



Indiana University

Impact Study 2008

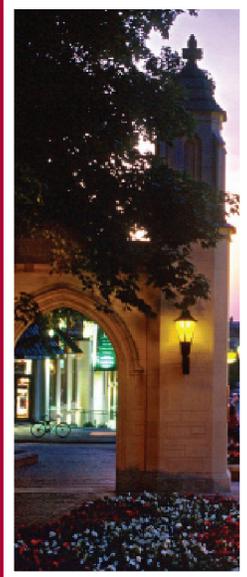
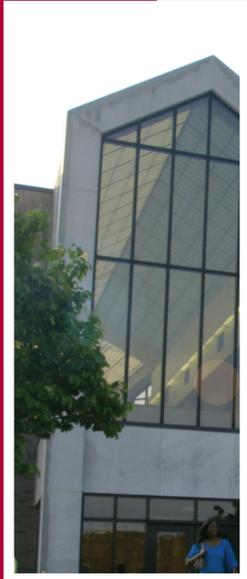


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Executive Summary

Indiana University has played a fundamental role in the state since it was established in 1820. IU's eight campuses provide the residents of Indiana with affordable and accessible education at a premier research university. As a result, IU strengthens the economic competitiveness of the state and increases the earning power of its residents. IU's impact on the state extends beyond its academic mission. The university's budget, the civic engagement of students and staff, and the campus' cultural contributions also bestow many economic benefits to Indiana.

The present study was undertaken to measure how the lives of Hoosiers are improved by IU. This report presents policymakers, university officials, and Indiana taxpayers with comprehensive yet conservative estimates of the university's impact. IU receives a significant commitment of state resources, and it is useful for any public institution, including universities, to show the rewards of such commitment.

One way to present how Indiana benefits from IU is to consider results related to the core mission of the university as well as results that are collateral to the university achieving its core mission. The core mission is education and research. Collateral benefits would include the economic benefits of the university spending associated with its core mission or the economic benefits of, for example, the service-learning that mobilizes students to work for free in the community.

A variety of methods were used to measure the core and collateral benefits of IU. The core benefits—meaning those benefits that relate to the university's core mission of education and research—are derived from university records or government data sources. These data highlight characteristics of the student body, the number and type of degrees conferred, the settlement patterns of recent graduates, and the amount of outside research funding IU attracted. Core benefits data help to answer many key questions including: Do alumni apply their skills in the state or find work elsewhere? Does IU curriculum support Indiana's economic development priorities in the life sciences? Does university research and development generate private-sector commerce?

This analysis of core benefits focuses almost exclusively on tangible metrics within the state. However, many benefits associated with the university's educational and research mission are difficult to quantify and are global in reach. Moreover, some benefits that flow from IU's core mission result in tangible economic benefits to the individuals who attend the university, namely, the expected increase in lifetime earnings resulting from higher educational attainment.

Following the presentation of the core benefits, attention turns to the collateral benefits of IU. These benefits recognize the effects that university expenditures and the activities of students and staff have on the local community. For instance, traditional input-output analysis reveals the economic activity related to the university's operating budget and student spending. The monetary value of student service-learning and student volunteering is also added into the total of collateral benefits. Additionally, the value of faculty and staff civic engagement is also measured.

The following bullet points summarize the key findings of these analyses.

Core Mission Benefits

- The first section of this report, **Characteristics of IU Students**, presents profiles of the student population and its recent graduates. The fall 2007 enrollment at IU-Managed campuses¹ totaled 93,200 students, 76 percent of whom were Indiana residents. 81 percent of degree recipients between 2002 and 2005 were residing in Indiana as of 2008.
- The **Contribution to Human Capital** section examines IU's degree output and the economic value of these degrees to recipients. IU conferred 77,900 baccalaureate, master's, professional, and doctoral degrees between 2002 and 2007, 47 percent of the total for all of Indiana's public universities. The most common fields of study at both the baccalaureate and master's level were business administration and education. The university awarded 13,000 degrees related to life sciences over this period.
- IU graduates can expect far greater lifetime earnings than people with a two-year associate's degree. The typical male IU graduate can expect to earn \$1.8 million over his lifetime and the typical female graduate can anticipate \$1.3 million in lifetime earnings. These figures are 41 percent and 33 percent greater, respectively, than the expected lifetime earnings of male and female associate's degree recipients.
- The section on **University Research and Business Development** details annual sponsored research expenditures at IU, as well as technology transfer and business start-up activity. IU has averaged \$256.8 million in annual research expenditures supported by external contracts and grants in fiscal years 2006 through 2008. Seventy-one percent of these funds came from the federal sources. Between 2003 and 2007, university research generated 777 new invention disclosures, 390 new patent applications and 128 new patents issued.

Collateral Benefits

- This report measures the economic benefits of IU's **Civic Contribution**. Through the imputed value of service-learning programs, unpaid internships and volunteerism, students, staff and faculty "give back" to their community and to the state. Table 1 presents the dollar value of their contributions.
- In addition, this report notes that members of the IU community also directly made \$10,104,000 in charitable contributions to organizations operating within their campus regions.
- IU also enriches the state through its community engagement programs, facilities and cultural offerings. Whether it is IU's world-class Jacobs School of Music, the IUPUI Sports Complex, or the libraries and art galleries at regional campuses, IU gives Hoosiers throughout the state something to be proud of.

¹ Of the two campuses that IU shares with Purdue University, IU manages the IUPUI campus which is included in this report. The Indiana University-Purdue University Fort Wayne (IPFW) campus is managed by Purdue University and is not included in this report.

- Finally, the **Economic Footprint** section reports the employment and economic significance of spending by the university, students and visitors. The estimates in Table 2 consider the effects of direct expenditures (e.g., university purchases and compensation of faculty and staff) as well as the “ripple effects” of these expenditures within the community. In addition to IU’s direct employment of 16,324 faculty and staff (based on full-time equivalents), the university’s direct and related spending accounts for an additional 36,340 jobs in the state. IU’s direct employment in the state is on par with the direct employment in medical and equipment supplies manufacturing in Indiana.

Table 1: Estimated Benefits of Student and Staff Civic Contributions, IU, 2006-2007

Civic Contribution	Estimate of Economic Benefit
Service-Learning	\$804,300
Student, Faculty and Staff Volunteerism	\$14,849,300
Total	\$15,653,600

Source: Indiana Business Research Center (IBRC)

Table 2: Estimated Employment and Economic Footprint, IU, 2006-2007

Type of Spending	Total Employment Effects (number of jobs)	Total Economic Output Effects (in millions)
Faculty and Staff Compensation	15,970	\$1,719.9
University Purchases and Construction Expenditures	5,640	\$1,015.5
Student Expenditures	7,870	\$1,133.4
Medical School Supplemental Expenditures	6,860	\$775.0
Total	36,340	\$4,643.8

Source: IBRC, using IMPLAN model results

Methodology

This university impact report shows how IU is helping Indiana improve the lives of its citizens through research and accessible and excellent education. This goal of this report, and most university economic impact studies, is to measure the size and extent of IU as an essential economic asset for a community, region and state. In the past, the public relations purposes of university impact reports have often trumped methodological rigor, thus tarnishing the reputation of such studies. University impact studies now have the additional task of convincing skeptics that their methodology would pass academic muster and the estimates of impact would pass the laugh test.

This section of the report describes the IBRC's attempts to traverse common methodological pitfalls. In addition to advancing the rigor of the economic impact methodology, the research team extended the scope of benefits that IU confers upon the state to include other ways that the university "gives back" to the state.

