Final Report

The University of California's Economic Contribution to the State of California

The Economics of Land Use

Prepared for:

The University of California
Office of the President

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1. REPORT INTRODUCTION

Introduction

This report contributes to an ongoing effort by the University of California Office of the President (UCOP) to evaluate the impact of the University of California (UC) system on the California economy. Although UC and its general campuses, health centers, national laboratories, and research institutes have sponsored economic impact studies over the years, this report presents a consistent systemwide look based on up-to-date data, described in the context of California's current fiscal and economic conditions.[1]

UCOP retained Economic & Planning Systems, Inc. (EPS) to quantify the "primary" economic impacts attributable to UC. Primary economic impacts are defined here as those that derive from spending by UC and its faculty, staff, students, and retirees. Specifically, UC and its employees, retirees, and students purchase goods and services in California that create "ripple" or "multiplier" effects as these initial direct expenditures generate successive rounds of spending within the state economy. EPS quantifies UC's primary economic impact in California using an Input-Output (I/O) analysis framework that considers **direct**, **indirect**, and **induced** effects on employment, employee compensation, and spending.

Direct impacts refer to expenditures made by UC, its employees, its retirees, and its students. **Indirect impacts** represent economic effects on the industries that supply UC with goods and services. **Induced impacts** represent economic effects that result from personal and household spending attributable to UC.[2]

In addition to stimulating spending in the California economy, UC contributes to the state's economic vitality and quality of life through its educational opportunities, research, and cultural resources. UC is internationally renowned for the caliber of its academic and research programs and consistently ranks among the world's leading institutions in the number of faculty and researchers singled out for awards and distinctions, election to academic and scientific organizations, and other honors. UC is also a global leader in science and innovation, as evidenced through its success in attracting research grants, generating patents and technology licenses, publishing journal articles, participating in industrial partnerships, and other accomplishments.

Given the multi-dimensional nature of UC's programs, services, and resources, the analysis of primary economic impacts presented in this report does not fully capture the breadth of UC's contributions to the state economy. For one, this analysis does not include the impact of campus and health center visitors, nor does it take into account tax revenue generated by the UC system. A comprehensive analysis of a broader range of "secondary" economic impacts would focus on UC's role in enhancing human capital, fostering technological innovation, and promoting

[1] A brief review of campus-specific economic studies is presented in **Appendix B**.

[2] **Chapter 5** provides a further detailed explanation of terms and study methodology.

business creation in California. These secondary impacts, although difficult to quantify in economic terms, are likely UC's most significant contribution to the California economy and are expected to be the subject of subsequent studies.

A number of UC campuses have issued economic impact studies over the years that vary based on the data inputs and impact modeling software utilized, the time frame and geographic areas covered, and other factors (as summarized in **Appendix B**). However, the common conclusion from all these studies is that individual UC campuses and health systems each have major economic footprints and serve as critical economic drivers in their regional communities.

Policy Context

The need to better understand the range and magnitude of UC's economic impacts comes at a critical juncture for both UC and the state of California. On one hand, the strength of California's economy has become increasingly linked to the type of innovation, productivity, and diversity that UC has been so critical to advancing over its long history. On the other hand, the ongoing budget crisis in California has affected all state programs and services, including particularly onerous cuts to UC, even as student enrollment demands have increased.

The California Legislature recently passed a budget that reduces UC funding by $650 million, forcing UC to increase tuition. In addition, the reductions in funding make it increasingly difficult for UC to recruit and retain top-tier faculty and researchers. Current and potential future reductions in state funding could have profound impacts on the California economy, including reduced economic activity and competitiveness. A key goal of this study is to frame the state's funding decisions within a broad economic context, revealing the critical role of UC within the state.

An important component of the UC funding story is the non-state revenue that UC attracts. State funding for UC is leveraged or supplemented by a variety of non-state sources, including substantial contributions from federal, corporate, nonprofit, and other private sources. In addition, the direct beneficiaries of the UC system themselves make significant contributions that fund UC. For example, tuition payments, hospital patient expenditures, and technology licensing generate significant revenues that magnify the importance of the state's contribution to UC.

Given the complex inter-relationships between the state budget, total UC spending, and the California economy, it is important to acknowledge the return-on-investment that UC creates for California's taxpayers. This measure can be expressed in a variety of ways, including economic activity or jobs per taxpayer dollar or the ratio of state to non-state funding for UC. This type of information can provide important context for state budget deliberations and help policy makers better understand the broader economic implications and trade-offs associated with UC funding decisions.

Study Framework and Approach

UC comprises 10 principal campuses, including nine general campuses and five health centers (general campuses and medical centers are co-located at four UC campuses; UC San Francisco is solely a health sciences enterprise). General campuses provide undergraduate, graduate, and professional academic education through the doctoral degree level. UC Health consists of five academic medical centers and 16 health professional schools. UC also manages Lawrence

Berkeley National Laboratory (LBNL), a top-level US Department of Energy research laboratory. Overall, UC includes nearly 235,000 students and more than 190,000 faculty and staff (including LBNL), 55,000 retirees, and more than 1.6 million living alumni.

This analysis considers the economic contribution of the entire UC system to the California economy. Specifically, the evaluation includes UC general campuses, UC Health, and other UC entities, including UCOP and LBNL. For the first time, this study provides a systematic analysis of UC's economic impact by campus or health center for the state as well as within 14 designated subregions.[3] **Figure 1** and **Figure 2** present the principal UC entities considered by the analysis and their location, by region, within California.

This economic analysis relies on expenditure data provided by UCOP, including employee compensation, operational expenditures, pension distributions, and student spending. The impacts of UC expenditures are evaluated using the IMPLAN® I/O model.[4] As described further in subsequent chapters, an I/O model relies on detailed data on the economic relationships between various sectors of a regional economy to estimate the total effect of particular activity or event, such as spending on higher education. **Figure 3** illustrates how the spending attributable to UC's campuses, health centers, and other entities flow through the economy, generating the economic impact results reported by this study.

[3] This analysis relies on State of California Postsecondary Education Commission regions (see **Chapter 4** for additional information).

[4] IMPLAN® (IMpact analysis for PLANning) economic impact modeling system by MIG, Inc.

Figure 1: Map of University of California Entities by Region

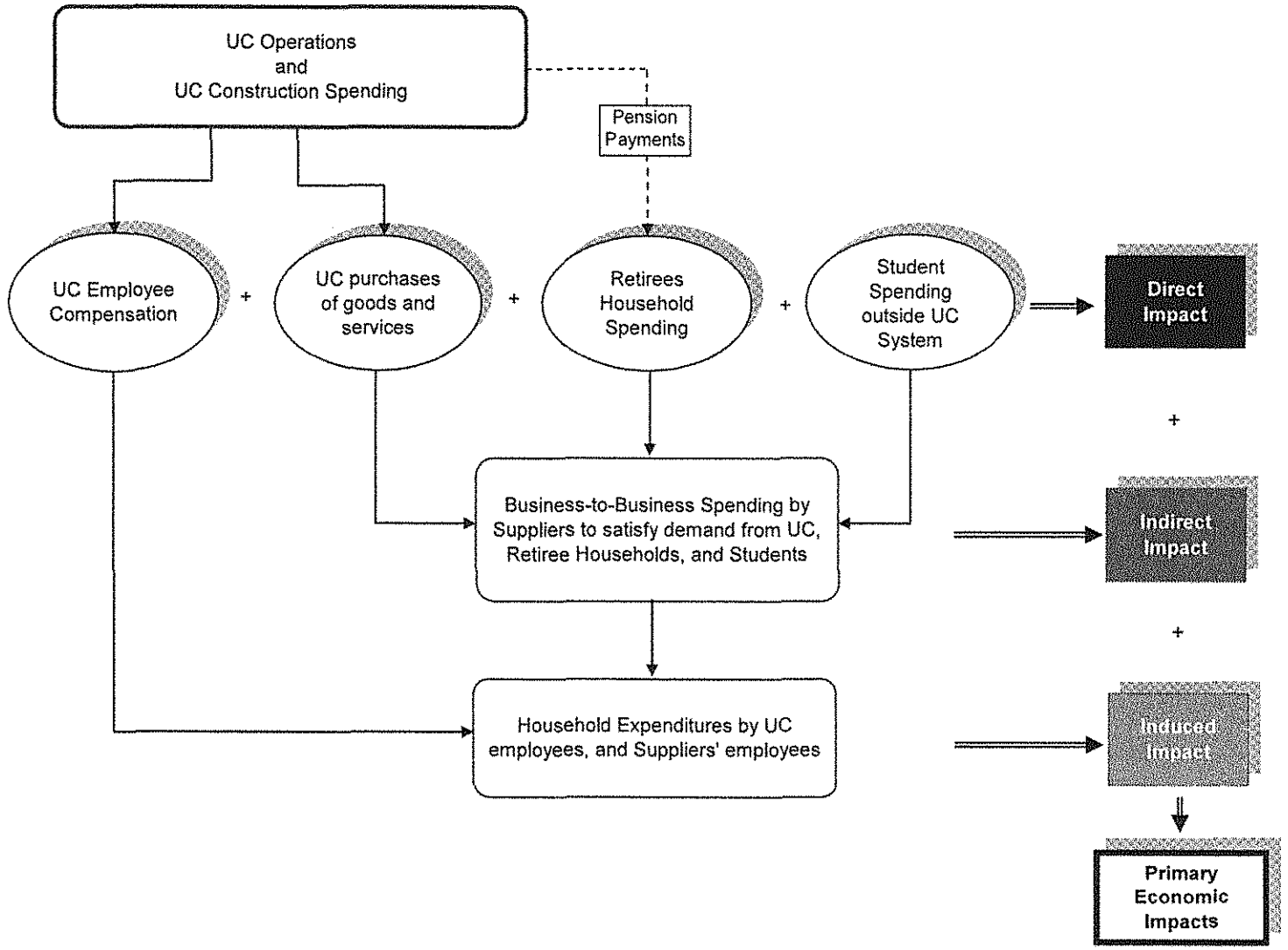
UNIVERSITY OF CALIFORNIA

Figure 2: UC Entities by County and Region

UC Entity	County	Region[1]
University Campuses		
UC Berkeley General Campus	Alameda	San Francisco Bay Area Region
UC Davis General Campus	Yolo	Sacramento-Tahoe Region
UC Irvine General Campus	Orange	Orange County Region
UCLA General Campus	Los Angeles	Los Angeles Region
UC Merced General Campus	Merced	North San Joaquin Valley Region
UC Riverside General Campus	Riverside	Inland Empire Region
UC San Diego General Campus	San Diego	San Diego-Imperial Region
UC Santa Barbara General Campus	Santa Barbara	Central Coast Region
UC Santa Cruz General Campus	Santa Cruz	Monterey Bay Region
UC Health		
UC Davis Health	Sacramento	Sacramento-Tahoe Region
UC Irvine Health	Orange	Orange County Region
UCLA Health	Los Angeles	Los Angeles Region
UC San Diego Health	San Diego	San Diego-Imperial Region
UC San Francisco	San Francisco	San Francisco Bay Area Region
Other UC Entities		
Lawrence Berkeley National Laboratory	Alameda	San Francisco Bay Area Region
UC Office of the President	Alameda	San Francisco Bay Area Region

[1] The State of California Postsecondary Education Commission uses 14 regions for planning and statistical analysis. The table presents the region in which the campus is located (not representative of the campus service region).

Figure 3: Overview of UC Input-Output Analysis



2. KEY FINDINGS

The key findings from this analysis are enumerated below with additional description, data, and documentation provided in subsequent chapters.

1. ***UC generates about $46.3 billion in economic activity in California and contributes $32.8 billion to the gross state product.[5]***

   The nearly $25 billion in annual direct spending attributable to UC generates significant economic activity in the state as it ripples through the economy in successive rounds of economic transactions by both consumers and businesses. UC-related economic activity supports about 1.8 percent of the California's gross state product, a key measure of the state's economic performance. This contribution, although significant in its own right, does not include UC's role in human capital development, scientific innovation, and business creation.

2. ***Every $1 the California taxpayer invests in UC and its students results in $9.80 in gross state product and $13.80 in economic output.***

   Because the state of California's spending on UC is heavily supplemented or "leveraged" by a variety of other funding sources, California taxpayers receive a relatively high return-on-investment from UC. Specifically, the state's $3.35 billion in UC-related spending, including general support, Cal Grants, contracts, health care payments, and special appropriations, is matched by an additional $17 billion from non-state government sources, such as federal aid, tuition, and private/nonprofit research grants. Because of economic multiplier or ripple effects, the impact is even higher. The state's $3.35 billion investment in UC provides the foundation for a total economic impact of $46.3 billion, creating $13.80 in economic output for every $1 of state investment. The state investment also helps UC contribute $32.8 billion to the more narrowly defined gross state product, or $9.80 for every $1 of state investment. In terms of employment, UC generates about 128 jobs per $1 million in state taxpayer funding, or about $7,790 per job. (By comparison, a typical unemployed worker in California receives roughly $11,000 per year in unemployment payments from State Unemployment Insurance (SUI) and other state taxpayer funded sources).

3. ***UC operations and spending by faculty, staff, students, and retirees support one out of every 46 jobs in California.***

   UC—through both its direct employment and through the additional jobs generated by UC-related purchases of goods and services in the broader economy—supports about 430,000 jobs in California. This represents about 2.2 percent of total employment in California, the world's 9th largest economy.

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[5] Gross state product (GSP) refers to the market value of all final goods and services produced within a state in a given period. GSP per capita is often considered a key indicator of a region's standard of living. Economic output represents a measure of economic activity, expressed as the value of production including distinct values associated with purchases of intermediate inputs (i.e., the goods and services used to produce final products).

4. ***UC itself is significant employer in California, with over 190,000 faculty, researchers, staff, and students employed at 10 campuses, five health centers, a Department of Energy Laboratory, and other facilities throughout the state.***

   With over 190,000 staff, UC itself is the third-largest employer in California, behind only the state and federal governments, and directly employs substantially more people in California than the top private-sector establishments (e.g., Kaiser Permanente, Walmart, Pacific Gas & Electric, or Wells Fargo). These direct UC jobs are broadly distributed throughout California with about 74 percent associated with the nine general campuses, 23 percent at the five health centers, and 3 percent at other UC entities. The total employment of about 44,000 at UC Health (including professional schools) also makes it one of the top employers in the state.

5. ***UC attracts significant spending of out-of-state money in California, (about $8.5 billion in 2009-10) that magnifies the impact of UC in the state.***

   As a world-renowned research and academic institution, UC attracts significant funding from public and private sources at both the national and international level. By way of example, the federal government alone accounts for nearly 30 percent of UC's funding (research, Berkeley Lab, Medicare and Medicaid, and student aid), or more than $7 billion a year. These out-of-state sources are among the primary reasons why UC is able to generate such a high return-on-investment for taxpayers. The leveraging of in-state funds with out-of-state money is most evident in UC's research enterprise where every $1 from California sources, both governmental and private, is supplemented with roughly $2.27 in funds from outside the state. UC's ability to maintain its reputation as one of the top research and academic institutions in the world is critical to its continued success in leveraging funding.

6. ***UC-related economic activity touches every corner of California, making important contributions even in regions where UC does not have a campus.***

   Although UC's absolute economic impacts are largest in regions with a significant UC presence, such as Los Angeles and the San Francisco Bay Area, all of the 14 distinct regions evaluated in this report experience considerable impacts, especially relative to the size of their respective economies. For example, the largest relative impacts (e.g., UC-related employment relative to total employment) occur in the Monterey Bay, Sacramento/Tahoe, and Central Coast regions. Regional impacts that occur in areas where there is no UC campus or medical center are attributable to (1) payments to retirees, (2) wages to UC employees who live in these regions, (3) off-campus extension and outreach programs, and (4) multiplier or ripple effects.

