroll	\$280,494,854		1.5903		\$446,056,941	
UO Employment, FTE		4,467		1.3974		6,242

^a The RIMS definition of earnings that best matches the UO is wages and salaries plus employer cost of healthcare benefits minus employee contributions for social insurance.

^b Each entry in this column represents the total dollar change in earnings employed by all households for each additional dollar of earnings paid directly to households employed by the selected industry.

^c Each entry in this column represents the total change in the number of jobs in within the region for each additional job in the selected industry.

Table 11. Economic Impact of University of Oregon Construction Spending

	Direct Expenditures	Multipliers			Total Impacts		
		Output ^a	Earnings ^b	Jobs ^c	Output	Earnings	Jobs
Construction	\$176,935,393	1.8362	0.6048	16.5692	\$324,888,769	\$107,010,526	2,932

^{a,b,c} See table 9.

a variety of sources, they are largely self-financed or the result of gifts. Contributions from the state come from two sources. One is the ability to use state bonding capacity to issue debt at low interest rates, with the UO responsible for repaying the principle and interest. Also, for the some projects the state issues and repays the supporting debt, such as \$30 million of the cost of Integrated Sciences Building. Relative to UO expenditures, however, the annual cost to the state of this support is small, amounting to \$6.4 million in FY2009-10. The vast majority of construction projects are financed and paid via the UO or private donors.

The Mathew Knight Arena contributed heavily to a significant rise in construction spending in FY2009-10 to \$177 million, up from \$118 million the previous fiscal year. The estimate total impacts of this spending are reported in Table 11. Ultimately, UO construction spending contributed \$325 million to the state economy, \$107 million in household earnings, and 2,932 jobs.

Note the economic importance of this surge in spending. The recent recession has heavily impacted the construction industries, with state wide job losses of 41.1 thousand employees between March 2007 and November 2010 in this sector. Construction at the University of Oregon created a significant positive offset for these losses, particularly in the local region. In the absence of UO construction spending, the local impacts of the recession would have been much more severe.

Student Spending and its Impact

Student spending is a significant driver of local economic activity. 22,386 students attend the University of Oregon, of which 17,873, or 80 percent, live off campus. Spending for living expenses is separate from tuition. The Office of Admissions creates estimates of student expenditures, reported in Table 12.

To construct estimates of direct spending by students, we first must separate on- and off –campus students. The spending on

room and board of the former group is already captured with the direct spending by the University of Oregon. The additional expense for books (the University of Oregon Bookstore is financially separate from the UO) and personal expenses are assumed to occur off campus. Likewise, all of the spending of off-campus students is assumed to occur off campus. Note that this may slightly overestimate off campus spending, as some personal spending will occur on campus (coffee shops, for example) and thus already be captured in the UO's direct

expenditures. But spending is also underestimated as it does not account for the spending of students who remain in Eugene for the summer – the Office of Admission estimates are based on the nine month academic year.

Table 13 presents estimates of direct spending by the University of Oregon students and the subsequent total impact. I estimate that students contribute \$232 million directly to the local economy, which results in a total impact of \$357 million. As a result of student spending, household earnings increase by \$96.6 million while supporting a total of 3,917 jobs.

Table 12. Off Campus Student Spending

<u>Student Categories</u>		
Total Headcount		<u>22,386</u>
Students living in dorms		3,725
Students in family housing & UO apartments		423
Students living at home		365
Students living off campus		17,873
	Per Student	Total
<u>On Campus Student Spending</u>		
Books & Supplies	\$1,050	\$4,355,400
Miscellaneous	<u>\$2,412</u>	<u>\$10,004,976</u>
		\$14,360,376
<u>Off Campus Student Spending</u>		
Housing	\$4,320	\$77,212,397
Food	\$3,195	\$57,105,002
Utilities	\$1,125	\$20,107,395
Books & Supplies	\$1,050	\$18,766,902
Miscellaneous	<u>\$2,412</u>	<u>\$43,110,255</u>
		\$216,301,950
<u>At-Home Student Spending</u>		
Books & Supplies	\$1,050	\$382,998
Miscellaneous	<u>\$2,412</u>	<u>\$879,801</u>
		<u>\$1,262,799</u>
Total Student Spending		<u>\$231,925,125.60</u>

Visitor Spending and its Impact

The University of Oregon is a significant tourist destination. Visitors come from across the globe to tour the campus, visit students, attend athletic events, and enjoy the Oregon Bach Festival. Furthermore, events such as the 2008 Olympic Trials would not have a venue in Oregon without the presence of the University. To be sure, the University of Oregon has a major impact on Oregon tourism.