This study, while similar to other university impact studies, includes some innovations and methodological enhancements. In the attempt to make the study more rigorous, and sooth the chorus of anti-impact study activists, the IBRC analysts used the critique of Siegfried, Sanderson and McHenry² as a guide to avoid methodological pitfalls. A central principle for conducting an impact study, states Siegfried et al., is to define and apply the counterfactual, or "but for" perspective, when tallying economic benefits. Applying this "but for" approach—an approach that contrasts "impact" as a force that adds to economic activity rather than redirects economic activity—is difficult for at least two reasons. One, the approach reduces the dollar value of "impact" and advocates for the institution want larger, not smaller, numbers to make their case for the indispensability of the institution. Two, if properly done, it requires a detailed breakdown of each and every university-related activity and the decision making criteria of each and every university population and sub-population. For example, the "but for" analysis of a regional campus student body would either know, or make assumptions about, the number of students that elect to attend university at a regional campus rather than attending university out of state.

Given that using the counterfactual approach may not be popular and given that it is more difficult to apply, why do it? As mentioned above, university impact studies have many skeptics and critics.

"If [university] economic impact studies were conducted at the level of accuracy most institutions require of faculty research, their claims of local economic benefits would not be so preposterous, and, as a result, trust in and respect for higher education officials would be enhanced." (Siegfried, Sanderson and McHenry, July 2007)

Within the constraints of resources and data availability, the IBRC pursued a path that advances the analytical and methodological rigor used to conduct the IU impact study, even if the results may be lower and cannot be compared with other impact studies on an apples-to-apples basis. The IBRC took the position that future university impact studies would, over time, embrace the criticisms of Siegfried et al. and wanted to contribute to advancing the profession.

² John A. Siegfried, Allen R. Sanderson, Peter McHenry. "The economic impact of colleges and universities," *Economics of Education Review* 26 (2007): 546–558.

Siegfried et al. enumerated many weaknesses of university impact studies, including double counting of expenditures, counting only injections while ignoring leakages, and spurious “return on investment” claims. For example, one study they cited stated that for every dollar of state funding, a state university generates \$6 of economic activity. (As it happens, a previous IU impact study presented a similar “ROI” on state appropriation dollars.) The core methodological criticism of Siegfried et al. is that university impact analyses do not consider whether an institution adds to economic activity, prevents economic activity from moving away, or merely reallocates economic activity. In more simple terms, “but for” the existence of the university, would a particular economic activity or economic benefit accrue to the geographic region under analysis?

In many ways, measuring the economic impact of a business or institution is an exercise in keeping track of monetary injections (monetary flows into a region), monetary leakages (monetary flows out of a region), stopping monetary leakages (substituting an import for local production) and neutral money (transactions that re-circulate money within a region). Tourism is the classic example of monetary injections. Purchasing petroleum from overseas may be a good example of monetary leakages.

The “but for” perspective prunes back the economic impact considerably, especially when the different types of monetary flows are taken into consideration. Many impact studies, Siegfried et al. argue, count neutral money as monetary injections in measuring a university’s economic impact. For instance, state appropriations, were they not designated to fund IU, would either return to the taxpayer (and hence be spent on other goods and services) or would fund other state initiatives such as road construction, education or health services. Neutrality simply redirects monetary flows within the region of analysis.

Siegfried et al. note that a premier university would have a tourism effect. That is, students from out of state attend and inject money in the local and state economy. They add to economic activity. There is also the import-substitution effect that stops monetary losses. The presence of a first-rate state school may stem the tide of university students attending out of state, what, in the parlance of the day, might be called “stop loss.” Thus, a first-rate state university can legitimately make the claim that it has an economic impact to the degree that it has a tourism effect and a stop-loss effect.

In summary, the IBRC made incremental steps to follow the methodology espoused by Siegfried et al. These steps were incremental because of resource and data constraints. In addition, educating the users of university studies as to the nature of the Siegfried et al. methodology is also necessary so that users don’t make oranges-to-apples comparisons among university impact estimates. The economic impact estimates that take advantage of every potential benefit—in actual dollar values or imputed values—and ignore every leakage could have as overstatement factor of two or three. As an example, the “impact” estimate of the IU School of Medicine according to a private consulting firm is about three times the value estimated in this study.

Finally, the Siegfried et al. methodology is an ideal. The real world is one with resource and data constraints. Thus, the real world application will always depart from the ideal. After all, it is much easier to be critical of a performance of a Paganini violin concerto than it is to perform one.

Defining the Counterfactual

The nature of the institution plays a critical role in determining the extent and nature of its economic impact. Siegfried et al. note that few studies define the counterfactual when assessing a university’s

economic impact and strenuously argue that economic activity that would remain in an area if the institution did not exist cannot be claimed as an addition to economic activity. Disentangling all the types of economic effects that a university has and determining whether each effect would withstand that test of the counterfactual is no easy task. Conducting a university impact study that would conform to the standards of Siegfried et al. would be both expensive and challenging. Resource constraints, therefore, limited the implementation of the framework to making broad assumptions about how to treat many sources and types of economic activity.

Political or institutional advocacy considerations resulted in what may be an uneven application of the counterfactual. These considerations also motivated changes in and clarification in terms. In order to place sharper conceptual edges on the term, *impact* is only used when referring to monetary flows (and imputed valuations) that are injections or stop-loss. Re-circulating or neutral money describes the economic activity that results from the presence of an institution, but it is not an impact because it does not add to economic activity, it simply re-directs it. The term *economic footprint* is used to describe all three types of flows—*injection*, *stop-loss* and *neutral*—added together.

Community college expenditures and non-traditional student spending, for instance, would represent neutral money and are not considered to be an economic impact. These students are tied to a particular geographic area and the local institution would likely be the only option for higher learning. Their tuition outlays and living expenses would be spent locally anyway. This spending is neither an injection nor stop-loss. One cannot argue that those non-traditional students generate economic activity in the same way that out-of-state students do.

The differences in the type of student and the nature of the institutions imply that an analyst cannot use a one-size-fits-all approach to assess an institution's economic effects. For example, approximately 40 percent of IU Bloomington undergraduate students come from out of state. "But for" IU Bloomington, these students would not be in Indiana. These students and the financial flows behind them are economic injections into the state and local economy. On the other hand, a vast majority of students attending the regional campuses live at home within the campus region. These students—many of them part-time, non-traditional students—would reside and spend in the region anyway. It would be difficult to argue that "but for" the regional campus, the spending of the students would disappear from the local economy.

On the other hand, the relative mobility of the typical IU Bloomington student, in contrast to a non-traditional, regional campus student, is a double-edged sword in terms of accounting for all types of economic benefits.³ If IU Bloomington didn't exist, most students—both out-of-state and in-state—would attend another institution elsewhere. It would be a stretch, therefore, for IU Bloomington to take credit for the increase in the lifetime earnings associated with the degrees it confers.⁴ These students were going to college; it was merely a matter of where. That having been noted, however, a Hoosier attending an out of state university as opposed to IU Bloomington may develop something like "path dependence" for employment opportunities in that out-of-state location rather than returning to Indiana. In such a case, the presence of IU Bloomington helps to stem the brain drain.

³ Several university impact studies also include the increase in lifetime earnings as a part of the university impact. See Siegfried et al.

⁴ This is a yes or no categorical statement for ease of analysis. Some IU Bloomington students would not have attended elsewhere, just as some regional campus students would attend elsewhere, if the respective campuses did not exist. To make the assessment precisely would require knowledge of the decision-making process of a university student and the settlement decision of an alumnus, which are clearly outside the scope of the study.

The regional campuses are different story. There are limited options to secure a four-year degree, perhaps no other options than an online degree program. For example, “but for” the presence of IU East, some 300 graduates a year would not be earning B.A. level salaries. It would not be a stretch for IU East to take credit for the incremental increase in earnings of their graduates.

Table 3 summarizes the foregoing arguments and assumptions in yes or no categories as much as possible. The assumptions are based on the characteristics of each campus and the type of student the different campuses serve. The assumptions presented here are not ideal because, neutral monetary flows cannot be considered as having an impact.