7. ***The five UC health centers account for a relatively high proportion of UC's economic impacts in California, with about 28 percent of UC's total employment and 38 percent of its contribution to gross state product.***

   UC's five health centers make a disproportionately high contribution to UC's total economic impact in California, especially in terms of state GDP and economic output. Overall, UC Health generates about 117,000 jobs in the state, $16.7 billion in economic output, and $12.5 billion in contribution to state GDP. Overall, the multiplier or ripple effects of UC Health tend to be stronger than other UC activities, in part reflecting the higher proportion of economic activity that is captured in the state.

8. ***Every $1 that is cut from the state's support of UC would result in direct losses of about $2.10 in the state's economic output, $1.30 in employee compensation, and $1.60 gross state product plus a potential for negative secondary impacts associated with a decline in the scale and quality of UC's academic and research programs.***

   This report evaluates the primary economic impact of two hypothetical funding scenarios, one in which the state cuts UC employee compensation and another in which it cuts total UC operating expenditures. On average, such cuts are expected to generate losses of $2.10 in the state's economic output, $1.30 in employee compensation, and $1.60 in gross state product for every $1 reduction in state funding. The actual impacts would be larger because this analysis only includes the effect of reduced state appropriation, not the resulting impacts on UC's other revenue sources and California's economic competitiveness as a whole.

3. Overview of The UC System

This chapter presents an overview of UC programs, facilities, staff, and students as a basis for evaluating UC's economic impacts in subsequent chapters.

UC's fundamental missions are education, research, and public service. When it first opened its doors in 1869, UC had 10 faculty members and 38 students. Today, the UC system includes nearly 235,000 students and more than 190,000 faculty and staff (including LBNL), 55,000 retirees, and more than 1.6 million living alumni. The institution, its various campuses and health centers, and its faculty consistently rank at the top in the nation for academic excellence, research distinctions, scientific discovery, and other performance indicators. A more detailed description of UC's programs, students, faculty, and staff, as well as its public services and facilities is provided below.

UC Program Overview

Facilities

UC has 10 campuses — its 10th campus, Merced, opened in 2005, the first new American research university in the 21st century. UC also has five medical centers, 16 health professional schools, six business schools, and five law schools, plus professional and enrichment courses and agricultural and natural resources programs that extend learning throughout California. Additionally, UC manages LBNL, and maintains administrative headquarters for the Office of the President in Oakland.

UC has campuses in Berkeley, Davis, Irvine, Los Angeles, Merced, Riverside, San Diego, San Francisco, Santa Barbara, and Santa Cruz. UC's impact extends well beyond the borders of its 10 campuses, five medical centers, and national laboratory, with locations and programs ranging from Cooperative Extension stations near the Oregon border to health care programs in the Central Valley to oceanography studies on the coastal bluffs of La Jolla Shores.

Eight UC campuses are included in U.S. News & World Report's annual Best Colleges rankings. Of them, five are ranked among the top 10 public universities in the United States.

Seven UC campuses are included in the top 100 spots of Academic Ranking of World Universities. The top ranked campuses were Berkeley (4), UCLA (12), San Diego (15), UCSF (17), Santa Barbara (33), Davis (48), and Irvine (48).

Six UC campuses are members of the 60-plus-member Association of American Universities. No other university system matches this level of representation.

Five UC campuses were ranked among the top 50 universities worldwide by Times Higher Education magazine in its 2010-11 World University Rankings. UC Berkeley was rated at number 8, followed by UCLA (11), Santa Barbara (29), San Diego (32), and Irvine (49). Also among the rankings: UC Davis (54) and UC Riverside (117).

Education Programs

UC offers education in 150 academic disciplines and provides undergraduate, professional, and graduate academic education through the doctoral degree level. UC also serves as California's primary state-supported academic agency for research.

California's Master Plan for Higher Education requires that UC admit freshmen from the top 12.5 percent of California's public high school graduate. The plan also requires that UC create a well-defined transfer route for students who choose to attend a California community college after high school. Undergraduate students typically enter UC as freshmen directly from high school or as transfers from California community colleges. UC has about 180,000 undergraduate students.

The California Master Plan for Higher Education charges UC with the responsibility for preparing graduate and professional students to help meet California's and the nation's workforce needs. Graduate education and research at UC have long fueled innovation and economic development in California. One of the most important methods of transferring research and innovation from UC into society occurs when a new Ph.D. or M.D. starts his or her new job. UC prepares professional degree students to enter a wide variety of professions that are critical to California, such as law, medicine, nursing, business, architecture, public policy, and the arts.

At UC, graduate students include graduate academic and professional degree students. Graduate academic students are in master's programs and doctoral programs in the sciences, social sciences, humanities, and engineering. Professional degree students participate in a wide range of programs that recruit directly into fields such as law (J.D.), medicine (M.D.), or business (M.B.A.). Included among its professional school offerings is the largest health sciences instructional program in the nation.

UC doctoral programs rank among the best in the nation in a 2010 National Research Council report that universities consider the gold-standard assessment of Ph.D. studies. In its first comprehensive evaluation of university doctoral programs since 1995, the NRC in 2010 reviewed 322 UC programs in science, math, engineering, social sciences, and humanities. A total of 141 UC programs were ranked among the top 10 in their fields across a wide range of measures used by the NRC to assess quality.

In 2009, UC enrolled more than 26,000 academic doctoral students at its 10 campuses. As the public institution with primary responsibility for granting doctoral degrees in California, UC awarded 63 percent of all academic doctoral degrees in the state and 7 percent of the nation's doctoral degrees. California's colleges and universities depend heavily on graduates of UC's Ph.D. programs for their faculties. Nearly a quarter of all UC and CSU faculty members received their Ph.D. training at UC, and even more are likely to come from UC in the future. Over the next 10 to 15 years, California's public and private four-year institutions will need to hire an estimated 25,000 new faculty members to teach the growing numbers of undergraduates and to replace retiring faculty. Because many doctoral institutions elsewhere are not planning to increase graduate enrollments, California's colleges will turn to UC's graduate programs for more of their faculty hires.

UC has the largest continuing education program in the nation, providing 20,000 extension courses to about 300,000 registrants who are typically employed adult learners with a bachelor's degree. UC extension is a self-supporting operation.

UC Health

UC's five academic medical centers and 10 hospitals make up the fourth-largest health care delivery system in California. UC hospitals and clinics handle about 3.8 million outpatient visits, 268,000 emergency room visits, and 143,000 inpatient admissions each year, including a significant segment of the state's indigent and publicly insured patients (40 percent of UC patients are uninsured or covered by Medi-Cal). UC provides half of all transplants and one-fourth of extensive burn care in California. UC operates or staffs five Level 1 trauma centers, often providing the only trauma care in the region.

UC has 16 health professional schools in seven fields: dentistry, medicine, nursing, optometry, pharmacy, public health, and veterinary medicine. UC trains nearly half of the medical students and medical residents in California. UC educates more than 14,000 health sciences students each year—the nation's largest health sciences training program.

Research Activities

The California Master Plan for Higher Education designates the University of California as the primary state-supported academic agency for research. UC research contributes to the state and to the nation through discoveries that improve health, technology, welfare, and the quality of life.

In 2000, then-Governor Gray Davis announced the creation of the California Institutes for Science and Innovation, a three-way partnership between UC, the state of California, and private industry, designed to stimulate innovation in fields critical to the nation's economic future. Four institutes, jointly operated by multiple UC campuses, focus on new research in information technology, telecommunications, nanotechnology, quantitative biosciences, health care, environmental management, homeland security, and energy systems.

UC campuses are home to more than 230 specialized bioscience research centers, and many of the research discoveries and

UC develops more patents than any other university in the nation and has held that top spot for the past 18 years. UC holds 3,802 active US patents. UC researchers produce, on average, four new inventions a day. Total income from licensing for UC's campus inventions—the income UC receives from its technology agreements with industry—was $125.3 million in fiscal year 2010.

UC is a leader among universities receiving research awards from the National Institutes of Health and the National Science Foundation. Other federal agencies that figure prominently in UC's research awards are the Department of Defense, National Aeronautics and Space Administration, and Department of Energy.

UC scientists pioneered research and technologies that are being developed to investigate and improve care for some of the world's most serious health problems, including cancer, Alzheimer's, diabetes, and AIDS. UC research has also produced life-changing technologies and treatments such as artificial lung surfactant, which allows premature infants to breathe; Herceptin to treat breast cancer; a nicotine patch for smoking cessation; a catheter to treat aneurysms; cochlear implant to help the deaf understand normal speech; hepatitis B vaccine; and MRI and PET technology to detect disease.

advances made at these centers are subsequently put to commercial uses by California's biosciences industry leaders, tested in UC clinical research trials and incorporated into patient care. UC's medical centers perform hundreds of clinical trials every year, resulting in approval of new drugs and disease treatments.

From its beginnings as a land-grant institution chartered in 1868, UC has been a valuable partner in California's agricultural industry. UC's Division of Agriculture and Natural Resources represents a partnership of four science and education communities on three UC campuses, a UC presence in all California counties, recognized leadership in special program areas, and a community of Cooperative Extension professionals.

US Department of Energy Laboratories

UC has managed LBNL since its inception in 1931. It was one of the first laboratories of its kind, showing the value of multidisciplinary research, which ultimately led to the creation of the national laboratory system.

UC also has been involved in the management of Lawrence Livermore National Laboratory and Los Alamos National Laboratory since their inceptions — and now is a partner in limited liability corporations that oversee those national security labs. These two US Department of Energy national labs have a combined workforce of more than 18,000 employees and operate on federally financed budgets totaling $3.5 billion a year. Livermore Lab has a $1.5 billion annual operating budget, spending more than $447 million on procuring goods and services. Los Alamos Lab creates a $2.9 billion impact on New Mexico's economy and supports about 24,000 jobs, according to a University of New Mexico study released in April 2011. As these labs are governed separately, their impacts were not considered in this analysis.

UC discoveries in crop management, pest control, and food processing have helped farmers in California and around the world. UC trains the state's vintners and certifies more than 95 percent of wine grapevines, providing a reliable supply of high-quality crop for California's multibillion-dollar wine industry. About 65 percent of the strawberries produced in California and about 40 percent of the world's strawberries are from UC Davis-developed varieties. Nearly all commercially grown California and US walnut varieties were developed at UC Davis. UC Riverside has its roots as a citrus experiment station and continues to play a major agricultural role today, housing one of the world's premier citrus collections and developing more than 40 new citrus varieties, helping growers to fight pests and diseases and remain competitive in the $1.2 billion-a-year California citrus industry.

UC has the highest proportion of low-income students among the country's top research universities and provides more than $1.9 billion in financial aid to about two-thirds of its students. An indication of UC's financial accessibility for low-income students is the enrollment of Pell Grant recipients, whose family income is generally below $50,000. In fall 2010, the university enrolled the highest percentage (39 percent) of Pell Grant recipients in its history. Four UC campuses–UCLA, Davis, San Diego, and Berkeley–each enrolled more Pell Grant recipients than the entire Ivy League combined.

Athletics

UC students have been engaged in athletics from the university's inception. The sports in the university's earliest days included rugby, football, and baseball. Today, most UC campuses field women's and men's teams in major and minor sports, with many of the teams securing national rankings. A $321 million project to retrofit and renovate UC Berkeley's football stadium is expected to be completed for the 2012 season. UCLA football plays its home games at Pasadena's Rose Bowl, which is undergoing a $152 million renovation as part of an agreement to keep the Bruins playing there through 2042. UCLA has won a national-best 107 NCAA team championships. UC Olympians won 43 medals in the 2008 Summer Olympics.

UC Students, Faculty, and Staff

UC has nearly 235,000 students, including about 180,000 undergraduate students and about 55,000 graduate students and medical residents. Nearly 90 percent of all UC students are California residents—including 94 percent of undergraduates. While nearly 90 percent of all UC students are California residents, admissions of out-of-state and international residents have increased—with non-California freshman admits rising in the past year by 38 percent to over 13,000. During that time, California freshman admits rose by 9 percent to about 59,000.

UC graduates 60,000 students a year. UC received a record number of applicants (over 140,000 freshman and transfer applications) for fall 2011, amid a worsening budget picture and unfunded over-enrollments on most campuses. More than 14,000 community college students transferred to UC last year, and roughly a third of UC bachelor's degrees are awarded to students who started at a community college.

UC researchers honored include 56 Nobel Prize recipients, 60 National Medal of Science recipients, 80 recipients of MacArthur Foundation "genius" grants, and more than 300 members of the National Academy of Sciences.

In total, UC employs more than 190,000 faculty and staff (including LBNL and UCOP). As shown in **Figure 4**, these direct UC jobs are widely distributed throughout California, with about 97 percent associated with the general campuses and health centers and 3 percent with other UC entities (i.e., LBNL and UCOP).[6] UC itself is the third-largest employer in California, behind only the state and federal governments. In fact, UC directly employs more people in California than top private-sector employers in sectors such as health (Kaiser Permanente and Sutter Health), retail (Walmart and Safeway), banking (Wells Fargo), utilities (Pacific Gas & Electric), or technology (Oracle, Cisco, and Hewlett-Packard). By comparison, California's entire life sciences industry has 268,000 employees.[7]

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[6] For the purposes of this economic impact report, the number of employees attributed to UCOP includes both the Office of the President staff as well as the employees of Hastings College of the Law.

[7] Based on data and analysis from "California Biomedical Industry, 2011 Report" commissioned by BayBio and CHI-California Healthcare Institute and prepared by PricewaterhouseCoopers (PwC) (see, http://chi.org/industry/index.aspx).

Figure 4: UC Employment by Entity

UC Campus/Institution	UC Employment[1]	Percent of Total
UC Campuses[2]		
UC Berkeley	21,229	11%
UC Davis	29,505	16%
UC Irvine	17,705	9%
UCLA	40,084	21%
UC Merced	1,876	1%
UC Riverside	7,560	4%
UC San Diego	26,753	14%
UC San Francisco	22,376	12%
UC Santa Barbara	9,796	5%
UC Santa Cruz	7,364	4%
Subtotal	**184,248**	**97%**
Other Entities		
Lawrence Berkeley National Lab.	4,200	2%
UC Office of the President[3]	1,837	1%
Subtotal	**6,037**	**3%**
TOTAL	**190,285**	**100%**

[1] Employment includes part-time and full-time workers (headcount).
[2] Agriculture and Natural Resources (ANR) employees allocated to campuses.
[3] For the purposes of this economic impact report, the number of employees attributed to UCOP includes both Office of the President staff as well as the employees of Hastings College of the Law.

Source: UC Statistical Summary of Students and Staff (October 2010); and LBNL.

UC Public Services and Facilities

UC provides a variety of public services and facilities as well as sponsors numerous community activities and charitable programs. These services and facilities take a variety of forms and are conducted at all of UC's campuses and other facilities. Although a complete inventory of these activities is not readily available, some of the key programs are listed below:

Washington Monthly ranked eight UC campuses on its 2010 list of universities that contribute to the public good and encourage students to give back. According to the UC 2008 Undergraduate Experience Survey, 58 percent of UC students participate in some form of community service. At UC San Diego alone, more than 3,330 members of the university community donated more than 62,000 hours of service during the university's 50th anniversary celebration, contributing roughly $1.5 million of free labor, according to calculations from Independent Sector. In the 50 years of the Peace Corps, UC has contributed more volunteers–more than 10,375 alumni to date–than any other U.S. university.