That said, data on the number of visitors is lacking and should be considered a topic of future research. However, we can construct some illustrations that suggest the minimum impact of visitor spending. Consider a subset of the University of Oregon community – nonresident students. The University of Oregon has 9,632 nonresidents students. Suppose each nonresident resident student is visited by their parents just once a year. Further suppose a weekend visit of just two days. Overall, then, parents of nonresident students contribute 38,528 visitor days to Oregon tourism.

The Lane County Visitor Association estimates that each visitor (who travels

more than 50 miles) spends \$166 dollars per day – or \$166 per visitor day. That implies direct spending by visitors of \$6.4 million per year. This is almost surely a gross underestimate of visitor spending.

jobs. This is an illustrative example meant to serve as a lower bound of the actual impact. The impact of visitor spending surely exceeds that of this subset.

Table 13. Economic Impact of Student Expenditures Off Campus

	Direct Expenditures	Multipliers			Total Impacts		
		Output ^a	Earnings ^b	Jobs ^c	Output	Earnings	Jobs
Rent	\$77,212,397	1.3584	0.2375	11.0590	\$104,885,320	\$18,337,944	854
Food ^d	\$57,105,002	1.6846	0.5294	23.6776	\$96,196,231	\$30,228,533	1,352
Utilities	\$20,107,395	1.4214	0.3432	6.0417	\$28,580,651	\$6,900,858	121
Other ^e	\$77,500,332	1.6416	0.5304	20.5093	\$127,224,545	\$41,106,176	1,589
Total	\$231,925,126				\$356,886,747	\$96,573,511	3,917

^{a,b,c} See table 9.

^d The multipliers for “Food” are an average of the multipliers for Retail Trade and Food Service and Drinking Places.

^e The multipliers for “Other” are the multipliers for Retail Trade.

To compute the total impact of this direct spending, we need to construct estimates of the appropriate multipliers. The Lane County Visitors Association considers their estimates of visitor spending to be averages of spending on food services, accommodation, and amusements. I construct multipliers for visitor spending using averages of the RIMS multipliers for these three sectors.

Table 14 presents estimate of the impact of the direct spending of visitor spending. Visitors contribute \$6.4 million directly to the local economy, spending that multiplies to a total impact of \$10.8 million. As a result of visitor spending, household earnings increase by \$3.6 million while supporting a total of 157

Total UO Economic Footprint

Table 15 presents a summary of the total economic footprint of the University of Oregon. Over \$1 billion of direct spending in the Oregon economy – a conservative estimate – can be attributed to the UO. The total impact of this spending is \$1.97 billion. Consider that according to the Bureau of Economic Analysis, Oregon’s state domestic product totaled \$166 billion in 2009. This means that the University was tied to \$1 out of every \$84 of the state’s economy. Further consider that the UO’s state appropriation was \$58.5 million in FY2009-10. Thus for every \$1 of state appropriation, the UO contributes \$33.64 to the state economy.

Table 14: Economic Impact of University of Visitor Spending

	Direct Expenditures	Multipliers			Total Impacts		
		Output ^a	Earnings ^b	Jobs ^c	Output	Earnings	Jobs
Visitor	\$6,395,648	1.6920	0.5239	24.4925	\$10,821,436	\$3,350,893	157

^{a,b,c} See table 9.

^d The multipliers for visitor spending is an average of the multipliers for hotels, food services, and other amusements.

In addition, \$658 million of household earnings and 13,256 jobs in the state of Oregon can be attributed to the UO. Note that these are conservative estimates. The true impact of the UO on the state economy is likely to be even greater than the substantial impact these numbers imply.