Table 3: Defining the Impact Counterfactual of University Expenditures—What Is Included and What Isn’t by Campus

Campus	Geographic Boundary	Injection	“Stop-loss”	Neutral	Increase in Human Capital
		Adds Activity	Retains Activity	Redirects Activity	“But For”?
Bloomington	State	Yes	Yes	No	No [§]
IUPUI	8 counties	No	Partial*	Partial*	Partial*
East	7 counties	No	No	Yes	Yes
Kokomo	7 counties	No	No	Yes	Yes
Northwest	7 counties	No	No	Yes	Yes
South Bend	2 counties	No	No	Yes	Yes
Southeast	9 counties	No	No	Yes	Yes
IUPU Columbus	9 counties	No	No	Yes	Yes

* IUPUI shares similarities with both IU Bloomington and the regional campuses. Therefore, an assumption is made that the import substitution effect applies to single full-time students not living at home. The balance of IUPUI related expenditures are assumed to be money neutral. As a result, IUPUI takes credit for the expected increase in lifetime earnings for a large share of conferred degrees.

§ Admittedly, this is a strict, categorical application of the impact counterfactual. One can argue that IU Bloomington helps to maintain the human capital of Indiana, especially if by retaining university students, IU Bloomington also increases the possibility that graduates remain in the state.

Source: IBRC

Except for the portion of its budget originating in the state legislature, IU Bloomington can be said to have a large economic impact due to its expenditures and student spending. The regional campuses, however, cannot be thought to add to economic activity as a result of their expenditures and student spending. On the other hand, according to the assumptions justified above, regional campuses can claim to enhance the expected earnings of their graduates. IUPUI, on the other hand, is a mixed case of stop-loss and neutral money, with little injection money.

The treatment of state support is a thorny issue in measuring economic impact. The most conservative approach would be to remove the state appropriation portion from the IU operating budget because these funds would either be returned to Indiana taxpayers or redirected to other state programs and projects. In other words, the state support wouldn’t disappear if IU went away; it would go somewhere else in the state economy, in contrast to the research and development

funding, the student tuition and endowment revenues. State appropriations should be considered neutral; that is, they don't represent injections into the state economy nor do they represent leakages (or potential leakages) from the state economy. In this instance, IBRC analysts departed from the most rigorous application of the counterfactual by mixing impact money— injection and stop-loss— with neutral money. These three money flows comprise the direct economic effects and together with the economic ripple effects comprise the economic footprint discussed below.

Table 4: Defining the Impact Counterfactual of Student Expenditures—What Is Included and What Isn't by Campus

Campus	Injection	"Stop-loss"	Neutral	Economic Footprint
	Adds Activity	Retains Activity	Redirects Activity	"But For"?
Bloomington	Yes	Yes	No	Yes
IUPUI	No	Partial	Partial	Partial
East	No	No	Yes	No
Kokomo	No	No	Yes	No
Northwest	No	No	Yes	No
South Bend	No	No	Yes	No
Southeast	No	No	Yes	No
IUPU Columbus	No	No	Yes	No

Note: Student spending includes: all living expenses—clothing, transportation, entertainment, etc.—for all students plus room and board expenditures for off-campus residents.

Having defined how the methodology used for this study may depart from other university impact studies, a brief discussion of the procedures used for each section of the report follows.

Characteristics of Students

In many respects, this section could logically precede the discussion about defining the counterfactual. This is because the nature of the students attending IU help to frame the issue of the counterfactual. Are the students from in state or out of state? Are the students at a particular campus traditional full-time students or non-traditional students attending part-time? The question is, broadly speaking, who are these students? As a result, the first section of the individual campus reports begins with where IU students come from, what is the descriptive profile of the student body, and where do they settle after graduation?

University records and IU Alumni Foundation records were used to describe the student and alumni characteristics for each IU campus. The maps of Indiana and the United States were constructed using these data. In order to compare IU with other institutions of higher learning, analysts used data from the Council for Higher Education (CHE). CHE data were used to compare IU's performance in terms of accessibility, as well as overall degree production and the types of degree awarded.

But there is an important follow-up question: how do the students and the university educational activities impact on Indiana? In addition to tuition, books and, if they live on campus, room and

board, students spend a lot of money on other goods and services that do not flow through the university bursar's office. The economic effect of student spending is a traditional component of university impact studies and the university under study typically takes credit for the economic activity associated with such spending. In addition, the state tax effects of the spending are often highlighted when measuring how students return dollars to state revenue. But students, together with faculty and staff, "give back" to the region or state in other capacities. For example, students often have internships and service-learning requirements, working unpaid for the betterment of the community in such capacities. Faculty and staff volunteer at service organizations and donate to charities, as do students.

In order to address the many dimensions associated with how IU students and employees contribute both time and money to their respective campus regions, the IBRC conducted two surveys. These two surveys, one for all types of students and one for all types of employees, were administered for all campus regions. Students and employees were asked many of the same questions regarding their volunteering activities—what type of work and how many hours—together with their charitable giving. Both surveys also asked the location of the volunteering and giving, whether within the campus region or outside the campus region.⁵ These data collected from the survey were used to estimate the dollar value of civic and charitable contributions.⁶

The surveys also included questions about visitors that students or employees attracted to the region as well as trips outside the region that students or employees made. As stated in the section about the counterfactual, many university studies have not symmetrically measured both tourist injections—visitor trips into the region—and tourist leakages—travel out of the region. In the survey, this type of visitor traffic was specified to preclude counting visitor travel into the region to attend a university sport or cultural event.

Because student spending is such an important source of economic impact, there was a section of the survey that requested figures for monthly expenses. All told, there were 19 expense categories ranging from housing and groceries to automobile and childcare. These data, together with Office of Financial Aid estimates for student living expenses, were used to estimate the level of student spending for each campus.

Contribution to Human Capital

IU's core mission is to enhance human capital through education and that is measured by the degrees IU awards. This section makes use of both federal and state data sources to measure IU's proportion of graduates, relative to other universities across the state. Federal data came from the Integrated Postsecondary Education Dataset System (IPEDS) administered by the U.S. Department of Education. The IPEDS data were used to compare both public and private universities.

For the majority of this section, however, the IBRC analysts used records from the Indiana Commission for Higher Education (CHE). To simplify the analysis and presentation, the research team collapsed the 11 CHE "program degree levels" into five degree categories. For example, all undergraduate programs over two years but less than four years were combined with *associate's degrees*.

⁵ For each category, the respondents were asked to provide, to the best of their ability, a breakdown between in-region, in-state and out-of-state volunteer and charitable contribution. Out-of-state contributions, while laudable, cannot be considered benefiting Indiana directly.

⁶ See methodology on Civic Contributions for more information.

In the campus-specific reports, regional campuses (Columbus, East, Kokomo, Northwest, South Bend and Southeast) were compared to other local institutions based on how many degrees they conferred to graduates that were originally from their respective campus regions. The CHE data provided information on the origins of students before starting their degree program and provide a measure for the relative popularity of regional IU campuses for residents of surrounding communities. In contrast, degrees conferred by IU Bloomington and IUPUI were compared to those of peer institutions across the state.

Those who earn an IU degree also reap many private benefits, not least of which is greater earning potential. The IBRC analysts used data from the CHE, the National Survey of College Graduates (NSCG) and the U.S. Census Bureau to estimate the increase in expected lifetime earnings that result from an IU degree.

CHE data were used to determine the most popular degree programs by field. The CHE data on majors were translated into categories used in the NSCG dataset. Because the number of degrees awarded by major can fluctuate greatly for the smaller campuses, an average annual number of degrees awarded by category were calculated using five years worth of data from 2002 to 2007. In addition, these data were compiled separately for men and women.