- UC Health provided more than $445 million in charity care in fiscal year 2010. UC Health offers a variety of community outreach programs and services, from mini medical schools to free screenings, dental clinics, and student-run health clinics.
- UC campuses house more than 100 libraries, collectively representing the largest research/academic library in the world with more than 33 million volumes. UC's California Digital Library has one of the world's largest collections of digital materials, including 34,000 electronic journals. UC also operates numerous museums, concert halls, art galleries, and botanical gardens. Finally, UC manages more than 135,000 acres of protected California habitat in its Natural Reserve System.
- UC Press, UC's nonprofit publishing arm, publishes about 200 new books and 40 multi-issue journals in the humanities, social sciences, and natural sciences each year and keeps about 4,000 book titles in print. About one-fourth of UC Press' authors are affiliated with UC. UC Press is the largest university press west of the Mississippi.
- UC has a $30 million yearly budget for student academic preparation and educational partnerships, with educational outreach programs including the Early Academic Outreach Program, MESA, PUENTE, UC College Prep, and community college transfer programs. UC has approved more than 9,000 career technical education (CTE) courses in all seven "a-g" categories and is on track to certify 10,000 courses by 2011-12.[8] Across the state, UC has approximately 11,000 programs in categories such as agriculture, environment and natural resources; business and economic development; community and social services; community college student services; cultural resources and arts; health services and nutrition; K-12

[8] CTE is a relatively recent school reform effort that seeks to integrate discipline-specific academic content with industry-specific knowledge and skills. By simultaneously preparing high school students for careers and a full range of postsecondary options, academically rigorous CTE courses differ substantially from traditional vocational education, which often served to track students into work-only prospects after high school.

student services; public policy; teacher preparation; teacher professional development; and university extension.

- UC Cooperative Extension, Agriculture and Natural Resources' outreach arm, has farm, 4-H, and nutrition, family, and consumer sciences advisers based in more than 50 county offices. The 4-H program serves more than 130,000 California youth. In addition, Cooperative Extension specialists are headquartered at UC Berkeley, UC Davis, and UC Riverside, where they conduct research. These specialists provide statewide leadership to teams of advisers and faculty who answer farmers' technical questions and help them incorporate the latest scientific advances into their agricultural practices. UC Cooperative Extension also runs the California Master Gardener Program, which trains Californians to become expert gardeners and answer gardening questions.

4. Study Framework and Methodology

This chapter describes the overall framework and analytical approach relied upon to estimate UC's economic impact in California. The key results from this analysis are presented in **Chapter 5**.

Facilities and Geographies Evaluated

This economic study considers all UC operations, including education, research, and public service. For the purposes of this study, UC entities are categorized as a general campus, UC Health, or other UC entities. General campuses include UC's nine primary educational campuses and all associated satellite entities (e.g., agricultural and natural resource field stations). UC Health includes the five UC medical centers and associated academic and research programs (e.g., UCSF clinical enterprise, research program, and professional schools). Other UC entities include LBNL, Hastings College of the Law, and UCOP.

The study considers UC's economic significance to California overall as well as within specific regions of the state. The analysis assesses UC's regional economic impacts using a 14-region system originally devised by the California Postsecondary Education Commission (CPEC). The regional system was devised specifically to support studies of higher education. The regions are intended to reflect the population "catchment areas" of California's higher education institutions. The CPEC regional boundaries are consistent with California county boundaries and have been used in a number of other reports and analyses done by UC, including the 2011 Accountability Report.

Key Data Sources

The objective of this economic analysis is to determine the contribution of the UC system to the California economy, including UC operations, student impacts, and retiree spending attributable to UC. Accordingly, the data relied upon by the analysis characterizes expenditures by the entire UC community and affiliated population—not just UC itself. UCOP provided detailed expenditure data for the impact analysis. The UC data include UC operating and construction expenses, employee payroll, student spending, and pension distributions. The data considered by this analysis are described below and summarized in **Figure 5**.

The UC data indicate that over $24.5 billion in spending was attributable to the UC community in 2009-10 (UC's fiscal year is July1 – June 30). About 74 percent of this spending is related to UC operations, including salaries, benefits, and other expenses. UC construction, pension distributions, and student spending each account for less than 10 percent of the total spending attributable to UC. **Figure 6** presents estimates of spending attributable to UC. A summary of the detailed data relied upon to determine the economic significance of UC in California is further described below.

Employee Payroll and Benefits

UCOP Institutional Research generated data concerning payroll expenditures from the Corporate Personnel System for fiscal year 2009-10. The data include aggregate wages and benefits by

ZIP code for each UC entity.[9] UCOP estimates that UC spent about $11.8 billion on wages and benefits in 2009-10. Students who work part time for the university are included as employees for the purposes of this study.

University of California Operating Expenses

UCOP Institutional Research generated data concerning systemwide operating expenses drawn from UC's Corporate Financial System. These data correspond to the consolidated Current Fund Expenditures tables in the 2009-10 Campus Financial Schedules. UCOP categorized operating expenses into spending categories and provided detail for each UC entity.[10] UCOP estimates that UC spent $6.3 billion on operating expenses (excluding payroll and benefits) in 2009-10. For the purposes of this economic impact report, the operating expenses attributed to UCOP include expenditures made by the Office of the President on behalf of the entire UC system for insurance, legal and computing services, a limited number of specific state-funded research programs, and other administrative functions. Payments to UC retirees are evaluated as a systemwide expenditure and not allocated to either UCOP or to specific campuses, as described below.

Retiree Pension Distributions

The Human Resources Department at UCOP provided data regarding UC Retirement System financial operations from the Human Resources Information System. The dataset describes pension distributions by ZIP code for 2009-10, excluding lump sum payouts. However, pension data are not attributed to specific UC entities in this analysis, and are presented for the UC system as a whole. UCOP estimates that UC spent roughly $2.1 billion on pensions in 2009-10.

Capital Expenditures (Construction)

The UC Budget and Capital Resources Department's Capital Planning Division provided yearly construction expenditure data for recent years. The analysis relies on actual expenditures for 2009-10, the best available information on construction spending.[11] The data does not reflect routine building maintenance, or master plans to develop multiple parcels, but does include all expenditures associated with major construction projects, including architects, engineers, and physical construction. UCOP estimates that UC spent about $2.3 billion on construction in 2009-10.

Student Expenditures

UCOP Institutional Research provided data concerning the number of students and their average spending in 2009-10. The data details undergraduate and graduate students and their spending patterns. Student spending data reflect estimated student budgets for living, transportation, fees, and other categories. The analysis relies on non-fee spending estimates to evaluate the

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[9] UCOP supplemented base data with information concerning LBNL, Hasting College of the Law, and Associated Students UCLA.

[10] UCOP supplemented base data with information concerning LBNL and Hastings College of the Law.

[11] UCOP supplemented base data with information concerning LBNL.

effect of student spending in the communities surrounding UC entities. UCOP estimates that UC students spent around $2.1 billion (excluding revenues accruing to UC) in 2009-10.

Figure 5: Economic Impact Categories and Data Source Summary

Source of Impact	Description of Impact	Description of Data
UC Employee Compensation	UC salary and wages to its faculty and staff re-circulate in local / regional economy, creating additional "induced" jobs.	UC wage and salary payments by recipient ZIP code for each campus / health center and other UC entities.
UC Other Operational Expenditures	Non-salary UC expenditures for goods and services needed to support on-going operations generate income to suppliers (e.g., venders, contractors), and create "indirect" and "induced" jobs.	Non-salary UC operating expenditures by industry category for each campus / health center and other UC entities.
UC Retiree Spending	UC pension contributions to retirees re-circulate in local and regional economy creating "direct", "indirect", and "induced" jobs.	UC pension payments by recipient ZIP code.
UC Capital Investment (Construction)	UC expenditures for new construction (e.g., buildings, facilities, infrastructure) create jobs and income for suppliers (e.g., architects, engineers, builders) which, in turn, re-circulate in local / regional economy, creating additional "indirect" and "induced" jobs.	UC capital expenditures associated with each campus / health center, and other UC entities.
UC Student Spending	Non-tuition related expenditures by enrolled UC students (e.g., living expenses and entertainment) generate jobs and income for suppliers (property owners, retailers), which, in turn, re-circulate in local / regional economy, creating additional "indirect" and "induced" jobs.	UC data and EPS research on non-tuition expenditures by enrolled students within the primary region of their affiliated campus / health center.

Figure 6: Summary of Direct Expenditures (FY2009-10)

Expenditure Category	General Campuses Expenditures	UC Health Expenditures[1]	Other UC Entities Expenditures[2]	University of California Systemwide Total	
				Expenditures	% of Total
Operations	**$8,093,941,847**	**$8,714,980,002**	**$1,278,540,668**	**$18,087,462,517**	**73.8%**
Salaries and Wages	$4,770,049,095	$4,902,280,795	$418,425,326	$10,090,755,216	41.1%
Employee Benefits	$850,512,253	$831,092,493	$34,966,904	$1,716,571,650	7.0%
Other Expenses[3]	$2,473,380,499	$2,981,606,713	$825,148,438	$6,280,135,651	25.6%
Construction	**$1,657,191,000**	**$532,102,000**	**$66,719,000**	**$2,256,012,000**	**9.2%**
Student Expenditures	**$2,002,876,805**	**$96,084,850**	**$0**	**$2,098,961,655**	**8.6%**
Retirement System[4]	**$189,860,061**	**$24,707,726**	**$11,452,909**	**$2,082,752,064**	**8.5%**
Total[5]	**$11,943,869,712**	**$9,367,874,578**	**$1,356,712,577**	**$24,525,188,235**	**100.0%**

[1] Campuses rely on varying cost allocation methods to distribute health professional school expenditures to general campuses versus health centers.

[2] University of California Office of the President, Lawrence Berkeley National Laboratory, and Hastings College of the Law.

[3] Equipment, supplies and materials, travel, insurance, rents, utilities, communication services, printing, and other goods and services.

[4] Systemwide total is greater than the sum of UC entities because UC retirement system distributions are not allocated to general campuses, medical centers, or other entities (data presented for these entities reflect retiree health benefits only).

[5] Systemwide total is greater than the sum of UC entities. See footnote [4] above.

Sources: UCOP; Economic & Planning Systems, Inc.

Overview of Input-Output Methodology

This regional economic analysis relies on IMPLAN (Impact Analysis for Planning) software, an I/O model that draws upon data collected by the Minnesota IMPLAN Group (MIG) from several state and federal sources, including the Bureau of Economic Analysis, Bureau of Labor Statistics (BLS), and the Census Bureau. The model is widely used for estimating economic impacts across a wide array of industries and economic settings.

I/O analysis is premised on the concept that industries in a geographic region are interdependent in the sense that they purchase outputs from and supply inputs to other industries. For example, consider the implications of a health care expenditure. Hospitals purchase goods from producers, which in turn purchase raw materials from suppliers. Thus, an increase/decrease in the demand for health care supplies will stimulate an increase/decrease in output and employment in the interdependent secondary industries.

Regional economic impact analysis and I/O models in particular provide a means to quantify economic effects stemming from a particular industry or economic activity. Specifically, I/O models produce quantitative estimates of the magnitude of regional economic activity resulting from some initial activity (e.g., university or hospital operations). I/O models rely on economic multipliers that mathematically represent the relationship between the initial change in one sector of the economy and the effect of that change on employment, income, economic output, and value added in other regional industries. These economic data provide a quantitative estimate of the magnitude of shifts in jobs and revenues within a regional or state economy.

This study uses a Multi-Regional Input-Output (MRIO) IMPLAN model to analyze UC economic impacts within the 14 CPEC regions in California. The MRIO model tracks local trade flows between the regions to estimate the ripple effects throughout the state. A number of California's regional economies interact heavily with one another and the MRIO analysis captures the economic relationships between them. For example, the statewide MRIO model used in this analysis traces the economic effects of employees who live outside of the region where they are employed (e.g., a UCSF employee living in the Monterey Bay region), including expenditures back to their region of employment.

Description of Key Variables and Model Outputs

The analysis begins with an estimate of the initial UC economic injection associated with its expenditures for operations and capital investment as well as the spending of its students and retirees. This initial injection is referred to as the direct effect. Next the I/O model quantifies the impacts associated with the ripple or multiplier effects that result from UC's initial injection. The ripple effects are categorized as indirect or induced effects. Indirect effects represent economic impacts on suppliers while induced effects represent economic impacts on household income and spending. In this report, direct, indirect, and induced effects are defined as follows:

- The **Direct Effect** is a measure of the economic value of the initial injection of spending into the California economy that is made by UC, its employees, its retirees, and its students.
- The **Indirect Effect** is a measure of the economic value of "upstream" industry-to-industry transactions that supply inputs to the production of goods and services consumed by UC, its employees, its retirees, and its students.

- The **Induced Effect** is a measure of the economic value of labor income that re-circulates in the economy as a result of the initial expenditures made by UC, its employees, its retirees, and its students.

- The **Total Impact** is the sum of the direct, indirect, and induced effects. The total impact measures the overall impact of UC activities on the California economy.

This report measures economic significance using common economic metrics, including employment, employee compensation, output, and value added, as defined below.

- **Employment** is equivalent to jobs, a headcount that includes part-time and full-time workers. UC jobs as well as jobs directly supported by UC spending including student spending are assigned to each campus' respective CPEC region. Direct employment attributable to retirees is estimated by the retirees' place of residence.

- **Employee Compensation** represents the payments to labor in the form of both income and fringe benefits paid by the employer (e.g., health, retirement). For UC, employee compensation is assigned to the place of residence of its employees to reflect the wide geographical distribution of UC payroll expenditures in the state.

  Because UC employment is presented by campus location, while UC employee compensation is presented by employee place of residence, the direct and total impacts for these two variables are not directly comparable in a region (i.e., the employment number shown does not correspond to the compensation amounts).

- **Economic Output** represents a measure of economic activity, calculated as production value in a particular region, including intermediate inputs (i.e., the goods and services used in the production of final products). For example, UC's output includes spending on employee compensation as well as the production value of each intermediate input such as equipment, supplies, insurance, rents, utilities, communication services, printing, and other goods and services.

- **Value Added** represents a contribution to gross state product and equals the market value of the final goods and services produced within a particular region. Value added is equal to economic output, as defined above, less the value of intermediate goods and services. For example, UC's value added includes employee compensation and as well as the final value (net of intermediate input values) associated with supplies and services purchased by UC.

5. UC Economic Impacts in California

This chapter provides quantitative estimates of UC's primary economic impact in California by campus and health center as well as by region within California. The economic impact estimates represent those that are directly linked to spending by UC, its employees, its retirees, and its students. This direct spending is translated into quantifiable economic metrics, including jobs, employee compensation, output, and value added, as defined in **Chapter 4**. Although not fully evaluated or quantified in this report, this chapter concludes with a brief overview of UC's secondary economic impacts.

Primary Economic Impact Summary

Figure 7 summarizes the primary economic impacts of UC in California, including direct, indirect/induced, and total effects on employment, employee compensation, output, and value as defined in **Chapter 4**. Of the roughly $24.5 billion in UC-related spending (see **Figure 6**), the analysis estimates that approximately $21 billion is spent on the production of goods and services in California. Based on data from UC and IMPLAN data, the direct economic impact reflects a downward adjustment of total UC-related spending by $3.5 billion to account for spending that leaks out of state and for the production value of retail and wholesale spending.[12] This direct contribution to state output is the starting point for the I/O analysis. The resulting economic impacts are further discussed below.

Employment

Direct employment includes direct UC employment and additional employment supported by non-salary direct spending. UC employment is about 190,000 (including LBNL). In addition, UC operational spending, capital expenditures, and retiree spending directly supports an additional 68,000 jobs. In total, 258,000 California jobs are directly attributable to UC. Including ripple effects in the state economy (i.e., direct and indirect impacts), approximately 430,000 California jobs are attributable to UC. In other words, this analysis indicates that every UC direct job generates approximately 0.7 indirect and induced jobs in the state economy (an employment multiplier of about 1.7).

Employee Compensation

Some employees are paid hourly while others are salaried workers with benefits. In aggregate, UC employees and other employees directly supported by UC in California earn an estimated $15.6 billion, including fringe benefits. When ripple or multiplier effects in the state economy are considered, nearly $25 billion in employee compensation in California is attributable to UC. In other words, this analysis indicates that every $1 in employee compensation generates approximately $0.60 in additional indirect and induced compensation payments in the state economy (an employment compensation multiplier of 1.6).

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[12] IMPLAN measures output in the retail and wholesale industries as the addition to the price of a product when the product is sold through retail or wholesale trade (i.e., the trade margin).