Fiscal Impact on the state of Oregon

The purpose of a public entity such as the University of Oregon is to encourage the creation of public goods, in this case the formation of human capital, an activity that provides far ranging benefits to a region’s economy. As such, it should not be expected that public entities “turn a profit” for the supporting government agency. That said, one can construct an estimate of the fiscal impact to the state attributable to the University of Oregon that illustrates that the cost of state support to the university is largely offset by the revenue the state receives that is derived from the economic activity supported by the UO.

Using the estimates household earnings presented in Table 15, we can derive an estimate of the corresponding state income tax. At issue, though, is the appropriate estimate of the average tax rate. An exact calculation of the income taxes collected is impossible without detailed knowledge of the incomes of all the persons who benefit from the economic impact of the UO.

Oregon’s marginal income tax quickly rises to 9% on income above \$7,650, with higher marginal rates beginning at the \$125,000 level. Using the 9% marginal rate is clearly too generous considering deductions and exemptions from taxable income. A recent study by ECONorthwest, a regional consulting firm, estimates the impact of a \$23.4 billion increase in Portland area incomes would contribute an additional \$1.3 billion in state income taxes, an average rate of 5.6%. Using a slightly smaller 5.4% estimate (thus continuing the methodology of this report to use conservative estimates), economic activity generated by the University of Oregon supported \$35.5 million of state income tax in FY2009-10.

Again, this is likely a conservative estimate. For example, this estimate does not include the property taxes associated with the commercial and residential properties supported by the economic activity generated by the UO. Note also that taxes withheld for University of Oregon employees alone amounted to \$16.2 million, or almost half of the estimated total increase in income taxes collected.

For comparison, the state appropriation to the University of Oregon was \$58.5 million in FY2009-10. Using the estimates above,

Table 15. Estimated Total Economic Impact of the University of Oregon FY2009-10

	Direct Expenditures	Total Impact		
		Output	Earnings	Jobs
UO Direct Spending	\$644,818,001	\$1,275,514,488	\$450,985,710	6,242
Off Campus Student Spending	\$231,925,126	\$356,886,747	\$96,573,511	3,917
Construction	\$176,935,393	\$324,888,769	\$107,010,526	2,932
Visitor	\$6,395,648	\$10,821,436	\$3,350,893	157
Total	\$1,060,074,168	\$1,968,111,440	\$657,920,640	13,247
Estimated State Income Tax (5.4% of Earnings)			\$35,527,715	

the state receives \$35.5 million in taxes as a result of their investment in the UO, leaving a net cost to the state of just \$23 million.

The University of Oregon as a Traded Sector Firm

What accounts for the sizable impact of the University of Oregon in the state economy?

The key to understanding the UO’s economic importance is that it functions as a traded sector firm. A traded sector firm draws revenues from beyond its economic borders. In this way, the UO effectively leverages state dollars to bring in additional revenue from outside the state.

Table 16: Examples of Out of State Revenue Sources Attributable to the UO

Category	Revenue
Nonresident Undergraduate Tuition	\$121,380,941
Nonresident Graduate Tuition	\$9,761,130
Nonresident Law Tuition	\$9,268,757
Research (Federal and Sub-federal Awards)	\$125,382,063
Nonresident Student Spending (41percent of total)	\$95,089,301
Visitor Spending	\$6,395,648
Total	\$367,277,840

Table 16 presents examples of identifiable revenue derived from out of state sources that totaled to \$367 million in FY2009-10. Sources of this external revenue include tuition from out-of-state students, which totaled \$140.4 million. These nonresident students also contribute to off-campus spending that would not have occurred without the University of Oregon. The University of Oregon also attracts resident students who would otherwise have chosen out-of-state schools as their second choice. In this fashion, the University of Oregon helps retain dollars in that would otherwise have left the state of Oregon.

Note also that some resident students receive federal financial support, thus increasing the external support for UO relative to the total in table 16.

Research activities, detailed below, also provide a flow of dollars into the state, largely from federal sources.

Moreover, the UO receives gifts large and small from both residents and nonresidents of Oregon. In the case of nonresidents, these gifts represent net inflows of dollars to the Oregon economy. And the gifts of residents might also as well. Lacking ties to the University of Oregon, some resident donors would otherwise give to out of state charities, while others might simply continue to hold their assets as savings rather than allowing the funds to be recycled into the state economy.