The research team used wage data from NSCG and an age cohort estimation method from the U.S. Census Bureau to estimate the expected lifetime earnings for a particular degree category. Following standard practice, the estimated future income stream was discounted at the rate of 3 percent. The average number of graduates by campus for each degree level and field were multiplied by the estimated lifetime earnings associated with each degree category. The result was an estimate for the average lifetime earnings for women and men at each of the eight IU campuses. To estimate the earning differential between an associate's degree and higher degrees, U.S. Census Bureau data were used for associate's degrees because the NSCG did not collect information on the wages of associate's degree graduates.

University Research and Business Development

Major research universities like IU draw several hundred million dollars annually from entities outside Indiana, including the federal government, private foundations, nonprofit organizations and corporations. These funds support cutting-edge research that employs faculty and professional staff in addition to creating demand for goods and services in the regional economy.

Data on IU research expenditures were gathered from the Executive Reporting Environment (ERE) of the Indiana University Office of Research Administration. The ERE provides a variety of ways to evaluate research activity at IU: by annual dollar amount of research proposals or awards, by annual number of proposals and awards, and by the annual amount of expenditures supported by external contracts or grants. IBRC analysts evaluated the extent of IU research on the basis of annual contract and grant expenditures.

The Indiana University Research and Technology Corporation (IURTC) serves as the catalyst for technology transfer at the university. The IURTC provided data on new invention disclosures, licensing agreements, patent applications and patents issued. The IURTC also supplied a listing of start-up companies in Indiana that are based on IU licensed technologies.

Civic Contribution Methodology

University employees and students contribute to the community through volunteering and other forms of civic engagement. Calculating the economic benefit of volunteer service has scholarly support and the Points of Light Institute provides a method to estimate the value of volunteer hours. First, one assigns an equivalent occupation to each service-learning or volunteer role. As occupations differ in their wages, each applicable volunteer hour is matched with its appropriate median wage for that occupation in Indiana.

To reduce that possibility that the value of service-learning or volunteering may be overstated, each service-learning activity was matched to the occupation of similar role that received the lowest minimal wages. To be conservative, analysts applied only legally required benefits (such as Social Security), rather than average fringe benefits, to the occupational wages, which amount to 8.3 percent of wages.⁷ Finally, to account for the likelihood that not all clients receiving volunteer service would pay for the services if volunteers had not provided them, the value of each volunteer or service-learning dollar is ratcheted down by an adjustment factor. This adjustment factor assesses the value of service to be 73 percent of the market equivalent compensation for that occupation. This adjustment factor follows the factor of proportionality between market price and client value suggested in the academic literature.⁸

In some cases, the reported hours were not available for particular service-learning courses. In these cases, two hours of service was assigned to each enrolled student over the course of the semester. Most courses and unpaid internships, however, require far more hours of service, including public nursing practicum courses that may ask for as many as 40 hours per week.

To account for the volunteer service of students, faculty and staff at each campus, this study relies on data that were collected as part of the IU Student Survey and the IU Faculty and Staff Survey. Using survey data for each campus, the average hours of service was estimated for 17 different service activities. Then, the average number of hours was multiplied by the number of full-time students, faculty and staff. Survey respondents were also asked to indicate the primary county in which they conducted each volunteer activity.

Unlike service-learning, however, the university cannot simply claim that volunteer activity occurs “but for” the presence of the university—many students and staff may be members would have donated their time regardless of the presence of IU. To account for this fact, the economic benefit associated with volunteering—following the same valuation method as service-learning—is credited to the university campus in the same fashion as the economic impact of student spending. That is, the value of volunteering is credited to a campus if that volunteer service is either an injection or import substitution for the region.

Thus, both volunteering and service-learning calculations hold to the “but for” methodology and are conceptually and operationally consistent with the other dollar-denominated impacts in the study.

As mentioned in the methodology section on student characteristics, the IU Student Survey and the IU Faculty and Staff Survey data were used to estimate the value of charitable contributions. The

⁷ BLS Employment Cost Trends information is available at: <http://www.bls.gov/ncs/ect/home.htm>

⁸ For more information, please see the article by Eleanor Brown, "Assessing the Value of Volunteer Activity." *Nonprofit and Voluntary Sector Quarterly* 28, no. 3 (1999): 3-17

surveys asked both students and employees to estimate the proportion of giving that was directed to regional charities, in contrast to charities outside the region and outside of the state. Based on these totals, analysts calculated contribution averages for students and for employees on a campus-by-campus basis. The average contribution by campus for students and employees was then multiplied by the number of students and employees. The estimation of IU-related charitable giving did not conform to the “but for” criterion described above because of data constraints. Therefore, the total dollar value of charitable giving cannot be added to other components of economic impact.

Finally, IU “gives back” to the community and the state by allowing access to university resources. This section catalogues different types of publicly available resources on each campus based on information obtained from the head administrative office of each campus (typically the Office of the Chancellor). Without detailed records on the frequency of use and the number of non-students who used IU facilities, one cannot provide an estimate for the value of those resources to the community. If data on utilization were available, the analysts could provide estimates for the market value of these resources in the same way that the Indiana State Library estimates the value of library resources, for example, the market value of meeting rooms that are available to the public for free.

Because IU libraries provide publically available resources and keep records on circulation for students and employees, as well as the general public, this section could pay particular attention to the value of these resources. Following the method used by the Indiana State Library study⁹ on the value of library services, analysts valued book loans at each campus by non-affiliated community members.

Calculating the Economic Footprint

Even though the university expenditures and student spending have different economic effects between campuses, this study presents all types of economic effects as an “economic footprint.” While this concept and nomenclature may blur the distinctions that Siegfried et al. take pains to articulate, it does present the relative size of the economic presence of the university (or university campus). Until there is a standard procedure for estimating the economic effects for monetary injections, import substitution and neutrality, together with accepted terms for expressing those effects and an informed audience about the meaning of those terms, it would place the results of this study at a relative disadvantage compared to the results of other impact studies that may not differentiate between monetary flows or use the counterfactual framework.

The presentation of the economic effects also differs from the traditional practice. The standard economic impact report presents the total of economic effects as the sum of direct, indirect and induced effects. In this report, the term “ripple effects” is used to describe the cascading effects of a purchase by either institutions (such as a university or business) or consumers in a regional or state economy. A purchase at a retail store by a consumer, for example, is the end of a chain of economic transactions. Working backward, a purchase of a gallon of organic milk at the local grocery store provides some income to the grocery worker and some profit to the store owner. If the milk was produced locally, it also provides income to the dairy farmer, the local large-animal veterinarian and a local agricultural supply store, to name a few. Those incomes are re-circulated in the local economy as those people spend their income on auto repair, groceries or home repair. Hence, that \$5 for the

⁹ For a copy of the report, see www.ibrc.indiana.edu/studies/EconomicImpactOfLibraries_2007.pdf

gallon of milk can be multiplied to \$7.50 or \$8.00 depending on how much of the money is retained and re-spent locally.

The IBRC research team used the traditional input-output modeling approach to assess the economic linkages associated with university and student spending. The IMPLAN[®] economic impact modeling system software developed by Minnesota IMPLAN Group, Inc. has been used by more than a 1,000 public and private institutions to create complete and detailed multiplier models of local economies. Using data from the county, region or state economy, the IMPLAN modeling system estimates the ripple effects associated with the presence of companies or public institutions. The IMPLAN modeling system allows a user to make a custom region by aggregating counties. In the case of IU Bloomington, the entire state is the region of analysis. For the other campuses, the region of analysis is the collection of counties that form the campus region. A system-wide, statewide IMPLAN analysis was also conducted to estimate an analytically consistent estimate for the economic footprint of the IU system.