Figure 7: Summary of UC's Primary Economic Impacts (FY2009-10)

Economic Impact	General Campuses	UC Health[1]	Other UC Entities[2]	University of California Systemwide Total[3]
Direct Economic Impacts				
Employment[4]	186,000	55,000	10,000	258,000
Employee Compensation	$8.0 B	$6.5 B	$0.8 B	$15.6 B
Output	$11.0 B	$7.7 B	$1.2 B	$21.0 B
Value Added	$8.6 B	$6.9 B	$0.9 B	$17.2 B
Indirect & Induced Economic Impacts				
Employment	96,000	61,000	7,000	172,000
Employee Compensation	$5.2 B	$3.6 B	$0.4 B	$9.1 B
Output	$14.0 B	$9.1 B	$1.1 B	$25.4 B
Value Added	$8.6 B	$5.6 B	$0.7 B	$15.6 B
Total Output in California				
Employment	282,000	117,000	17,000	430,000
Employee Compensation	$13.2 B	$10.1 B	$1.2 B	$24.8 B
Output	$25.0 B	$16.7 B	$2.4 B	$46.3 B
Value Added	$17.2 B	$12.5 B	$1.6 B	$32.8 B

[1] Campuses rely on varying cost allocation methods to distribute health professional school expenditures to general campuses versus health centers.

[2] University of California Office of the President, Lawrence Berkeley National Laboratory, and Hastings College of the Law.

[3] Systemwide total is greater than the sum of UC entities because UC retirement distributions are not allocated to general campuses, medical centers, or other entities.

[4] Direct employment includes direct UC employment and additional employment supported by non-salary direct spending. UC employment is about 190,000 (including LBNL).

Sources: UCOP; IMPLAN 2009; and Economic & Planning Systems, Inc.

Economic Output

UC is directly responsible for an estimated $21 billion in economic output in California. This figure reflects UC spending on employee compensation and the total production value of all the goods and services obtained from California producers, including equipment, supplies, insurance, rents, utilities, communication services, printing, and other goods and services. In addition, this figure reflects student and retiree spending in the economy. Including ripple effects in the state economy, UC is responsible for over $46 billion of California's output. In other words, this analysis indicates that every $1 in UC output generates approximately $1.20 additional indirect and induced output in the state economy (an output multiplier of 2.2).

Value Added

Approximately $17 billion in value added in California is directly attributable to UC. Including ripple effects, this figure grows to more than $32 billion. The value added estimate, which is comparable to the UC's contribution to gross state product, indicates that UC activities support nearly 2 percent of California's $1.9 trillion gross state product. In other words, this analysis indicates that every $1 in UC value added generates approximately $0.90 additional indirect and induced value added in the state economy (a value added multiplier of 1.9).

Primary Economic Impacts by Region and Entity

Figure 8 presents a map of UC's systemwide regional impacts on value added (or GSP) in California. Impacts on value added are most pronounced in the Bay Area and Los Angeles, consistent with the concentration of UC operations there. **Figure 9** displays the value added (or GSP) impacts on a per capita basis. Impacts on value added per capita are most notable in the Bay Area, Sacramento region, and Monterey region, where UC is a greater share of the economy.

UC-related economic activity touches every corner of California, making important contributions even in regions where UC does not have a campus. Although UC's absolute economic impacts are largest in regions with a significant UC presence, such as Los Angeles and the San Francisco Bay Area, all of the 14 distinct regions evaluated in this report experience considerable impacts, especially relative to the size of their respective economies. For example, the largest relative impacts (e.g., UC-related employment relative to total employment) occur in the Monterey Bay, Sacramento/Tahoe, and Central Coast regions. Regional impacts that occur in areas where there is no UC campus or medical center are attributable to (1) payments to retirees, (2) wages to UC employees who live in these regions, (3) off-campus extension and outreach programs, and (4) multiplier or ripple effects.

The analysis reveals the economic significance of the UC general campuses and UC Health, which generate a total impact $17.2 billion and $12.5 billion in value added in California, respectively. **Figure** 10 and **Figure 11** present regional impacts from general campuses and UC Health on value added (or GSP) in California. **Figure 12** summarizes the total economic impacts for each UC entity, independently.

Figure 8: UC Systemwide Impact on California Gross State Product by Region

Measure of Economic Value UC Adds to Each Region

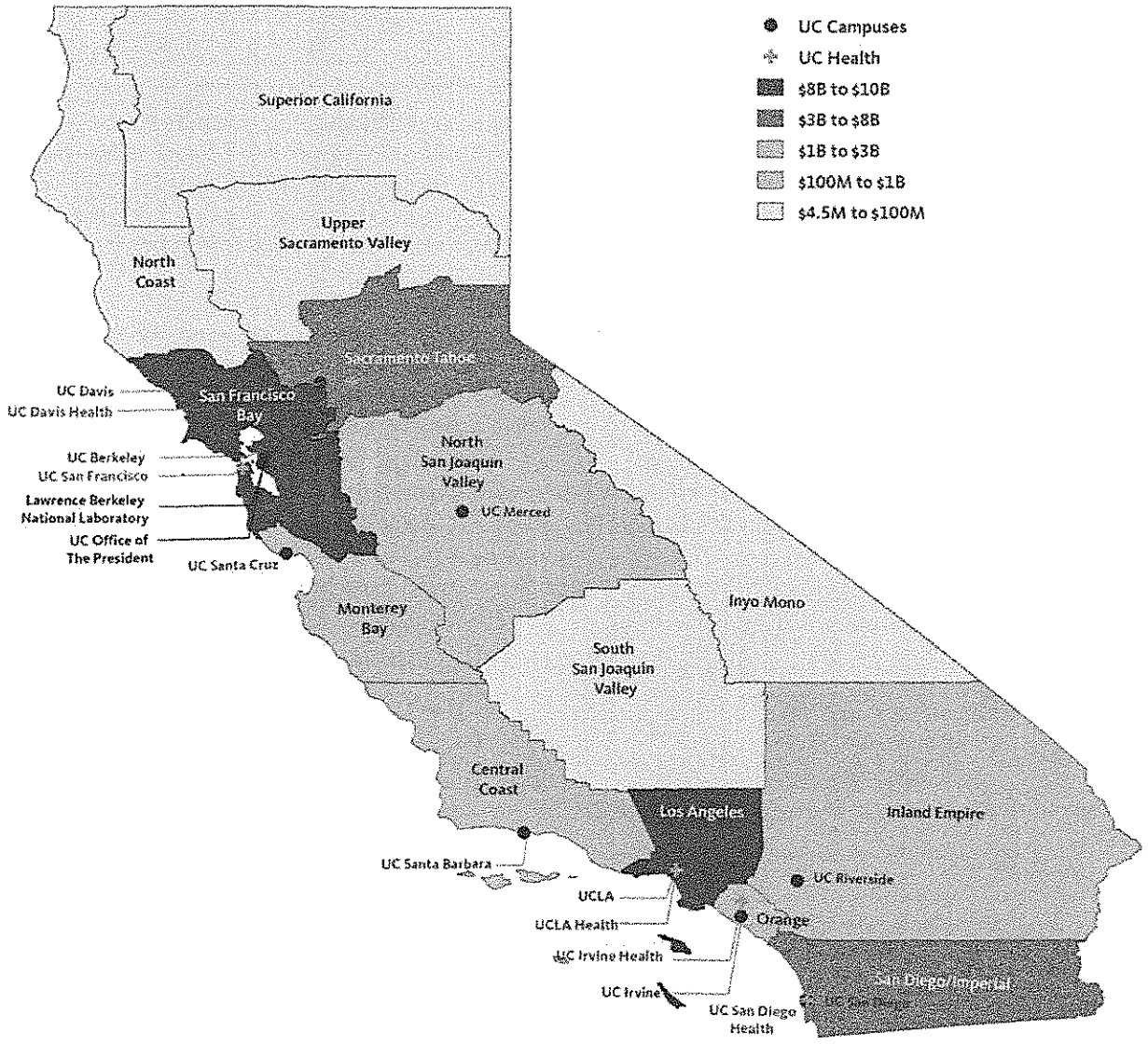

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Figure 9: UC Systemwide Impact on Gross State Product Per Capita

Measure of Economic Value UC Adds to Each Region Relative to Population

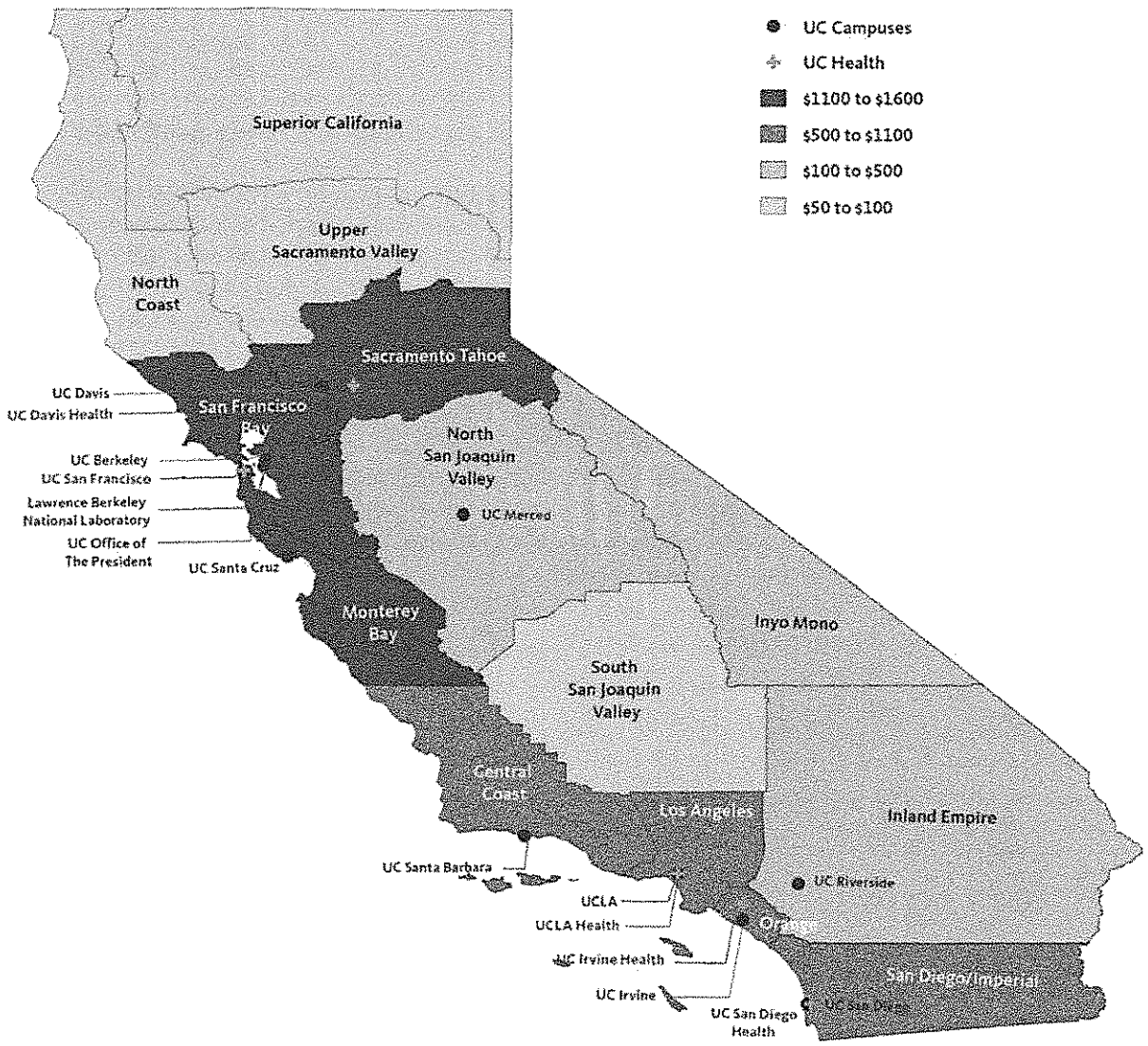

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Figure 10: UC General Campus Impact on California Gross State Product by Region

Measure of Economic Value UC General Campuses Add to Each Region

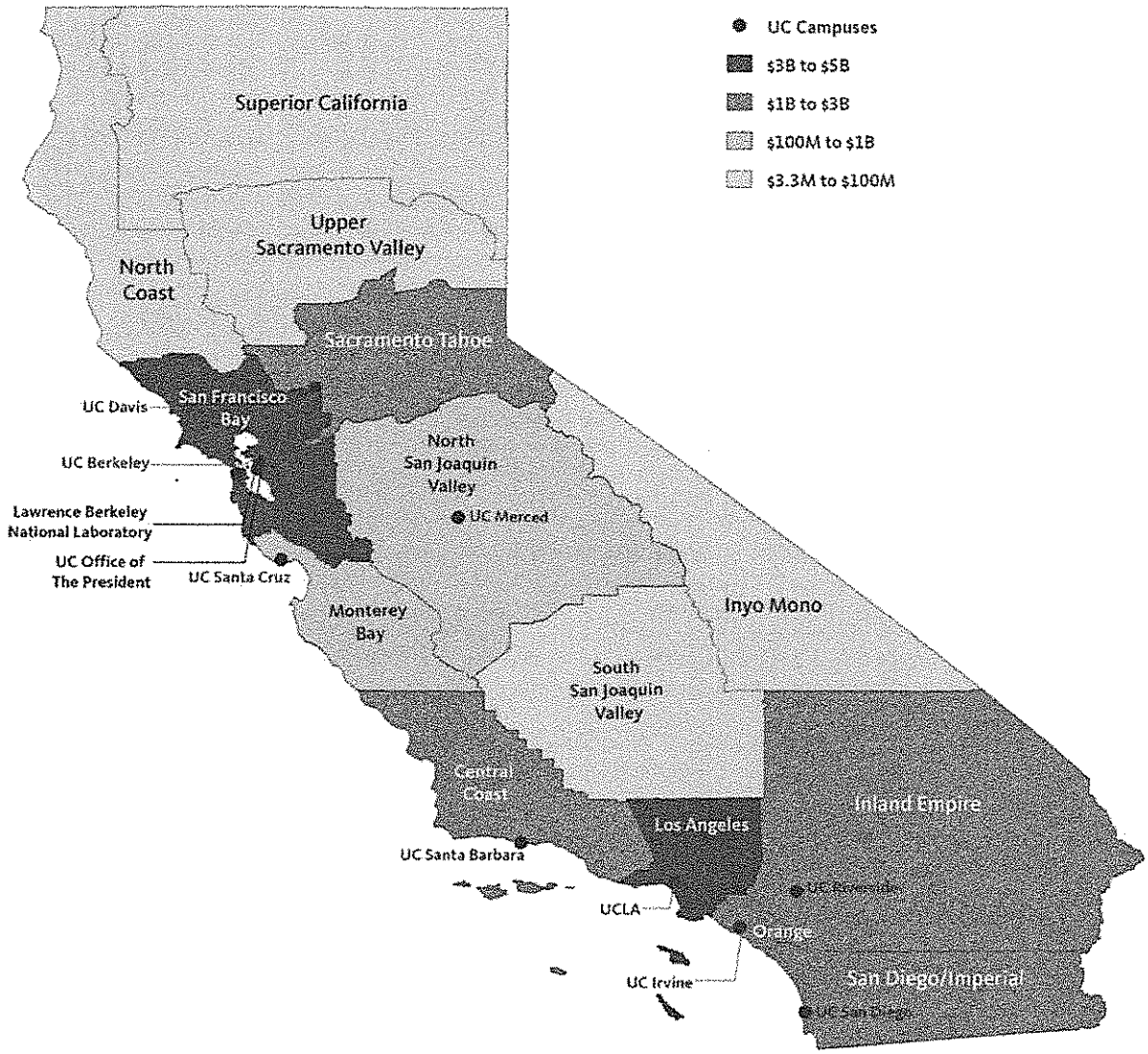

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Figure 11: UC Health Impact on California Gross State Product by Region