Finally, the University of Oregon serves as a tourist destination. Travelers to Oregon who come to visit children attending the UO or to take advantage of sporting or cultural events are all contributing dollars to the state economy that would otherwise go elsewhere in the absence of the services offered by the UO.

The Economic Importance of Research

Research – and translating that research into practical applications with economic and societal benefits – is a critical function of the University of Oregon. The UO operates over 30 research centers and institutes, encompassing a diverse array of studies areas such as the Center for High Energy Physics, the Institute of Neuroscience, the Material Science Institute, and Solar Energy Facility. Not only do these centers provide a long run benefit to the state, they provide an immediate economic impact as they draw substantial external funds into Oregon. Thus, research serves as an excellent example of the ways by which the UO

leverages state funding to generate a vast impact on the state’s economy.

In FY2009-10, researchers were awarded a record \$135.6 million of external funding, including \$23.2 million as a result of the American Recovery and Reinvestment Act. Table 17 lists the sources of awards received in FY2009-10. Note that this does not match the revenue reported in table 1 as an award made this year may be disbursed over a multi-year period. The vast majority of these awards, \$125 million or 92 percent of the total, come from federal or subfederal agencies. Compare this to the UO’s state appropriation of \$58.5 million. For every dollar of state appropriation, the UO received \$2.14 of federal research awards in FY2009-10!

Table 17. Grants, Contracts, and Awards (Research) to UO by Source

Source	
Federal	\$103,118,570
Sub-Federal Awards	\$22,263,493
Foundations	\$2,680,851
States	\$2,526,126
Other	\$2,501,881
Associations	\$1,852,025
Corporations	\$645,658
Total	\$135,588,604

The economic contribution of research extends far beyond the immediate and multiplied impact of direct spending. Firms with intellectual property portfolios ties to the UO had revenues of \$26 million in FY2009-10. These firms employ 237 people, almost all in Oregon. In addition, research innovations contribute directly to the UO’s bottom line via licensing revenue summing to \$7.5 million in the past year. Like federal funding, almost all of this revenue comes from beyond Oregon’s borders, bolstering the state’s economy.

In order to facilitate additional cooperation between UO faculty and private sector

entities, the UO operates the Riverfront Research Park. Seventeen private firms currently occupy space in the Research Park, employing 400 people with an annual payroll of \$20 million.

Research activities yield an immediate impact on the Oregon economy by attracting external funding, as illustrated above. These impacts are relatively straightforward to quantify, as the ultimate impact of UO spending would need to be reduced proportionally in the absence of the research funding. What is perhaps more important, but more difficult to quantify, is the ultimate impact of the innovations yielded by UO research. Those innovations will continue to support the creation of new firms and jobs and support existing industries, all of which will provide a benefit to the citizens of Oregon in terms of better paying jobs and higher quality of life.

Human Capital Impact of the University of Oregon

The primary function of a university is to produce human capital. Higher levels of human capital raise the productivity of the workforce, an effect that is evidenced by the premium paid to college graduates. According to the Bureau of Labor Statistics, median weekly earnings for high school graduates with no college, 25 years old and above and employed full time, was \$626 in 2009. For college graduates with a bachelor’s degree only, weekly median earnings were \$1,025, a 64 percent premium. Undoubtedly, increasing education levels contribute to the economic well-being of the state of its citizens.

Still, accounting for the importance of a specific institution like the UO, rather than the value of the college education in general, is considerably more complicated. Generally lacking is the data to account for

ability differences across individuals. Moreover, the actual college education could be obtained elsewhere, either in-state or out-of-state. (Note that if residents need to leave the state to ensure a quality education, they take their spending power with them.) In general, economic impact studies tend to ignore these impacts, as estimating the institutional specific impact of human capital returns remains a topic of ongoing research. As described by Blackwell, et al.:

“Education can be viewed as an investment in human capital and, as such, imparts a regional economic impact to the extent that graduates remain in the area and have higher lifetime earnings. Many studies... find the measurement problems to be overwhelming and opt not to include this impact...It was not until the Bluestone (1993) and Berger and Black (1993) studies that we saw discounted lifetime earning differentials being estimated in an attempt to measure the human capital impact of higher education. Unfortunately, these attempts suffered from a misspecification...they did not incorporate ability differences.”