The sum of all the direct effects will not add up to a campus's total operating budget as reported by the Integrated Postsecondary Education Data System (IPEDS) for several reasons:

1. To assess the effects of spending by faculty and staff, the analyst must adjust total compensation to reflect the leakages such as income taxes, payroll taxes and savings.
2. Scholarships and student financial assistance are a reduction in university revenues, even though they are treated as an expense on the university books.
3. The IMPLAN model calculates the effects of current spending, not the consumption of fixed capital, i.e., depreciation.
4. Construction expenditures can vary greatly over time. As a result, a five-year average of construction expenditures was used.

The possibility of double-counting was also reduced by ensuring that student expenditures for on-campus housing and meals were removed from the student spending total. Student expenditures for on-campus housing and meals are captured within university expenditures. To the extent that the university sells goods and services to employees—e.g., basketball tickets—or provides fringe benefits through an organ of the university—e.g., the university hospital—there may still be double-counting that is not trivial.

University expenditures and student spending comprise the vast majority of the university's economic footprint, but there are other economic linkages and effects resulting from the university's presence that many impact studies include. In recent years, state universities—in their desire to bolster their case to state legislatures that they are major economic powerhouses—have highlighted the fact that universities and students attract visitors. The visitors are, economically speaking, tourists that inject money into the region. In this way, institutions have augmented their reported economic footprint. There is nothing analytically wrong with counting these economic injections. On the other hand, if one adds these injections, one must also subtract the leakages from the region to obtain a net monetary flow. Most university impact reports do not subtract leakages.

In an attempt to conduct a balanced and consistent analysis of injections and leakages associated with student visitors—in contrast to those visiting solely to attend a university event—the IBRC

included questions in the 2008 Student Survey to measure the frequency and spending associated with student visitors¹⁰ from out of state that come to visit university students, and IU students traveling to destinations out of the state. According to the survey results, IU students from all campuses travel out of state longer and spend more on their travel than those who come to Indiana to visit IU students. In short, this is not an advantageous calculation.

On the other hand, out-of-state visitors who attend sporting events, cultural events or attend conferences do provide injections to the state economy. These visitors, and their economic injections, are enumerated in the “visitor expenditures attributed to IU events” category. These visitors are not tied to students and their spending are net injections. That said, the percentage of those visitors coming from out of state (for IU Bloomington) or out of the campus region is small.

Following the lead of the economic impact study conducted for the Jacob’s School of Music in 2007,¹¹ the research team assumed that 17 percent of visitors who attend all types of events—cultural, sporting or otherwise—were from outside the campus region. The 17 percent figure was used for all campus regions for the sake of consistency. (The assumption is probably the most heroic for the Bloomington campus because the state of Indiana is the campus region.) Each out-of-region visitor is assumed to spend on average \$44 per visitor day (in 2008 dollars) on hotels, meals and shopping. Event tickets and refreshment sales, as well as payments for conference meals and lodging, are included in the university “auxiliary enterprise” expenditures; as a result, including them in the visitor-day spending total would be double counting.

The portion of the economic footprint associated with university events is relatively small compared to the university’s operating budget and student spending on housing, foods and incidentals. Just the same, this is an important expenditure category and future university impact studies would be well served to have more accurate and detailed data on how many event attendees originate from outside the defined region as well as how much an event attendee spends on lodging, meals and shopping.

Is the IU System the Sum of the IU Campuses?

This report measures and presents the benefits of the IU system on the state of Indiana as well as the benefits of the individual campuses. Rather than one system-wide report in which the regional campuses would be swamped by the size and expense of IU Bloomington and IUPUI, the report presents both the high-level view of the system as a whole together with the particulars of the individual campuses. It goes beyond studying the large, flagship university campus—for which the tourism and the import substitution effects apply—to embrace all the regional campuses—for which monetary neutrality would apply—as well as the joint campus of IUPUI—which is something of a regional-flagship hybrid.

In some cases, the benefits of the individual campuses can be aggregated to total a statewide impact. The value of service-learning is one such example. In most instances, however, the benefits of individual campuses cannot be summed to total a system-wide impact. Asymmetrical regional units of analysis or campus regions that serve neighboring states disallow adding one campus economic

¹⁰ Recall that student visitors are defined and treated differently than a visitor that comes to attend a university event. Student (and employee) visitors travel into a region to stay with a personal friend or family member.

¹¹ See www.music.indiana.edu/indianaimpact/thereport.shtml for a copy of the report and a link to the 2007 Arts & Economic Prosperity study methodology used to estimate the visitor-day spending figures.

footprint with another. Most importantly, however, is the fact that the counterfactual is not consistent across campuses.

For this reason, each campus has its own, discrete campus report. The IU system as a whole also has its own report that analyzes and presents aggregated data as appropriate and if not appropriate, takes samples from individual campus reports. The methodology used for all campuses is the same and has been presented above. A more elaborate and detailed presentation of the methodology can be found in the appendix.

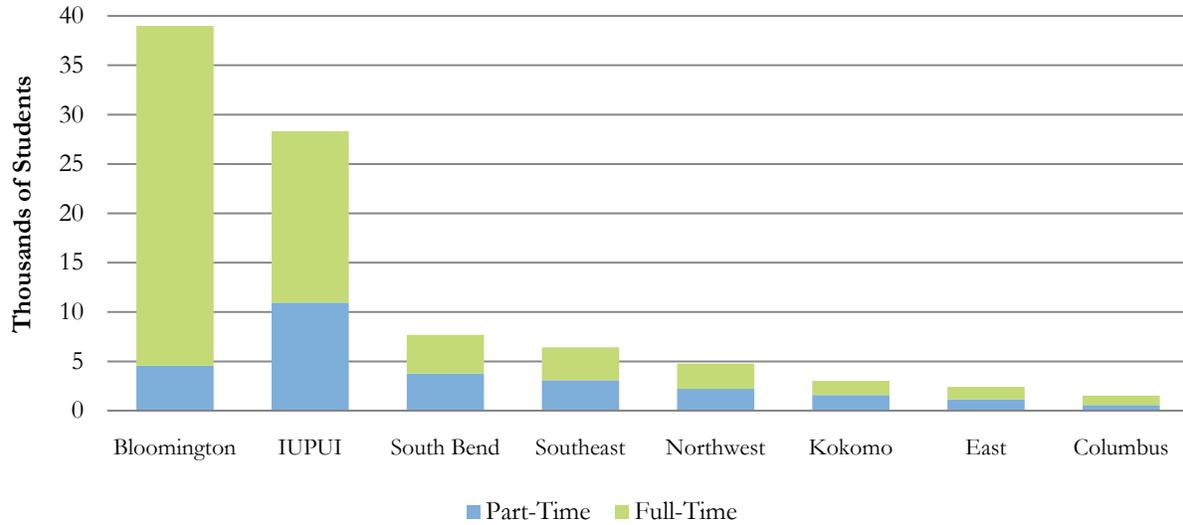
The mission statements of the IU Bloomington campus, IUPUI and the regional campuses share more similarities than differences. While IU Bloomington is the doctoral-intensive campus and IUPUI is Indiana's urban research and academic health sciences campus, all the campuses are committed to promoting the educational, cultural and economic development of their respective region and the state of Indiana. However, upon examination of the student body, the academic programs and their expenditure profiles, the differences among the campuses become increasingly apparent.

For this reason (and now that the methodology has been discussed) the report proper begins with a presentation of student characteristics.

Characteristics of IU Students

The IU system¹² had 93,195 students enrolled in courses in the fall of 2007. The Bloomington and IUPUI¹³ campuses together comprise over 70 percent of this total. Figure 1 shows the number of full-time and part-time students by campus.