Measure of Economic Value UC Health Centers Add to Each Region

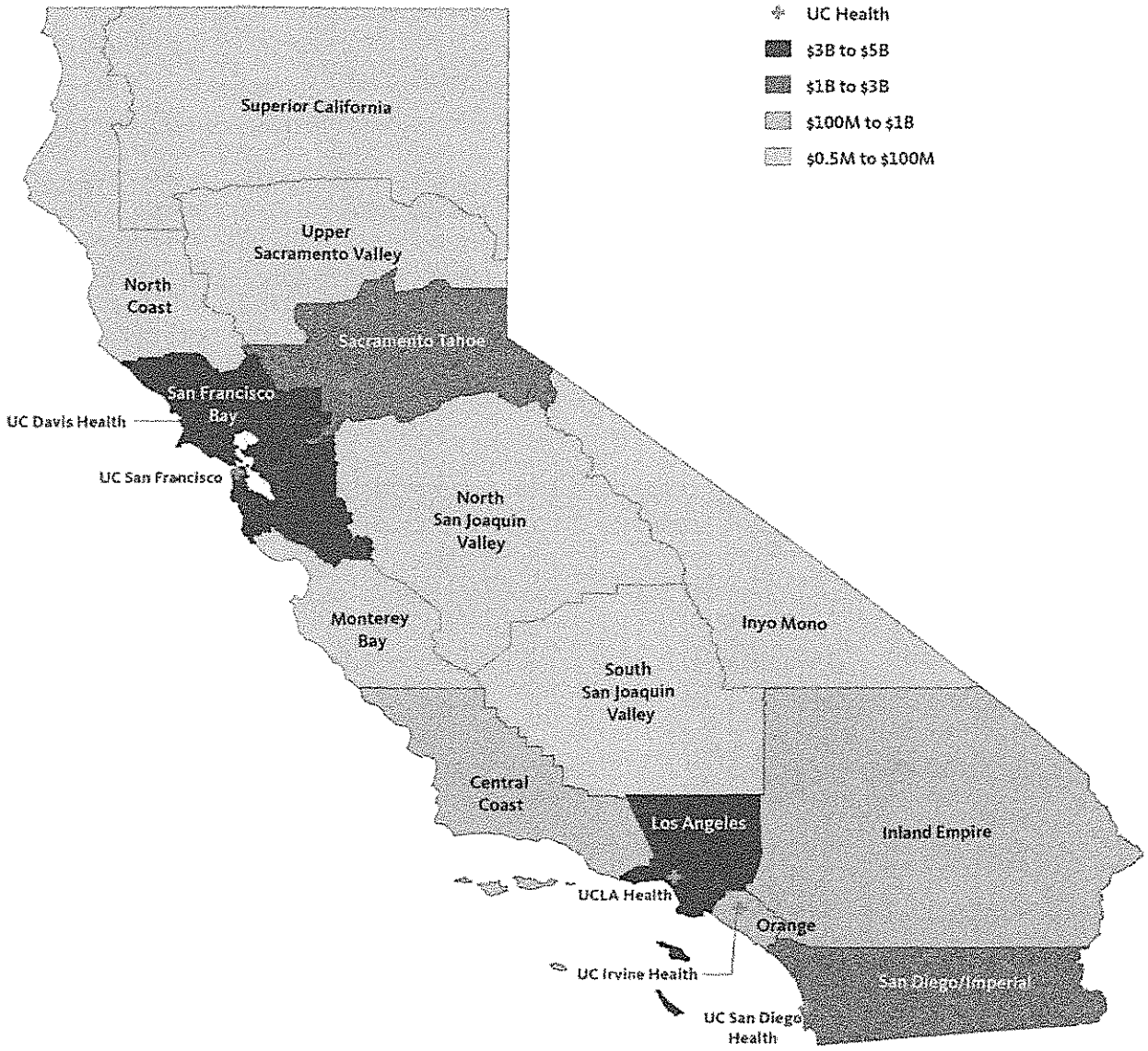

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Figure 12: Summary of Total Economic Impacts by UC Entity (FY2009-10)[1]

UC Entity	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
General Campuses				
UC Berkeley General Campus	43,576	$2,516,477,904	$4,646,647,629	$3,189,539,337
UC Davis General Campus	41,256	$1,858,587,036	$3,230,541,851	$2,255,099,867
UC Irvine General Campus	30,233	$1,627,510,978	$3,076,466,507	$2,148,526,978
UCLA General Campus	65,340	$2,789,843,330	$5,579,149,782	$3,780,240,831
UC Merced General Campus	3,228	$129,478,015	$231,225,349	$165,226,204
UC Riverside General Campus	22,000	$1,020,660,587	$2,044,848,820	$1,365,227,385
UC San Diego General Campus	36,466	$1,406,784,567	$2,614,934,189	$1,817,859,823
UC Santa Barbara General Campus	23,235	$1,082,394,732	$2,085,681,543	$1,443,164,514
UC Santa Cruz General Campus	17,072	$785,993,074	$1,479,038,243	$1,041,341,602
UC Health[6]				
UC Davis Health	14,785	$1,469,868,472	$2,216,638,198	$1,729,321,178
UC Irvine Health	6,263	$405,891,162	$670,713,132	$513,644,652
UCLA Health	40,455	$3,402,449,060	$6,293,683,956	$4,523,178,752
UC San Diego Health	14,447	$1,438,931,511	$2,353,901,242	$1,814,096,191
UC San Francisco	40,658	$3,356,439,213	$5,213,962,665	$3,955,804,239
Other Entities				
Lawrence Berkeley National Laboratory	11,535	$861,455,721	$1,648,745,254	$1,135,404,625
UC Office of the President	5,307	$375,174,182	$712,806,030	$506,731,230

[1] Total impacts include direct, indirect, and induced impacts.
[2] Employment includes part-time and full-time jobs (headcount) at UC as well as other direct, indirect, and induced employment.
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.
[6] Campuses rely on varying cost allocation methods to distribute health professional school expenditures.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Overview of Secondary Economic Impacts

This current analysis focuses on the direct, indirect, and induced impacts of UC spending on the California economy. But the university has additional, significant economic impacts that, while beyond the scope of this current analysis, are worth noting and will be the subject of further study. In addition to stimulating spending in the California economy, UC contributes to the state's economic vitality and the quality of life through its educational opportunities, research, and cultural resources. These impacts are generally considered secondary because they are not directly tied to UC's spending but rather are a byproduct of UC's educational, research, and community service activities. From an economic perspective, the most significant secondary impacts stem from UC's role in enhancing human capital, fostering technological innovation, and promoting business creation in California. These secondary economic impacts are generally difficult to quantify in economic terms but are likely UC's most significant contribution to the California economy. Each is briefly described below.

UC's Role in Enhancing Human Capital

The importance of a high-quality labor force to economic competitiveness has been well documented in both academic and professional journals. Meanwhile, UC schools are consistently among the most highly ranked national universities and graduate programs in engineering, computer science, medicine, biology, agriculture, business, and law, among others. Subsequent analyses will examine and quantify important metrics related to UC's educational programs, including graduates by field of study (particularly relative to emerging and established economic sectors in California), alumni employment and wages, and other workforce development functions.

UC's Role in Innovation and Technology Leadership

As a premier research institution, UC is directly responsible for numerous innovations and scientific discoveries with practical applications in a variety of fields. UC research advances a wide range of sectors, such as information technology, medicine, agriculture, and biotechnology, providing economic benefits to producers and consumers in the form of new and improved products and more effective delivery of services. Identifying and analyzing UC's R&D accomplishments (e.g., through patents, licensing, royalties, and research grant awards) can provide statistical indicators of its technology transfer successes.

UC's Role in Business Creation/Incubation

Both anecdotal information and detailed research and documentation suggest that UC campuses are directly linked to the creation of R&D-related start-ups or spin-off firms as well as clusters of ancillary and support-related businesses and services. In addition to clusters of innovative companies proximate to UC campuses, UC alumni start companies throughout the state and UC patents and inventions are used in both the public and private sector. These activities provide direct economic benefits in the form of increased jobs and output within the state and beyond. Subsequent analyses will describe this process and summarize its magnitude based on available quantitative and qualitative information.

UC's Other Community Benefits

As described in **Chapter 3**, UC provides a number of community benefits that include volunteer programs, research or technical assistance to various public- or private-sector entities, and reduced-cost medical care, to name a few. Further studies will work to determine the monetary value of community benefit programs. For example, in cases where UC provides services that are also provided by for-profit entities (e.g., medical care), the analysis will translate the benefits into a monetary value based on estimates of the equivalent costs of these services on a compensated basis. For benefits that are not provided elsewhere, monetary values may be derived by estimating the costs to provide the services.

6. ANALYSIS OF UC FUNDING

This chapter provides an overview of UC-related expenditures and the various funding sources that support it. The discussion of UC funding sources also addresses the issue of leverage and the degree to which state government funding for UC helps attract funding from other sources. In addition, this chapter evaluates the potential ramifications on California's economy resulting from a cut in UC spending.

UC Operating Expenditure Overview

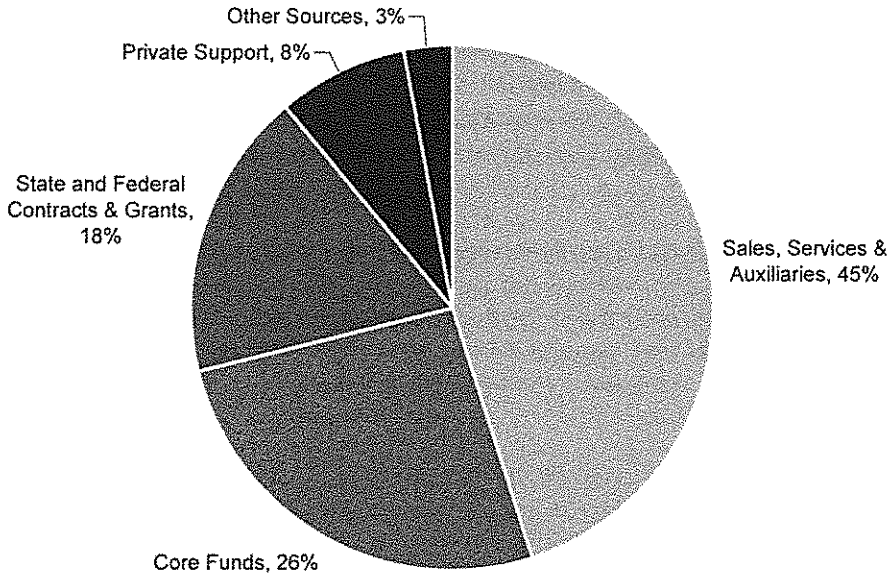
UC's operating budget supports a tripartite mission of teaching, research, and public service, as well as a wide range of activities in support of these responsibilities, including teaching hospitals, Lawrence Berkeley National Laboratory, university extension, housing and dining services, and other functions.

UC's "core funds," consisting of state general funds, UC general funds, and student fee revenue, provide permanent support for the core mission activities of the university as well as the administrative and support services needed to perform these activities.

This economic analysis relies on data from UC fiscal year 2009-10, when UC operating and capital expenditures totaled about $20.3 billion, including both operations and construction (this excludes the retirement system and student expenditures, as shown in **Figure 6**). Although UC is a state institution, UC is funded through a variety of sources, including state and federal government sources, student tuition, sponsored research, private contributions, and other sources, as shown in **Figure 13**. In addition, nearly three-fourths of that funding comes from sources that restrict revenue to specific uses, such as state and federal research contracts and grants, enterprise income, and private donations to support specific scholarships and other programs.

It is important to know that since the year of this study, the state investment that forms the core of UC funding has further declined.

Figure 13: 2009-10 UC Revenue by Source



Source: UCOP

Analysis of UC Leverage

As described above, while the state government provides the seed money necessary to support the core mission of the university, other entities also make significant financial contributions necessary to support the full range of education, research, and public services associated with UC programs, services, and facilities. In this sense, then, California taxpayer dollars allocated to UC are supplemented or leveraged by non-taxpayer dollars. Consequently, the California taxpayer receives a relatively high return-on-investment as a result of state funding for UC, both in terms of the scale and quality of the UC system itself as well as UC's corresponding contribution to the California economy, as quantified in **Chapter 5**.

This section quantifies the return-on-investment associated with UC spending from two perspectives. First it explores the degree to which California taxpayer dollars are supplemented or leveraged by non-taxpayer sources. Second, it considers the degree to which in-state money is leveraged by out-of-state money.

State Government Leverage

In light of recent and potential future changes in state of California funding for UC, it is important to consider the total funding and economic activity that UC generates from every dollar of state funding. The state is critical to funding UC's base operations, providing over $3.3 billion through general support, grants, contracts, health care payments, and special appropriations.

Specifically, state of California government sources funding UC (not including the one-time Recovery Act funds) in 2009-10 total $3.347 billion, as follows:

- $2.591 billion in general support (final Regents budget document, per Budget Office);
- $425 million in Cal Grants (Student Financial Database)
- $163 million in contracts from state agencies (Corporate Financial System)
- $134 million is the state portion of Medicare and Medicaid payments (estimated)
- $34 million in special state appropriations for mandated research programs (Corporate Financial System)

Given the total UC operating and capital expenditures of about $20.3 billion in 2009-10, California taxpayers receive a relatively high return-on-investment from UC. Specifically, the state's $3.35 billion in UC related spending is matched by an additional $17.09 billion from non-state government sources (e.g. federal aid, tuition, and private / nonprofit research grants), a ratio of 1-to-5.1.

The return on investment calculation is even higher when applied to the UC economic contribution to California per tax dollar invested. Specifically, of the $21 billion (UC-related spending less spending leakages out of state) spent in direct output attributable to UC, its employees, its retirees, and its students, about 16 percent comes from the state government. Including economic multiplier or ripple effects, every dollar of state funding generates a total economic impact on output of $13.84. In terms of value added, every dollar of state funding generates a total economic impact on gross state product of $9.80. In terms of jobs, state funding of UC contributes to 430,000 jobs in California supported by UC, which is less than $8,000 in state funding per job. (By comparison, a typical unemployed worker in California receives roughly $11,000 per year in unemployment payments from State Unemployment Insurance (SUI) and other state taxpayer funded sources).[13]

Out-of-State Leverage

This study estimates that approximately $24.5 billion in spending is directly attributable to UC, including spending by UC, its employees, its retirees, and its students in 2009-10 (**Figure 6** in **Chapter 4**). Of that amount, about $8.5 billion (more than one-third of the total) comes from sources located outside of California, including about $7.2 billion from the federal government. These out-of-state funds derive from five separate funding streams:

- **Support for Sponsored Programs.** In FY2009-10, UC spent nearly $4.7 billion on sponsored programs and projects, primarily research activities. California-based governmental agencies, corporations, nonprofit organizations, and other institutions provided about $1 billion in funds. The US government and other entities outside of California provided $3.7 billion for sponsored programs. Federal agencies supplied more than three-

[13] Based on Governor's Budget Summary – 2011-12 and State Employment Development Department (EDD).

quarters of the non-California sponsorship support though competitively awarded grants and contracts.

- **Lawrence Berkeley National Laboratory.** The US Department of Energy appropriated over $903 million in FY2009-10 for LBNL's operations.
- **Medicare and Medicaid.** Expenditures by UC Health amounted to over $5.1 billion in FY2009-10 with nearly $1.8 billion of this amount coming from the federal government in the form of Medicare and Medicaid reimbursements. In addition, UC Health received about another $100 million in private payments from out-of-state insurance carriers and individuals.
- **Student Aid.** Federal scholarship, grant, loan, and other student aid programs supplied nearly $1.6 billion in funds to UC and its students during this period.
- **Student Out-of-Pocket Expenses.** Students who were not California residents spent an estimated $428 million out-of-pocket.