Regarding the importance of quantifying the relative value added of one institution over another, Blackwell et al. continue:

“...it is simply not possible to objectively quantify the educational gains from attending one institution to another. Furthermore, in attempting to make such estimates, leaders of institutional capital campaigns risk creating both credibility problems and controversy.”

Blackwell et al. suggest focusing on the postgraduate location decisions of alumni,

specifically those who come from out of state then subsequently remain in the area. Presumably, the institutional effect did dominate the location decisions in such cases. Those estimates would then need to be augmented with information on the number of in-state students who remained in Oregon as a consequence of their educational experience (rather than family ties, for example). Currently, we lack the data to conduct this analysis, and it stands as a topic of future research.

Other Societal Impacts of the University of Oregon

University faculty, staff, and students are actively engaged in numerous programs that directly impact the well-being of the community. Over 150 such programs are currently in operation. While these programs all meaningfully contribute to the Oregon economy, a full accounting of the University of Oregon’s cultural and social programs is beyond the reach of the report.

A handful of representative examples:

Oregon Young Scholars Program: The program was started in 2005 to ensure that children of color or low-income households and first-generation college attendees can gain access to higher education. Each summer 40 high school students come to the UO for intensive classes in math, writing and a specialized field. They also learn how to prepare for, apply to, and pay for college.

Master’s Industrial Internship Program: Works in conjunction with the business community to train students to be successful in the field of industrial research. The program is designed specifically to meet the labor needs of the industrial sector.

Science Outreach Program: Supported by outside grants, the Science Outreach

Program provides fellowships for 15 students in Physics and Chemistry, who then serve as “scientists-in-residence” for two weeks per term at participating elementary and middle schools in Oregon.

Institute for a Sustainable Environment: A center for interdisciplinary research on ecological, economic, and social sustainability. Program areas include the ISE Geographic Information Systems Lab, the Ecosystem Workforce Program, and the Climate Leadership Initiative.

Oregon Bach Festival: Founded in 1969, the Oregon Bach Festival combines an educational program in choral music while offering fifty public concerts and events.

Comparisons with Other Universities

Table 18 reports the results of two recently released economic impact studies for the University of Washington and the University of Iowa. The studies follow a methodology similar to that of this report, with an important exception that both used a final demand multiplier of 2.3. In contrast, this report applies a variety of multipliers all of smaller magnitude. If this study used the 2.3 multiplier, obviously the UO estimated impact would need to be adjusted higher.

Note that the UO’s total impact of \$33.64 per dollar of state appropriation compares favorably to these studies. If the \$6.4 million of state funding for debt payments on UO projects is included, this ratio falls to a still high \$30.34.

What accounts for such a high impact relative to these other institutions? Notice that the percentage of state support relative to direct spending is much lower for the UO, only 5.5 percent. The comparable figures for University of Washington and University of Iowa are 10 percent and 14.6 percent, respectively. As the state’s relative contribution to direct spending falls, the UO needs to find alternative revenue sources (for example, higher tuition) to support its mission. To date, the UO has been successful in identifying that additional revenue necessary to adequately fund a major research university, in the process expanding the UO’s economic footprint in the state.

Mathematically, as the state’s support declines toward zero, the total impact per dollar of state contribution will rise toward infinity. This suggests that unless the relative decline in the state’s contribution to the UO is arrested quickly, impact per appropriation dollar will become a meaningless metric by which to compare the economic effectiveness of state contributions to higher education.

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Internal Sources

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	Fiscal Year	State Appropriation	Direct Spending	Total Impact	Total Impact per Dollar of State Appropriation
University of Washington	FY2008-09	\$401.7 mill.	\$4.0 bill.	\$9.1 bill.	\$22.46
University of Iowa	FY2008-09	\$379.4 mill.	\$2.6 bill.	\$6.0 bill.	\$15.81
University of Oregon	FY2009-10	\$58.5 mill.	\$1.1 bill.	\$1.97 bill.	\$33.64

External Sources

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