Figure 1: IU Enrollment by Campus, Fall 2007



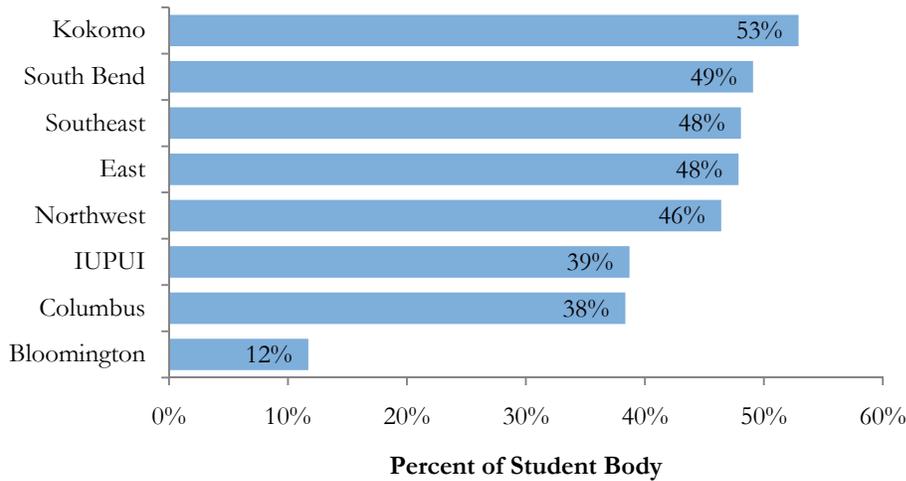
Source: IBRC, using data from the Office of University Planning, Institutional Research and Accountability

While IUPUI has the largest number of part-time students (nearly 11,000), IU Kokomo has the largest percentage of part-timers. In fact, it is the only campus where part-time students outnumber full-time students (see Figure 2).

¹² This report excludes IUPU Fort Wayne because it is managed as part of the Purdue University system. The 93,195 figure is for all IU-managed campuses.

¹³ This report separates IUPUI and IUPU Columbus into unique entities for all analysis. The two campuses are more commonly treated as one entity in other reporting environments.

Figure 2: Part-Time Students as a Percent of Total, Fall 2007



Source: IBRC, using data from the Office of University Planning, Institutional Research and Accountability

Student Origin

System-wide, 76 percent of IU’s student body originates within the state. However, at most campuses, more than 90 percent of students are from Indiana, with a few notable exceptions (see Table 5). As the system’s flagship university, IU Bloomington draws a large percentage of its student body—particularly at the graduate and professional level—from out of state. In addition, due to reciprocity agreements with several neighboring out-of-state counties, IU Southeast and IU East draw a larger number of students from across the state line than the other regional campuses.

Table 5: Indiana Residents as a Percent of Students by Degree Status, Fall 2007

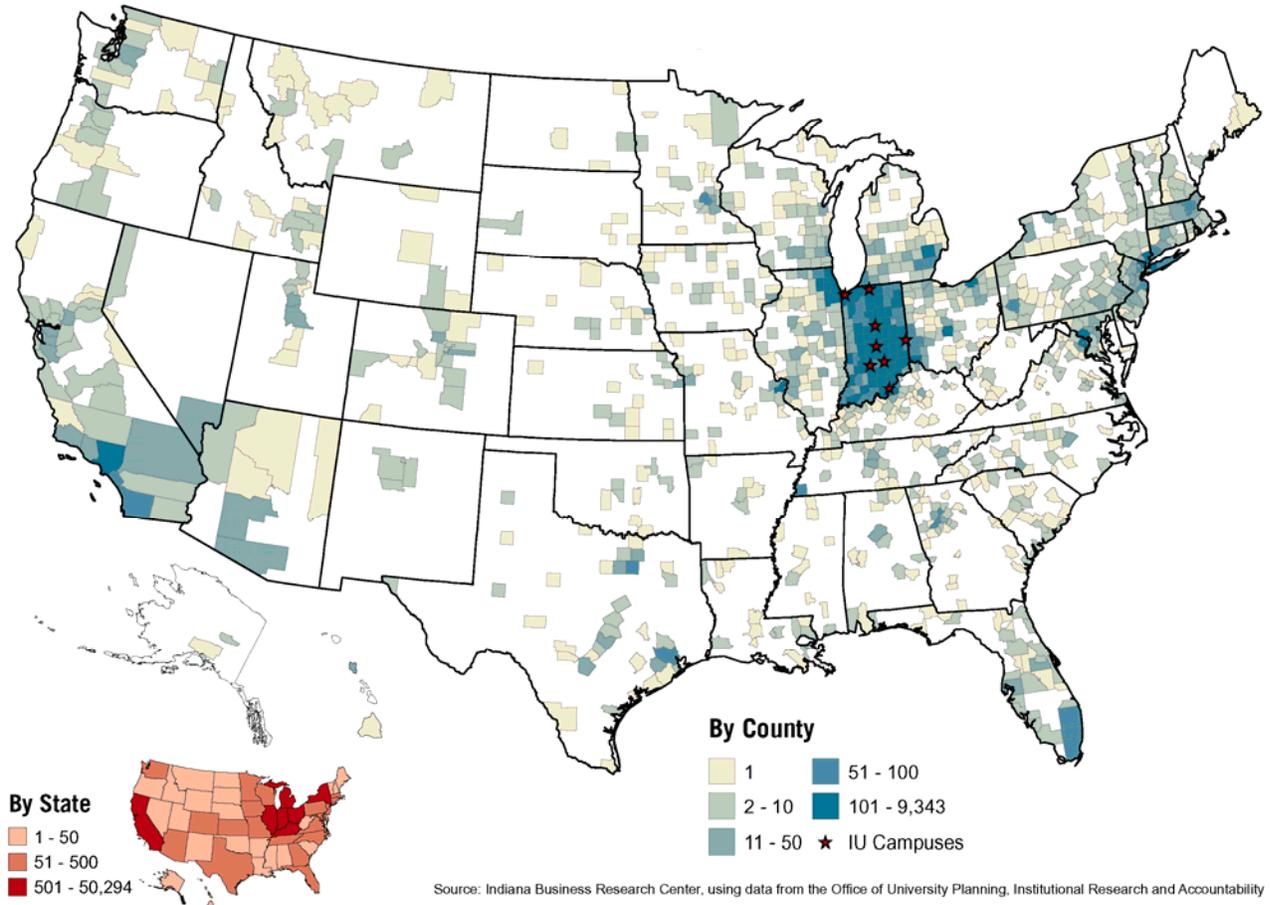
Campus	Graduate and Professional	Undergraduate	Combined
Bloomington	30	64	57
Southeast	49	75	72
East	100	87	87
IUPUI	77	96	90
South Bend	88	95	94
Kokomo	99	99	99
Northwest	98	99	99
Columbus	97	100	100
All Campuses	57	81	76

Note: Values for IUPU Columbus undergraduates and combined degree levels are slightly less than 100 percent, but round up when no decimals are used. The graduate student value for IU East is a true 100 percent, with no out-of-state graduate students.

Source: IBRC, using data from the Office of University Planning, Institutional Research and Accountability

Figure 3 shows the number of full-time students attending the university by place of origin. More detailed maps at the individual campus level are available in the campus profile reports.

Figure 3: Residence of Origin for Full-Time Students of Indiana University, Fall 2007



Student Characteristics

Age and Gender

IU Bloomington students tend to be younger than students at the regional campuses. Table 6 provides a detailed breakdown of the age groups by campus. The table indicates that there is a considerable difference in the age distribution among the campuses. The age profile for the Bloomington campus is even more stark vis-à-vis the regional campuses as one considers that the Bloomington campus has a high percentage of graduate students and that the regional campuses have relatively small post-baccalaureate programs.