The leveraging of in-state funds with out-of-state money is most evident in UC's research enterprise. In FY2009-10, UC's direct expenditures for research amounted to about $3.7 billion (not including recovered indirect costs). Of this, about $640 million came from UC itself, and another $485 million from other California sources, including both governmental and private, for a total of over $1 billion in in-state funding. Nearly $2.6 billion in support for direct research expenditures came from outside of California, the bulk of this from the federal government. For every dollar that California invests in UC research, non-California sources contribute roughly $2.27, as shown in **Figure 14**.

Figure 14: Research Funding Leverage Effect

Research Expenditure Sources	Expenditures (in millions)	Percent of Total
California Sources		
UC Sources	$643	17%
California Government	$195	5%
California Nonprofit	$145	4%
California Corporations	$69	2%
California Higher Education	$27	1%
Other California Sources	$50	1%
California Sources Subtotal	**$1,129**	**31%**
Out-of-State Sources		
Federal + Other Government	$1,965	53%
Non California Nonprofit	$239	6%
Non California Corporations	$153	4%
Non California Higher Education	$130	4%
Other Non-CA	$75	2%
Out-of-State Sources Subtotal	**$2,562**	**69%**
Total	**$3,691**	**100%**
***Leverage Effect*[1]	***$2.27***	

[1] Leverage is calculated as Out-of-State Sources divided by California Sources.

Source: UCOP; EPS

Federal funds also make a major contribution to the health care delivery operations of UC's medical centers through Medicare and Medicaid payments for patient care. Of the nearly $5.2 billion in patient care expenditures by the medical centers, 35 percent is derived from federal payments for health services. For every dollar that California invests in UC medical centers, non-California sources contribute roughly $0.58, as shown in **Figure 15**.

Figure 15: UC Medical Center Funding Leverage Effect

UC Medical Center Sources	Expenditures (in millions)	Percent of Total
California Sources		
State	$129	2%
Local	$52	1%
Private California	$3,095	60%
California Sources Subtotal	**$3,276**	**63%**
Out-of-State Sources		
Federal	$1,806	35%
Private Non California	$88	2%
Out-of-State Sources Subtotal	**$1,894**	**37%**
Total	**$5,170**	**100%**
***Leverage Effect*[1]**	***$0.58***	

[1] Leverage is calculated as Out-of-State Sources divided by California Sources.

Source: UCOP; EPS

Analysis of UC Funding Scenarios

Given the complex inter-relationships between the state budget, total UC spending, and the California economy, it is important to consider the broader implications and trade-offs associated with UC funding decisions. In this context, the analysis estimates the impact of two scenarios of reduced funding and thus spending by the UC system. Both scenarios posit a $500 million reduction in UC-related spending, and a possible consequence of reduced state funding:

- **Scenario 1: UC Reduces Employee Compensation Only.** In scenario 1, the analysis assumes that UC cuts $500 million in spending on employee compensation.
- **Scenario 2: UC Reduces Total Operating Expenditures.** In scenario 2, the analysis assumes that UC cuts $500 million in spending on total operating expenditures, including employment compensation and non-personnel operating costs. The reduction is allocated to employee compensation and non-personnel operating expenditures based on their current proportions of overall operational expenditures (i.e., 65 percent employee compensation and 35 percent other operating expenditures).

The analysis of funding scenarios assumes that the total spending cut would be allocated to all UC campuses and entities based on their relative shares of current total UC spending. In addition, consistent with the base analysis, the funding scenarios assume that some economic effects occur outside of California.[14]

Caveats to Funding Scenario Analysis

It is important to note that the evaluation of funding scenarios presented here considers primary economic impacts and does not include additional negative secondary impacts associated with a decline in the scale and quality of UC's academic and research programs. Likewise, the estimates exclude the potential economic losses associated with a reduction in UC's ability to effectively attract outside funding and ultimately a corresponding decline in California's economic competitiveness. Conversely, it is also important to note that under both scenarios the primary economic impacts are likely to be less in the long run as workers find other jobs and businesses adapt.

Economic Impact by Funding Scenario

The total statewide impacts associated with each funding scenario are shown below. The results show estimated reductions in economic output, including value added, and employee compensation as a consequence of reduced spending by the UC system. The analysis does not estimate total job losses since this would depend on how UC might respond to reductions in employee compensation resulting from state funding cuts (e.g., through layoffs, pays cuts, reduced hours, or a combination of all the above).

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[14] For non-personnel operating expenditures, the shares of in-state spending are determined on an industry-by-industry basis in the IMPLAN model based on the region in which the direct spending occurs.

Scenario 1–Cuts to Employee Compensation Only

A reduction in employee compensation at UC would affect the direct output attributable to UC as well as the induced economic activity supported by associated household spending. Assuming all else equal, a $500 million cut in employee compensation would result in gross state product falling by about $850 million, including $740 million in lost wages and benefits, as shown in **Figure 16**.

Scenario 2–Cuts to Total Operating Expenditures

As discussed above, a reduction in employee compensation would affect direct output and induced economic activity. In Scenario 2 this effect is combined with reduced spending on other operating expenditures, which affects the sales and employee compensation of UC suppliers. Assuming all else equal, a $500 million reduction in spending on employee compensation and other non-personnel operating costs would result in gross state product contracting by about $740 million, including $600 million in lost wages and benefits, as shown in **Figure 17**.

The average of these two scenarios suggests that every $1 that is cut from the UC budget could result in losses of about $2.10 in the state's economic output, $1.30 in employee compensation and $1.60 value added (i.e., UC's contribution to gross state product).

Figure 16: Total Economic Losses from Scenario 1[1]

Region	Employee Compensation[2]	Economic Output[3]	Value Added[4]
Central Coast	$32,276,325	$51,839,343	$40,460,097
Inland Empire	$27,863,472	$46,028,756	$35,086,281
Inyo-Mono	$121,463	$172,475	$144,400
Los Angeles County	$186,233,309	$310,844,171	$235,262,408
Monterey Bay	$18,085,328	$27,008,886	$21,981,047
North Coast	$322,800	$545,279	$379,312
North San Joaquin Valley	$45,171,772	$11,679,907	$8,648,867
Orange County	$53,014,315	$79,493,563	$63,874,825
Sacramento Tahoe	$89,887,558	$129,527,496	$106,675,966
San Diego Imperial	$85,823,444	$120,442,342	$100,709,796
San Francisco Bay Area	$198,696,043	$280,724,699	$231,496,425
South San Joaquin Valley	$1,658,000	$3,017,789	$1,791,280
Superior California	$280,546	$473,709	$328,928
Upper Sacramento Valley	$635,442	$1,088,358	$756,611
Total Statewide Impacts	**$740,069,817**	**$1,062,886,774**	**$847,596,241**

[1] Total impacts include direct, indirect, and induced impacts.
[2] Includes wages and benefits.
[3] Gross value of goods and services.
[4] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure 17: Total Economic Losses from Scenario 2[1]

Region	Employee Compensation[2]	Economic Output[3]	Value Added[4]
Central Coast	$24,537,925	$42,845,711	$32,042,715
Inland Empire	$20,664,152	$36,730,486	$26,933,966
Inyo-Mono	$83,385	$123,990	$101,143
Los Angeles County	$151,360,151	$277,355,755	$200,308,352
Monterey Bay	$14,032,526	$23,131,635	$17,942,789
North Coast	$239,919	$463,804	$295,515
North San Joaquin Valley	$30,230,134	$10,029,726	$6,856,292
Orange County	$42,529,455	$73,864,120	$55,407,289
Sacramento Tahoe	$66,522,057	$105,932,565	$83,039,675
San Diego Imperial	$65,005,193	$103,088,594	$80,662,144
San Francisco Bay Area	$185,113,680	$318,491,133	$237,548,078
South San Joaquin Valley	$1,285,644	$2,705,579	$1,513,093
Superior California	$211,894	$410,894	$259,938
Upper Sacramento Valley	$462,316	$892,459	$572,530
Total Statewide Impacts	**$602,278,430**	**$996,066,452**	**$743,483,518**

[1] Total impacts include direct, indirect, and induced impacts.
[2] Includes wages and benefits.
[3] Gross value of goods and services.
[4] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

APPENDIX A: DETAILED IMPACT ESTIMATES

Figure A-1: Direct Economic Impacts in California by Region (FY2009-10)

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	14,021	$651,321,490	$906,459,020	$720,416,859
Inland Empire	12,111	$582,333,661	$836,331,620	$634,019,057
Inyo-Mono	4	$2,186,872	$2,498,554	$2,349,868
Los Angeles County	52,973	$3,317,651,936	$4,285,722,184	$3,607,400,784
Monterey Bay	10,423	$394,833,553	$572,031,428	$441,210,616
North Coast	29	$6,149,947	$8,740,607	$7,413,972
North San Joaquin Valley	2,582	$167,721,514	$213,079,067	$183,525,272
Orange County	23,947	$1,281,564,521	$1,767,463,720	$1,431,279,511
Sacramento Tahoe	37,844	$2,065,919,007	$2,710,209,530	$2,262,116,957
San Diego Imperial	34,612	$2,035,081,207	$2,630,280,719	$2,213,925,250
San Francisco Bay Area	69,562	$5,093,037,533	$6,981,356,431	$5,697,656,291
South San Joaquin Valley	22	$18,999,947	$21,030,658	$19,986,901
Superior California	21	$5,138,855	$6,875,873	$5,913,290
Upper Sacramento Valley	31	$11,326,136	$14,055,334	$12,653,969
Total Statewide Impacts	**258,182**	**$15,633,266,179**	**$20,956,134,745**	**$17,239,868,597**

[1] Direct effects represent the initial value of production attributable to UC spending including UC payroll payments, UC non-personnel operating expenditures, UC capital expenditures, and student expenditures.
Employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.

[2] Direct employment includes UC employees and employment generated by spending directly attributable to UC. Includes part-time and full-time workers (headcount).

[3] Includes wages and benefits.

[4] Gross value of goods and services.

[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-2: Indirect and Induced Economic Impacts in California by Region (FY2009-10)

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	10,860	$537,349,981	$1,408,640,166	$895,818,898
Inland Empire	12,555	$588,219,327	$1,534,911,750	$952,921,045
Inyo-Mono	28	$1,256,358	$3,271,685	$2,139,911
Los Angeles County	58,244	$3,192,347,003	$8,478,014,739	$5,246,682,340
Monterey Bay	6,463	$322,185,125	$762,807,654	$513,660,081
North Coast	137	$5,649,837	$19,657,237	$9,283,669
North San Joaquin Valley	2,330	$104,119,029	$350,484,030	$176,520,883
Orange County	12,114	$641,602,187	$1,910,891,861	$1,146,354,507
Sacramento Tahoe	17,642	$828,296,683	$2,382,050,828	$1,477,446,228
San Diego Imperial	15,530	$731,444,690	$2,165,840,013	$1,333,876,904
San Francisco Bay Area	34,987	$2,121,684,375	$6,181,814,361	$3,732,041,148
South San Joaquin Valley	594	$31,533,166	$117,524,977	$53,936,896
Superior California	120	$5,413,621	$18,612,974	$8,725,547
Upper Sacramento Valley	219	$9,724,618	$35,053,477	$16,470,711
Total Statewide Impacts	**171,822**	**$9,120,826,000**	**$25,369,575,752**	**$15,565,878,768**

[1] Indirect impacts represent economic effects on the industries that supply UC with goods and services. Induced impacts represent economic effects that result from personal and household spending attributable to UC.
[2] Employment includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-3: Summary of Total Economic Impacts in California (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	24,881	$1,188,671,469	$2,315,099,189	$1,616,235,757
Inland Empire	24,666	$1,170,552,988	$2,371,243,367	$1,586,940,101
Inyo-Mono	31	$3,443,232	$5,770,238	$4,489,779
Los Angeles County	111,217	$6,509,998,937	$12,763,736,921	$8,854,083,122
Monterey Bay	16,886	$717,018,678	$1,334,839,081	$954,870,699
North Coast	166	$11,799,786	$28,397,844	$16,697,639
North San Joaquin Valley	4,911	$271,840,545	$563,563,095	$360,046,155
Orange County	36,060	$1,923,166,708	$3,678,355,581	$2,577,634,017
Sacramento Tahoe	55,486	$2,894,215,687	$5,092,260,360	$3,739,563,186
San Diego Imperial	50,142	$2,766,525,901	$4,796,120,733	$3,547,802,157
San Francisco Bay Area	104,549	$7,214,721,908	$13,163,170,794	$9,429,697,441
South San Joaquin Valley	617	$50,533,115	$138,555,636	$73,923,796
Superior California	141	$10,552,473	$25,488,848	$14,638,835
Upper Sacramento Valley	250	$21,050,757	$49,108,813	$29,124,679
Total Statewide Impacts	**430,004**	**$24,754,092,184**	**$46,325,710,500**	**$32,805,747,363**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC.
Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-4: Summary of Total Employment Impacts in California, by Region (FY2009-10)

Region	UC Economic Impact		State of California		UC Share of Total
	Employment	% of Total	Employment	% of Total	
Central Coast	24,881	5.8%	779,521	3.9%	3.2%
Inland Empire	24,666	5.7%	1,536,724	7.7%	1.6%
Inyo-Mono	31	0.0%	19,181	0.1%	0.2%
Los Angeles County	111,217	25.9%	5,445,030	27.4%	2.0%
Monterey Bay	16,886	3.9%	379,091	1.9%	4.5%
North Coast	166	0.0%	132,233	0.7%	0.1%
North San Joaquin Valley	4,911	1.1%	1,098,981	5.5%	0.4%
Orange County	36,060	8.4%	2,021,290	10.2%	1.8%
Sacramento Tahoe	55,486	12.9%	1,275,158	6.4%	4.4%
San Diego Imperial	50,142	11.7%	1,909,795	9.6%	2.6%
San Francisco Bay Area	104,549	24.3%	4,405,920	22.2%	2.4%
South San Joaquin Valley	617	0.1%	582,467	2.9%	0.1%
Superior California	141	0.0%	122,767	0.6%	0.1%
Upper Sacramento Valley	250	0.1%	148,827	0.7%	0.2%
Total Statewide Impacts	**430,004**	**100.0%**	**19,856,985**	**100.0%**	**2.2%**

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-5: Summary of Total Employee Compensation Impacts in California, by Region (FY2009-10)

Region	UC Economic Impact		State of California		UC Share of Total
	Employee Comp	% of Total	Employee Comp	% of Total	
Central Coast	$1,188,671,469	4.8%	$41,640,896,308	3.6%	2.9%
Inland Empire	$1,170,552,988	4.7%	$73,334,023,765	6.3%	1.6%
Inyo-Mono	$3,443,232	0.0%	$845,348,346	0.1%	0.4%
Los Angeles County	$6,509,998,937	26.3%	$317,182,221,077	27.3%	2.1%
Monterey Bay	$717,018,678	2.9%	$19,322,537,550	1.7%	3.7%
North Coast	$11,799,786	0.0%	$5,563,485,021	0.5%	0.2%
North San Joaquin Valley	$271,840,545	1.1%	$51,608,648,974	4.4%	0.5%
Orange County	$1,923,166,708	7.8%	$112,591,845,581	9.7%	1.7%
Sacramento Tahoe	$2,894,215,687	11.7%	$69,570,452,473	6.0%	4.2%
San Diego Imperial	$2,766,525,901	11.2%	$110,630,218,485	9.5%	2.5%
San Francisco Bay Area	$7,214,721,908	29.1%	$316,625,268,128	27.3%	2.3%
South San Joaquin Valley	$50,533,115	0.2%	$28,939,371,851	2.5%	0.2%
Superior California	$10,552,473	0.0%	$5,452,892,609	0.5%	0.2%
Upper Sacramento Valley	$21,050,757	0.1%	$6,565,084,427	0.6%	0.3%
Total Statewide Impacts	**$24,754,092,184**	**100.0%**	**$1,159,872,294,595**	**100.0%**	**2.1%**

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-6: Summary of Total Output Impacts in California, by Region (FY2009-10)