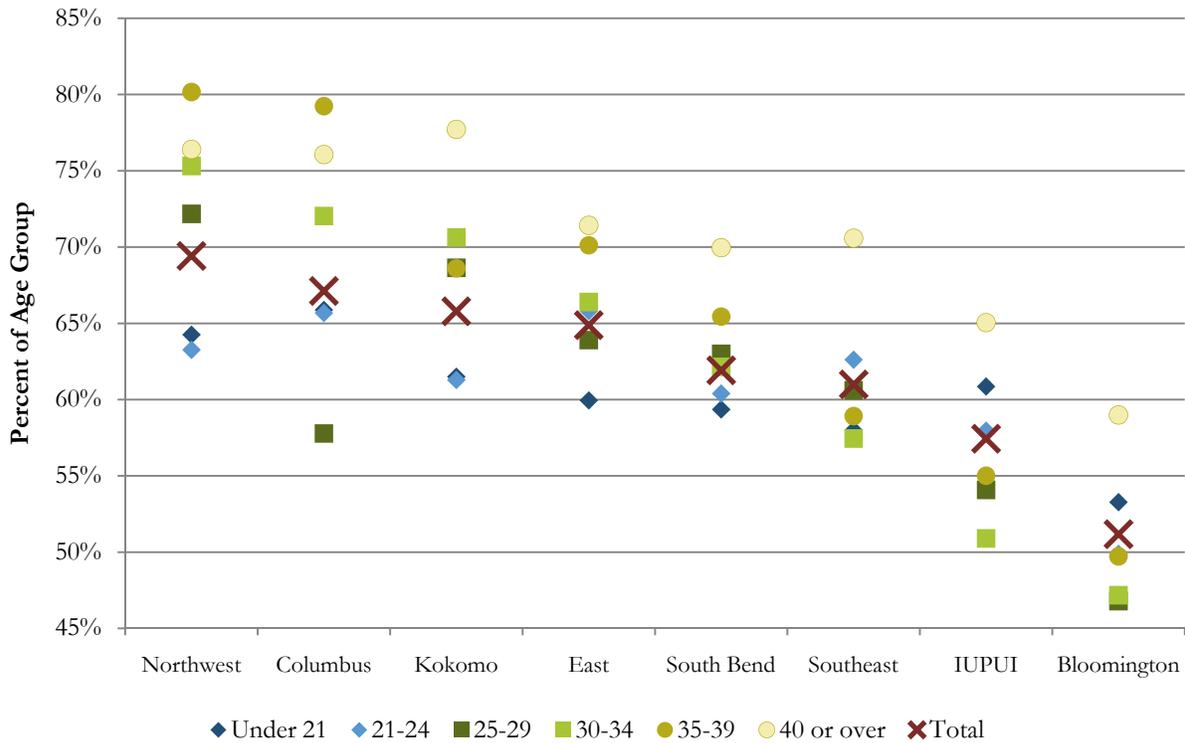
Table 6: Percent of Student Body by Age Group, Fall 2007

Campus	Under 21	21-24	25-29	30-34	35-39	40 or Over
Bloomington	45	35	11	4	2	2
Columbus	36	24	15	8	7	11
East	31	22	15	10	7	14
IUPUI	20	31	23	10	6	10
Kokomo	34	25	12	9	7	13
Northwest	25	26	17	10	7	15
South Bend	33	26	17	9	6	10
Southeast	27	28	19	10	6	10

Source: IBRC, using data from the Office of University Planning, Institutional Research and Accountability

Women comprise a large portion of the student body at the regional campuses. As shown in Figure 4, female students outnumber male students in every age group at all campuses except IU Bloomington.

Figure 4: Women as a Percent of the Student Body by Age Group, Fall 2007

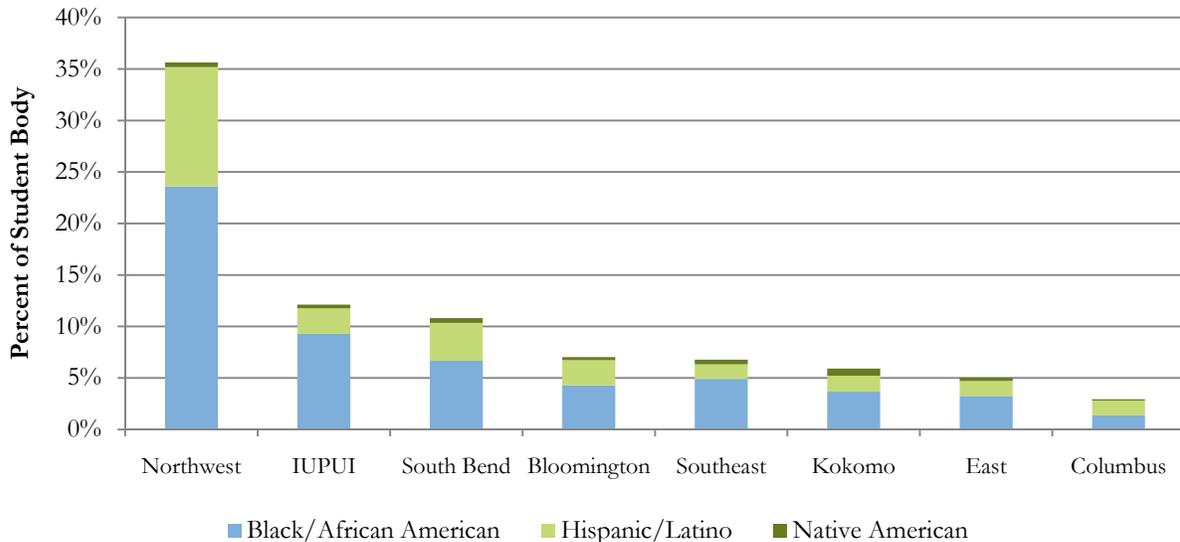


Source: IBRC, using data from the Office of University Planning, Institutional Research and Accountability

Ethnicity

For the most part, the student body at each campus reflects the ethnic composition of the surrounding area.¹⁴ At IUPU Columbus and IU East, more than 90 percent of students characterize themselves as white, while at the other end of the spectrum, IU Northwest and IUPUI have the smallest portion of white students (59 percent and 75 percent, respectively). Under-represented minorities (blacks, Hispanics and Native Americans) account for 36 percent of IU Northwest students, but are less than 10 percent of the student body at five campuses (see Figure 5).

Figure 5: Under-Represented Minorities as a Percent of All Students by Campus, Fall 2007



Note: Data on ethnicity were collected only for students applying from within the United States because the concept of ethnic identification varies from country to country. The Native American grouping includes both the American Indian/Alaska Native and Native Hawaiian/Other Pacific Islander categories.

Source: IBRC, using data from the Office of University Planning, Institutional Research and Accountability