Region	UC Economic Impact		State of California		UC Share of Total
	Economic Output	% of Total	Economic Output	% of Total	
Central Coast	$2,315,099,189	5.0%	$119,676,769,894	3.7%	1.9%
Inland Empire	$2,371,243,367	5.1%	$194,497,691,659	6.0%	1.2%
Inyo-Mono	$5,770,238	0.0%	$2,116,226,315	0.1%	0.3%
Los Angeles County	$12,763,736,921	27.6%	$889,815,221,261	27.6%	1.4%
Monterey Bay	$1,334,839,081	2.9%	$46,580,790,643	1.4%	2.9%
North Coast	$28,397,844	0.1%	$14,681,265,620	0.5%	0.2%
North San Joaquin Valley	$563,563,095	1.2%	$147,304,751,479	4.6%	0.4%
Orange County	$3,678,355,581	7.9%	$325,399,577,421	10.1%	1.1%
Sacramento Tahoe	$5,092,260,360	11.0%	$165,458,200,959	5.1%	3.1%
San Diego Imperial	$4,796,120,733	10.4%	$285,278,710,974	8.9%	1.7%
San Francisco Bay Area	$13,163,170,794	28.4%	$913,785,210,166	28.3%	1.4%
South San Joaquin Valley	$138,555,636	0.3%	$86,082,778,519	2.7%	0.2%
Superior California	$25,488,848	0.1%	$13,596,149,876	0.4%	0.2%
Upper Sacramento Valley	$49,108,813	0.1%	$19,023,092,336	0.6%	0.3%
Total Statewide Impacts	**$46,325,710,500**	**100.0%**	**$3,223,296,437,122**	**100.0%**	**1.4%**

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-7: Summary of Total Value Added Impacts in California, by Region (FY2009-10)

Region	UC Economic Impact		State of California		UC Share of Total
	Value-Added	% of Total	Value-Added	% of Total	
Central Coast	$1,616,235,757	4.9%	$67,757,918,686	3.6%	2.4%
Inland Empire	$1,586,940,101	4.8%	$114,488,925,434	6.1%	1.4%
Inyo-Mono	$4,489,779	0.0%	$1,345,352,400	0.1%	0.3%
Los Angeles County	$8,854,083,122	27.0%	$523,070,856,687	27.9%	1.7%
Monterey Bay	$954,870,699	2.9%	$28,799,948,006	1.5%	3.3%
North Coast	$16,697,639	0.1%	$8,514,042,796	0.5%	0.2%
North San Joaquin Valley	$360,046,155	1.1%	$78,609,580,184	4.2%	0.5%
Orange County	$2,577,634,017	7.9%	$192,689,395,334	10.3%	1.3%
Sacramento Tahoe	$3,739,563,186	11.4%	$105,851,703,921	5.6%	3.5%
San Diego Imperial	$3,547,802,157	10.8%	$178,039,983,298	9.5%	2.0%
San Francisco Bay Area	$9,429,697,441	28.7%	$513,331,139,000	27.4%	1.8%
South San Joaquin Valley	$73,923,796	0.2%	$43,679,681,154	2.3%	0.2%
Superior California	$14,638,835	0.0%	$8,130,316,067	0.4%	0.2%
Upper Sacramento Valley	$29,124,679	0.1%	$10,253,383,779	0.5%	0.3%
Total Statewide Impacts	**$32,805,747,363**	**100.0%**	**$1,874,562,226,746**	**100.0%**	**1.8%**

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-8: Summary of Total Economic Impacts by UC Entity (FY2009-10)[1]

UC Entity	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
General Campuses				
UC Berkeley General Campus	43,576	$2,516,477,904	$4,646,647,629	$3,189,539,337
UC Davis General Campus	41,256	$1,858,587,036	$3,230,541,851	$2,255,099,867
UC Irvine General Campus	30,233	$1,627,510,978	$3,076,466,507	$2,148,526,978
UCLA General Campus	65,340	$2,789,843,330	$5,579,149,782	$3,780,240,831
UC Merced General Campus	3,228	$129,478,015	$231,225,349	$165,226,204
UC Riverside General Campus	22,000	$1,020,660,587	$2,044,848,820	$1,365,227,385
UC San Diego General Campus	36,466	$1,406,784,567	$2,614,934,189	$1,817,859,823
UC Santa Barbara General Campus	23,235	$1,082,394,732	$2,085,681,543	$1,443,164,514
UC Santa Cruz General Campus	17,072	$785,993,074	$1,479,038,243	$1,041,341,602
UC Health[6]				
UC Davis Health	14,785	$1,469,868,472	$2,216,638,198	$1,729,321,178
UC Irvine Health	6,263	$405,891,162	$670,713,132	$513,644,652
UCLA Health	40,455	$3,402,449,060	$6,293,683,956	$4,523,178,752
UC San Diego Health	14,447	$1,438,931,511	$2,353,901,242	$1,814,096,191
UC San Francisco	40,658	$3,356,439,213	$5,213,962,665	$3,955,804,239
Other Entities				
Lawrence Berkeley National Laboratory	11,535	$861,455,721	$1,648,745,254	$1,135,404,625
UC Office of the President	5,307	$375,174,182	$712,806,030	$506,731,230

[1] Total impacts include direct, indirect, and induced impacts.
[2] Employment includes part-time and full-time jobs (headcount) at UC as well as other direct, indirect, and induced employment.
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.
[6] Campuses rely on varying cost allocation methods to distribute health professional school expenditures.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-9: Total Economic Impact of UC Berkeley General Campus (FY2009-10)[1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	62	$4,772,965	$11,369,335	$6,779,010
Inland Empire	115	$7,295,418	$18,596,459	$10,606,012
Inyo-Mono	2	$199,754	$322,931	$249,815
Los Angeles County	444	$34,387,129	$81,976,590	$49,916,611
Monterey Bay	158	$9,969,216	$23,138,404	$14,399,659
North Coast	26	$1,777,442	$4,708,834	$2,462,209
North San Joaquin Valley	263	$47,554,377	$49,099,846	$24,316,315
Orange County	83	$7,459,895	$18,893,792	$10,945,668
Sacramento Tahoe	238	$23,854,359	$49,257,308	$32,323,430
San Diego Imperial	46	$4,628,832	$10,759,619	$6,327,562
San Francisco Bay Area	42,031	$2,366,920,476	$4,356,385,361	$3,020,027,165
South San Joaquin Valley	54	$3,857,602	$11,828,004	$5,936,778
Superior California	24	$1,822,697	$4,619,224	$2,467,534
Upper Sacramento Valley	30	$1,977,742	$5,691,922	$2,781,570
Total Statewide Impacts	**43,576**	**$2,516,477,904**	**$4,646,647,629**	**$3,189,539,337**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC.
Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-10: Total Economic Impact of UC Davis General Campus (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	65	$7,018,074	$12,892,046	$8,853,476
Inland Empire	131	$11,781,135	$22,750,628	$15,334,588
Inyo-Mono	2	$320,116	$472,376	$382,834
Los Angeles County	433	$34,787,715	$80,269,963	$50,457,477
Monterey Bay	83	$9,482,017	$15,407,436	$11,626,091
North Coast	21	$2,911,451	$4,723,547	$3,450,019
North San Joaquin Valley	256	$134,730,079	$52,718,636	$33,209,405
Orange County	67	$7,492,769	$15,859,146	$9,938,905
Sacramento Tahoe	38,908	$1,423,253,011	$2,623,247,773	$1,841,128,753
San Diego Imperial	58	$9,306,279	$15,738,755	$11,362,397
San Francisco Bay Area	1,072	$193,365,636	$345,590,362	$240,702,248
South San Joaquin Valley	66	$12,257,213	$19,208,963	$13,876,553
Superior California	28	$3,821,655	$6,708,982	$4,646,273
Upper Sacramento Valley	65	$8,059,887	$14,953,236	$10,130,848
Total Statewide Impacts	**41,256**	**$1,858,587,036**	**$3,230,541,851**	**$2,255,099,867**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC. Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-11: Total Economic Impact of UC Irvine General Campus (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	88	$6,194,820	$15,926,580	$9,353,431
Inland Empire	852	$84,379,544	$152,756,861	$109,699,229
Inyo-Mono	1	$27,192	$79,935	$45,233
Los Angeles County	2,335	$219,532,318	$485,239,250	$310,830,957
Monterey Bay	9	$779,315	$1,513,867	$1,017,340
North Coast	3	$163,653	$515,970	$232,198
North San Joaquin Valley	23	$4,568,106	$4,667,672	$2,218,656
Orange County	26,683	$1,282,732,711	$2,352,628,366	$1,675,912,787
Sacramento Tahoe	16	$2,024,176	$3,778,455	$2,584,034
San Diego Imperial	116	$14,310,228	$29,772,857	$19,119,651
San Francisco Bay Area	73	$10,635,425	$22,452,540	$14,246,189
South San Joaquin Valley	29	$1,880,304	$6,203,812	$2,861,498
Superior California	2	$99,140	$357,262	$146,806
Upper Sacramento Valley	3	$184,046	$573,082	$258,967
Total Statewide Impacts	**30,233**	**$1,627,510,978**	**$3,076,466,507**	**$2,148,526,978**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC. Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-12: Total Economic Impact of UCLA General Campus (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	788	$64,805,267	$135,959,899	$92,173,411
Inland Empire	806	$54,531,791	$133,682,931	$79,942,144
Inyo-Mono	2	$99,382	$303,652	$184,626
Los Angeles County	62,199	$2,509,529,362	$4,942,124,831	$3,385,040,059
Monterey Bay	19	$1,456,434	$3,097,077	$1,954,324
North Coast	8	$396,275	$1,266,603	$562,697
North San Joaquin Valley	60	$10,021,598	$12,624,533	$5,619,522
Orange County	917	$81,550,607	$203,417,459	$123,495,357
Sacramento Tahoe	38	$4,662,871	$8,988,993	$6,023,631
San Diego Imperial	156	$14,300,105	$38,319,911	$21,368,031
San Francisco Bay Area	236	$39,593,014	$74,529,708	$51,154,864
South San Joaquin Valley	97	$7,826,764	$21,845,643	$11,267,764
Superior California	6	$391,843	$1,139,674	$538,933
Upper Sacramento Valley	9	$678,017	$1,848,867	$915,467
Total Statewide Impacts	**65,340**	**$2,789,843,330**	**$5,579,149,782**	**$3,780,240,831**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC.
Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-13: Total Economic Impact of UC Merced General Campus (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	9	$890,167	$1,758,633	$1,220,955
Inland Empire	8	$615,278	$1,320,272	$852,855
Inyo-Mono	0	$2,010	$6,118	$3,420
Los Angeles County	51	$4,005,801	$9,409,266	$6,147,461
Monterey Bay	13	$1,453,021	$2,374,812	$1,844,216
North Coast	0	$41,999	$91,595	$54,622
North San Joaquin Valley	3,031	$109,917,360	$188,896,490	$137,348,863
Orange County	6	$478,800	$1,270,998	$749,828
Sacramento Tahoe	19	$2,066,458	$4,073,691	$2,845,399
San Diego Imperial	3	$365,671	$816,365	$513,964
San Francisco Bay Area	74	$8,172,835	$18,108,785	$11,706,970
South San Joaquin Valley	12	$1,382,055	$2,854,058	$1,815,009
Superior California	0	$47,020	$102,851	$61,087
Upper Sacramento Valley	1	$39,540	$141,416	$61,556
Total Statewide Impacts	**3,228**	**$129,478,015**	**$231,225,349**	**$165,226,204**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC. Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-14: Total Economic Impact of UC Riverside General Campus (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	71	$4,747,811	$13,010,298	$7,695,717
Inland Empire	19,842	$826,397,437	$1,601,959,588	$1,093,484,143
Inyo-Mono	1	$47,266	$127,030	$78,438
Los Angeles County	1,454	$116,415,320	$282,258,562	$172,430,912
Monterey Bay	7	$645,189	$1,268,855	$830,229
North Coast	3	$153,686	$518,221	$220,560
North San Joaquin Valley	25	$9,809,436	$5,377,564	$2,940,441
Orange County	368	$38,438,705	$82,307,019	$53,907,702
Sacramento Tahoe	12	$1,324,457	$2,641,709	$1,674,347
San Diego Imperial	118	$12,093,892	$28,734,003	$17,469,091
San Francisco Bay Area	69	$8,152,082	$19,932,710	$11,067,743
South San Joaquin Valley	23	$2,185,176	$5,805,962	$3,062,121
Superior California	2	$104,884	$370,724	$152,601
Upper Sacramento Valley	3	$145,245	$536,572	$213,340
Total Statewide Impacts	**22,000**	**$1,020,660,587**	**$2,044,848,820**	**$1,365,227,385**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC.
Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-15: Total Economic Impact of UC Santa Barbara General Campus (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	21,473	$937,281,985	$1,750,340,196	$1,240,542,871
Inland Empire	169	$10,244,776	$25,554,647	$15,181,581
Inyo-Mono	7	$1,254,302	$1,698,982	$1,471,031
Los Angeles County	1,162	$81,958,443	$208,046,100	$125,149,847
Monterey Bay	21	$2,049,410	$3,737,122	$2,633,175
North Coast	3	$209,172	$543,995	$275,058
North San Joaquin Valley	34	$10,822,720	$6,903,023	$3,633,871
Orange County	99	$8,306,101	$22,010,262	$12,671,843
Sacramento Tahoe	19	$2,368,491	$4,332,230	$2,961,089
San Diego Imperial	62	$6,535,812	$16,877,145	$10,391,106
San Francisco Bay Area	140	$17,668,874	$35,917,208	$23,066,459
South San Joaquin Valley	39	$3,066,901	$8,310,158	$4,385,699
Superior California	2	$167,551	$441,193	$223,762
Upper Sacramento Valley	4	$460,194	$969,281	$577,123
Total Statewide Impacts	**23,235**	**$1,082,394,732**	**$2,085,681,543**	**$1,443,164,514**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC.
Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-16: Total Economic Impact of UC Santa Cruz General Campus (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	63	$4,346,544	$10,509,367	$6,599,113
Inland Empire	42	$2,717,827	$6,698,628	$3,925,812
Inyo-Mono	0	$10,202	$30,343	$16,870
Los Angeles County	213	$16,215,606	$38,263,420	$23,504,738
Monterey Bay	15,762	$640,365,318	$1,168,969,725	$841,797,419
North Coast	5	$586,263	$1,122,438	$722,696
North San Joaquin Valley	61	$4,207,977	$12,294,459	$6,091,181
Orange County	31	$2,555,567	$6,716,335	$3,859,714
Sacramento Tahoe	42	$4,607,201	$9,054,047	$6,072,945
San Diego Imperial	17	$1,860,897	$4,109,605	$2,530,733
San Francisco Bay Area	807	$106,065,270	$214,832,633	$142,844,198
South San Joaquin Valley	20	$1,760,298	$4,572,796	$2,427,918
Superior California	4	$337,883	$785,071	$440,257
Upper Sacramento Valley	6	$356,220	$1,079,376	$508,007
Total Statewide Impacts	**17,072**	**$785,993,074**	**$1,479,038,243**	**$1,041,341,602**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC. Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-17: Total Economic Impact of UC San Diego General Campus (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	58	$4,274,941	$10,972,070	$6,523,038
Inland Empire	440	$28,487,672	$69,442,295	$41,186,746
Inyo-Mono	4	$732,965	$994,825	$856,586
Los Angeles County	798	$59,015,187	$161,885,965	$91,160,884
Monterey Bay	14	$1,442,159	$2,517,666	$1,826,578
North Coast	5	$553,255	$1,093,131	$684,401
North San Joaquin Valley	25	$8,092,171	$5,352,611	$2,774,105
Orange County	273	$22,646,845	$56,477,269	$33,752,997
Sacramento Tahoe	19	$2,590,308	$4,610,836	$3,233,814
San Diego Imperial	34,680	$1,259,633,868	$2,255,777,804	$1,609,808,016
San Francisco Bay Area	119	$17,209,746	$38,921,176	$22,829,761
South San Joaquin Valley	24	$1,746,426	$5,784,343	$2,720,992
Superior California	2	$143,216	$437,193	$200,167
Upper Sacramento Valley	4	$215,809	$667,005	$301,739
Total Statewide Impacts	**36,466**	**$1,406,784,567**	**$2,614,934,189**	**$1,817,859,823**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC. Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-18: Total Economic Impact of UC Davis Health (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	16	$1,487,348	$3,138,275	$1,801,791
Inland Empire	28	$2,009,554	$4,493,557	$2,605,967
Inyo-Mono	0	$26,929	$59,984	$36,104
Los Angeles County	181	$14,267,357	$32,594,054	$20,044,242
Monterey Bay	18	$1,569,486	$2,771,535	$1,814,806
North Coast	5	$389,027	$854,546	$489,701
North San Joaquin Valley	142	$92,276,818	$29,708,321	$20,015,365
Orange County	27	$2,971,675	$6,185,298	$3,797,835
Sacramento Tahoe	13,864	$1,283,225,553	$1,999,651,732	$1,588,403,206
San Diego Imperial	13	$1,427,993	$3,145,930	$1,816,785
San Francisco Bay Area	438	$63,656,782	$121,984,852	$80,767,183
South San Joaquin Valley	14	$1,540,967	$3,152,124	$1,484,369
Superior California	6	$608,467	$1,245,234	$770,888
Upper Sacramento Valley	32	$4,410,515	$7,652,756	$5,472,935
Total Statewide Impacts	**14,785**	**$1,469,868,472**	**$2,216,638,198**	**$1,729,321,178**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC.
Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-19: Total Economic Impact of UC Irvine Health (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	22	$1,734,423	$3,974,016	$2,520,325
Inland Empire	129	$13,043,063	$23,074,298	$16,847,939
Inyo-Mono	0	$4,501	$13,571	$7,609
Los Angeles County	585	$65,750,889	$123,611,592	$87,228,133
Monterey Bay	1	$54,335	$130,448	$69,760
North Coast	1	$43,399	$93,766	$55,055
North San Joaquin Valley	6	$2,819,000	$1,167,011	$704,772
Orange County	5,459	$312,433,504	$501,297,937	$393,831,396
Sacramento Tahoe	3	$408,426	$692,956	$489,857
San Diego Imperial	35	$6,220,312	$10,112,091	$7,627,637
San Francisco Bay Area	16	$2,907,146	$5,254,787	$3,618,269
South San Joaquin Valley	5	$437,082	$1,174,218	$594,466
Superior California	0	$11,217	$40,522	$16,354
Upper Sacramento Valley	0	$23,866	$75,919	$33,081
Total Statewide Impacts	**6,263**	**$405,891,162**	**$670,713,132**	**$513,644,652**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC. Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-20: Total Economic Impact of UCLA Health (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	1,009	$88,270,236	$177,528,924	$123,410,756
Inland Empire	760	$56,100,065	$126,677,572	$79,935,184
Inyo-Mono	3	$298,827	$557,612	$412,491
Los Angeles County	37,240	$3,118,724,797	$5,653,310,006	$4,120,045,543
Monterey Bay	14	$823,996	$2,077,457	$1,168,329
North Coast	5	$222,024	$785,285	$334,630
North San Joaquin Valley	50	$7,391,837	$10,589,569	$4,471,213
Orange County	935	$86,757,365	$209,004,862	$129,511,248
Sacramento Tahoe	22	$1,935,813	$4,734,790	$2,714,928
San Diego Imperial	153	$15,156,045	$38,626,974	$22,201,816
San Francisco Bay Area	166	$20,305,726	$48,685,869	$29,148,298
South San Joaquin Valley	90	$6,081,596	$19,464,506	$9,214,380
Superior California	4	$152,354	$605,616	$236,743
Upper Sacramento Valley	5	$228,380	$1,034,913	$373,191
Total Statewide Impacts	**40,455**	**$3,402,449,060**	**$6,293,683,956**	**$4,523,178,752**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC. Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-21: Total Economic Impact of UC San Diego Health (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	38	$2,770,997	$7,323,271	$4,306,838
Inland Empire	334	$24,643,618	$52,653,127	$34,142,485
Inyo-Mono	0	$12,416	$37,036	$19,642
Los Angeles County	482	$33,572,428	$92,678,198	$52,866,770
Monterey Bay	7	$635,888	$1,185,665	$824,511
North Coast	2	$78,788	$246,325	$115,360
North San Joaquin Valley	12	$1,811,897	$2,544,432	$1,087,392
Orange County	180	$14,889,967	$37,134,756	$22,467,458
Sacramento Tahoe	8	$1,009,541	$1,990,768	$1,318,572
San Diego Imperial	13,298	$1,349,911,718	$2,133,882,604	$1,683,457,975
San Francisco Bay Area	69	$8,593,190	$20,615,260	$11,919,729
South San Joaquin Valley	14	$899,018	$3,209,850	$1,410,329
Superior California	1	$38,487	$135,360	$58,109
Upper Sacramento Valley	1	$63,556	$264,589	$101,021
Total Statewide Impacts	**14,447**	**$1,438,931,511**	**$2,353,901,242**	**$1,814,096,191**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC.
Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-22: Total Economic Impact of UC San Francisco (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	50	$4,310,222	$9,409,455	$5,284,110
Inland Empire	80	$5,111,731	$12,393,404	$6,780,251
Inyo-Mono	1	$40,749	$95,712	$56,169
Los Angeles County	347	$30,252,933	$62,498,566	$37,107,585
Monterey Bay	138	$10,126,127	$20,406,941	$13,302,089
North Coast	20	$1,706,315	$3,747,210	$2,196,338
North San Joaquin Valley	384	$242,004,483	$78,491,242	$53,126,204
Orange County	73	$6,897,327	$16,178,348	$9,233,755
Sacramento Tahoe	280	$37,138,840	$63,385,946	$45,434,502
San Diego Imperial	47	$6,085,151	$11,855,237	$7,605,406
San Francisco Bay Area	39,155	$3,005,615,428	$4,918,839,201	$3,767,412,762
South San Joaquin Valley	47	$4,975,189	$10,227,344	$5,278,781
Superior California	14	$731,972	$2,302,146	$1,046,182
Upper Sacramento Valley	21	$1,442,748	$4,131,913	$1,940,105
Total Statewide Impacts	**40,658**	**$3,356,439,213**	**$5,213,962,665**	**$3,955,804,239**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC.
Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-23: Total Economic Impact of Lawrence Berkeley National Laboratory (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	14	$891,908	$2,504,638	$1,299,918
Inland Empire	32	$1,739,201	$4,689,889	$2,565,653
Inyo-Mono	0	$15,598	$39,694	$23,669
Los Angeles County	119	$7,967,112	$20,501,732	$11,710,655
Monterey Bay	46	$2,448,375	$6,105,688	$3,640,079
North Coast	8	$739,747	$1,570,479	$959,698
North San Joaquin Valley	105	$31,027,834	$18,833,651	$10,776,915
Orange County	23	$1,679,600	$4,804,660	$2,556,303
Sacramento Tahoe	79	$6,880,374	$14,787,541	$9,477,221
San Diego Imperial	13	$1,210,511	$2,966,192	$1,660,176
San Francisco Bay Area	11,064	$804,720,234	$1,565,995,160	$1,087,757,916
South San Joaquin Valley	16	$1,132,919	$3,270,947	$1,593,095
Superior California	6	$350,896	$1,000,479	$496,876
Upper Sacramento Valley	9	$651,412	$1,674,504	$886,450
Total Statewide Impacts	**11,535**	**$861,455,721**	**$1,648,745,254**	**$1,135,404,625**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC. Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

Figure A-24: Total Economic Impact of UC Office of the President (FY2009-10) [1]

Region	Employment[2]	Employee Compensation[3]	Economic Output[4]	Value Added[5]
Central Coast	63	$8,410,817	$13,419,964	$10,477,947
Inland Empire	19	$1,598,132	$3,170,143	$2,133,088
Inyo-Mono	0	$62,324	$91,123	$75,058
Los Angeles County	69	$6,005,339	$12,981,624	$8,386,290
Monterey Bay	90	$11,156,406	$17,401,284	$13,830,602
North Coast	2	$83,859	$323,314	$142,826
North San Joaquin Valley	28	$5,210,506	$5,125,976	$2,506,016
Orange County	20	$3,136,162	$5,440,634	$3,960,037
Sacramento Tahoe	52	$7,492,623	$12,493,526	$9,398,429
San Diego Imperial	7	$931,671	$1,847,570	$1,214,340
San Francisco Bay Area	4,945	$330,108,383	$638,004,285	$453,254,042
South San Joaquin Valley	6	$376,945	$1,237,050	$579,763
Superior California	3	$448,743	$768,236	$543,223
Upper Sacramento Valley	3	$152,272	$501,300	$229,571
Total Statewide Impacts	**5,307**	**$375,174,182**	**$712,806,030**	**$506,731,230**

[1] Total impacts include direct, indirect, and induced impacts.
Note. UC employment assigned to UC campus region. Employee compensation for UC assigned to employee place of residence. Therefore, employment and compensation are not directly comparable by region.
[2] Total employment includes UC employees and employment generated by spending attributable to UC.
Includes part-time and full-time workers (headcount).
[3] Includes wages and benefits.
[4] Gross value of goods and services.
[5] Value-added (generally comparable to Gross State Product) is equal to output (defined above) less the value of intermediate inputs to production.

Source: UCOP; IMPLAN 2009; and Economic & Planning Systems.

APPENDIX B: REVIEW OF PRIOR UC ECONOMIC IMPACT STUDIES

This appendix provides a brief annotated bibliography summarizing economic impact studies for UC institutions.[15] Economic impact studies rely on a variety of data inputs and impact modeling software systems. In addition, studies cover varying geographies and time periods. As a result, impacts can be difficult to compare across studies. Further information is available at the following website link:

http://www.universityofcalifornia.edu/economy/impactreports.html

A brief summary of other economic impact studies of UC institutions is provided below.

1) **"California's Future: It Starts Here; UC's Contributions to Economic Growth, Health and Culture", March 2003.**
http://www.universityofcalifornia.edu/itstartshere/report/fullreport.pdf

- The 2003 report used the REMI model to derive a 2.3 systemwide economic multiplier resulting in an estimated 370,000 jobs and a $14.29 billion-$16.65 billion economic impact in the state of California.

2) **UC Berkeley Economic Impact Report, September 2007.**
http://berkeley.edu/news/media/releases/2007/09/13_EconomicImpact.shtml

- The 2007 report used IMPLAN to measure UC Berkeley's economic impact in the Bay Area and showed that UC Berkeley's direct spending of over $1 billion in the Bay Area generates another $464 million in indirect spending in the region.
- UC Berkeley employs 24,700 staff (including 9,700 student employees) and generates an additional 9,200 jobs for Bay Area residents as a result of its university-associated spending.
- The September 2007 report also quantifies visitor spending (estimated at a minimum of $30 million annually to the local economy), faculty, staff and student participation in public and community service programs, and elaborates on the campus' environmental practices.

3) **"Berkeley Lab Economic Impact Study", prepared for the Lawrence Berkeley National Laboratory, March 2010.**
http://www.lbl.gov/community/pdf/CBRE-LBNL-Economic-Impact-Study-FINAL.pdf

- The LBNL economic impact report used IMPLAN to produce a 1.49 economic multiplier for spending in California and a 1.48 estimated multiplier for personal income in the Bay Area.
- LBNL generates 6,855 jobs in the state and $301 million in personal income spending in the Bay Area. Berkeley Lab stimulates $794.5 million in total spending throughout California.

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[15] Annotated bibliography provided by UCOP.

4) **"Economic Impacts of the UC Davis Health System", 2010.**
http://www.ucdmc.ucdavis.edu/medicalcenter/features/2010-2011/02/20110203_economic-impact.html

- This 2010 report used the IMPLAN model to measure the economic impact of the UC Davis Health System (which includes UC Davis Medical Center, UC Davis School of Medicine, Betty Irene Moore School of Nursing, and UC Davis Medical group) throughout the Northern California region. The regional economic multiplier was estimated at 2.1.
- The UC Davis Health System generates approximately 20,000 jobs and a $3.4 billion economic impact in Northern California.
- The health system's economic impact extends beyond the medical sector to affect many other industry sectors both directly (administrative and support services, real estate, professional, scientific, and technical services) and indirectly (food services, real estate, and insurance).

5) **UC Irvine Economic Impact, "California's Future: It Starts Here", last updated January 2010.**
http://today.uci.edu/iframe.php?p=/facts/economic_impact_iframe.asp

- UC Irvine estimates its annual economic impact on Orange County at $3.9 billion.
- UC Irvine is Orange County's largest employer, employing nearly 21,000 people affiliated with the general campus and the UC Irvine Medical Center.

6) **"UCLA's Economic Impact on Southern California: An Engine for the Economy", April 2007.**
http://www.spotlight.ucla.edu/impact/economic-impact-2007/index.html

- The UCLA economic impact study used the RIMS II model to produce a 2.5 multiplier for the region.
- UCLA was estimated to generate 80,600 jobs and $9.89 billion statewide.
- Economic activity was divided into five categories of spending (wages and salaries, operations, capital expenditures, spending by UCLA students, and spending by visitors to UCLA); each category was evaluated separately in order to calculate jobs, wages, and taxes associated with that form of spending without double counting.

7) **UC Riverside Impacts and Benefits, updated January 2009.**
http://impact.ucr.edu

- UC Riverside had a $1.2 billion economic impact on California in 2007-2008. This impact resulted from the direct, indirect, and induced impacts of UC Riverside expenditures on salaries, goods and services, and construction, and included the impacts of spending by students, retirees, and campus visitors.
- UC Riverside had more than 7,100 employees, making it the second-largest employer in Riverside and the 10th-largest in the Inland Empire region. Nearly 14,000 full-time jobs statewide resulted from spending by UC Riverside, its students, retirees, and visitors.

8) UC San Diego Economic Impact Report, September 2008.
http://ucsdnews.ucsd.edu/EconomicImpact

- UC San Diego's economic impact study used the IMPLAN model to produce a 2.04 multiplier for spending and a 1.64 multiplier for personal income.
- UC San Diego is estimated to produce 39,000 jobs statewide, and generates $4.6 billion in spending and $2.6 billion in personal income.
- The study examined UC San Diego's academic programs, alumni, faculty, research, employment, spending, students, and visitors for FY2006-2007.

9) "The Power and Promise of UCSF", June 2010.
http://eir.ucsf.edu/eir

- For the UCSF economic impact report, IMPLAN was used to produce a 1.94 multiplier for industry output and a 1.48 multiplier for labor income in the Bay Area.
- In the Bay Area, UCSF is responsible for an estimated 39,100 jobs, $6.2 billion in industry output and $2.8 billion in labor income.
- Spending categories included salaries and wages for UCSF faculty and staff, construction and operations expenditures, and student and retiree spending.

10) UC Santa Barbara
http://www.universityofcalifornia.edu/economy/impactreports.html

- UC Santa Barbara employs more than 9,100 employees and in FY1999-2000 spent approximately $239 million in wages and salaries.
- UCSB students spend more than $135 million to the local economy.
- UCSB's annual operations expenditures total approximately $437 million (80 percent of this is spent in Santa Barbara County), with an additional $60 million in capital expenditures.

11) "The Economic Contribution of UC Santa Cruz to the Santa Cruz Community", 2006.
http://www.ucsc.edu/about/economic-impact.html

- This evaluation of UC Santa Cruz's local economic impact used the RIMS II model to generate a 1.6 economic multiplier in Santa Cruz County.
- UC Santa Cruz generates 13,415 jobs and a $960 million economic impact in Santa Cruz County.
- Expenditure sources included faculty and staff spending, student spending, visitor and orientation spending, university purchases, and capital projects.