Access and Affordability

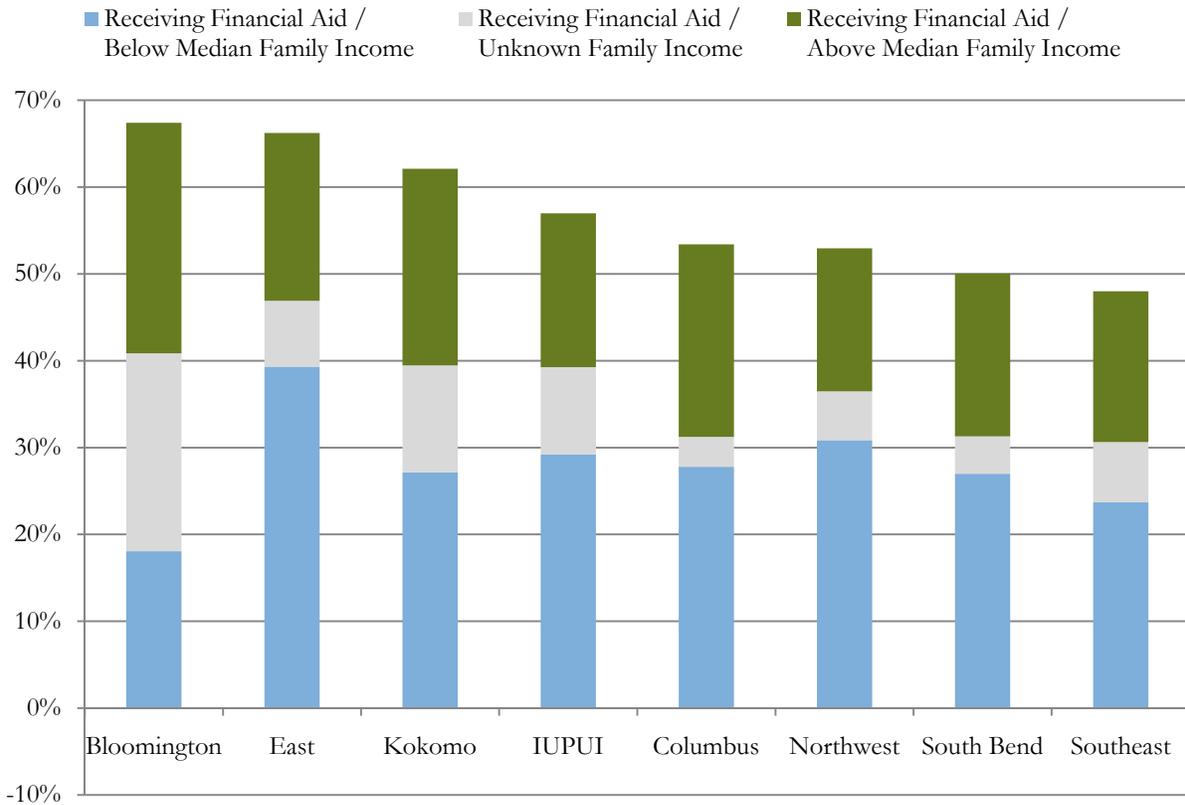
Access to and affordability of a university largely depend on the extent to which students are able to receive financial aid when needed, particularly students who come from low-income families. At IU, over 60 percent of full-time students receive some form of financial aid. Additionally, almost 40 percent of these aid recipients (or 24 percent of all full-time students) are also from families with incomes lower than the Indiana median of \$47,074.

IU Bloomington students are the most likely to receive financial aid (67 percent of all full-time students)—not surprising given its larger proportion of students who pay the higher non-resident tuition rate (see Figure 6). IU East also has a similar proportion of students receiving financial aid (just under two-thirds) but for a different reason; this campus has the largest proportion of aid

¹⁴ Data on ethnicity were collected only for students applying from within the United States. A separate international category includes all those who applied from elsewhere in the world, because the concept of ethnic identification varies from country to country. The Native American grouping includes both the American Indian/Alaska Native and Native Hawaiian/Other Pacific Islander categories.

recipients who come from families earning less than the Indiana median. Financial aid receipt among full-time students is lowest at IU Southeast (48 percent), although many students at this campus are part-time and therefore not reflected by this figure.

Figure 6: Financial Aid and Family Income Status of Full-Time IU Students, 2006-2007



Note: Where family income data for financial aid recipients is “unknown,” income data may have been suppressed due to confidentiality requirements or the aid recipient may not be an Indiana resident.

Source: IBRC, using data from the Indiana Commission for Higher Education

Settlement of Alumni

Where alumni settle after graduation plays a key role in analyzing the ultimate significance of a university. In contrast to those who leave the state, alumni who remain make ongoing contributions (e.g., increased productivity, income and cultural contributions) to their region well after they complete their degrees. Between 1998 and 2002, 66,607 people received degrees from IU. As Table 7 shows, 56 percent of recent IU graduates were residing in the state in 2008.

Table 7: Top 10 States of Residence for IU Graduates, Degrees Conferred 1998-2002

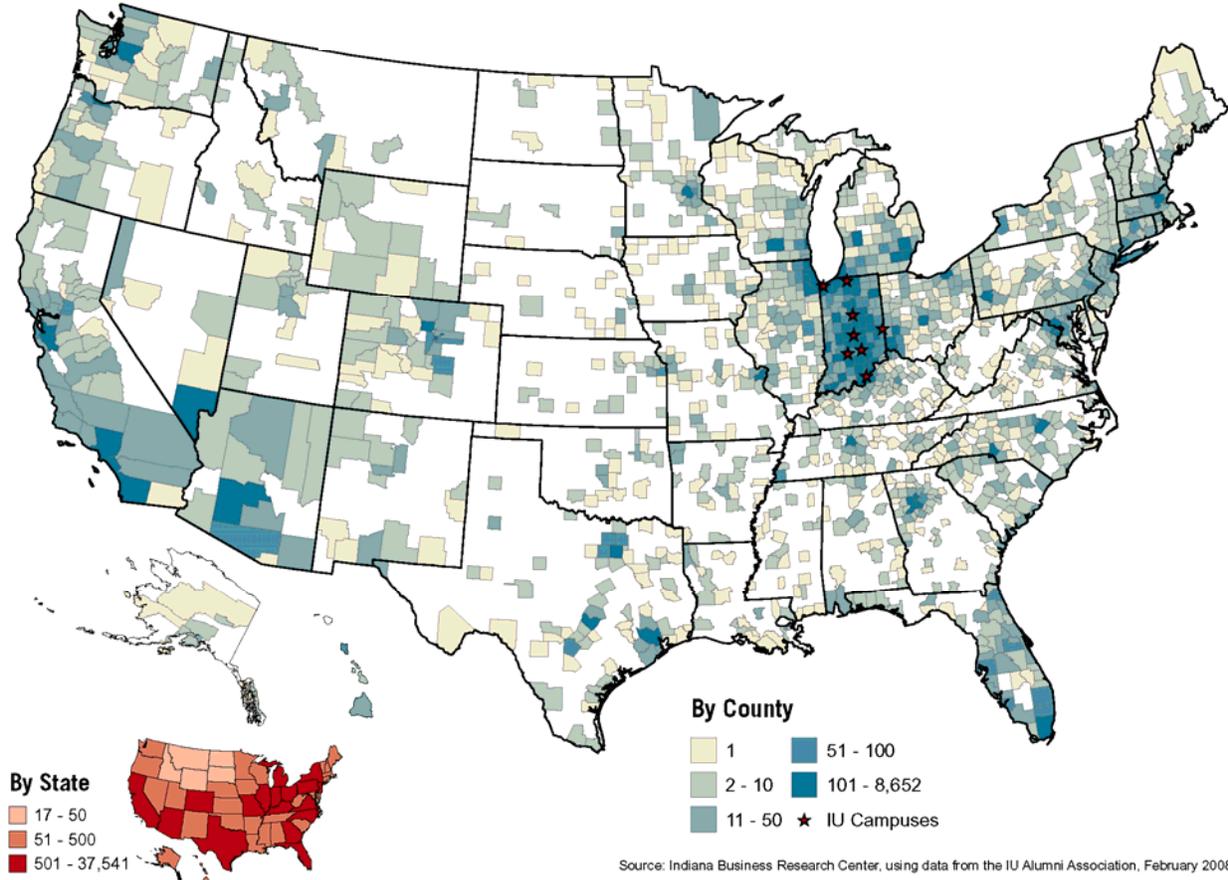
Residence	Percent
Indiana	56.4
Illinois	6.8
California	3.2
Ohio	2.5
New York	2.0
Michigan	1.9
Kentucky	1.9
Florida	1.8
Texas	1.6
Virginia	1.2
Top Ten	79.2

Note: The international/unknown category accounts for 5.7 percent of graduates.

Source: IBRC, using data from the IU Alumni Association as of February 2008

Figure 7 shows the settlement pattern for recent graduates by county and state. More detailed maps at the individual campus level are available in the campus profile reports.

Figure 7: Settlement Pattern of Indiana University Graduates, Degrees Conferred 1998-2002



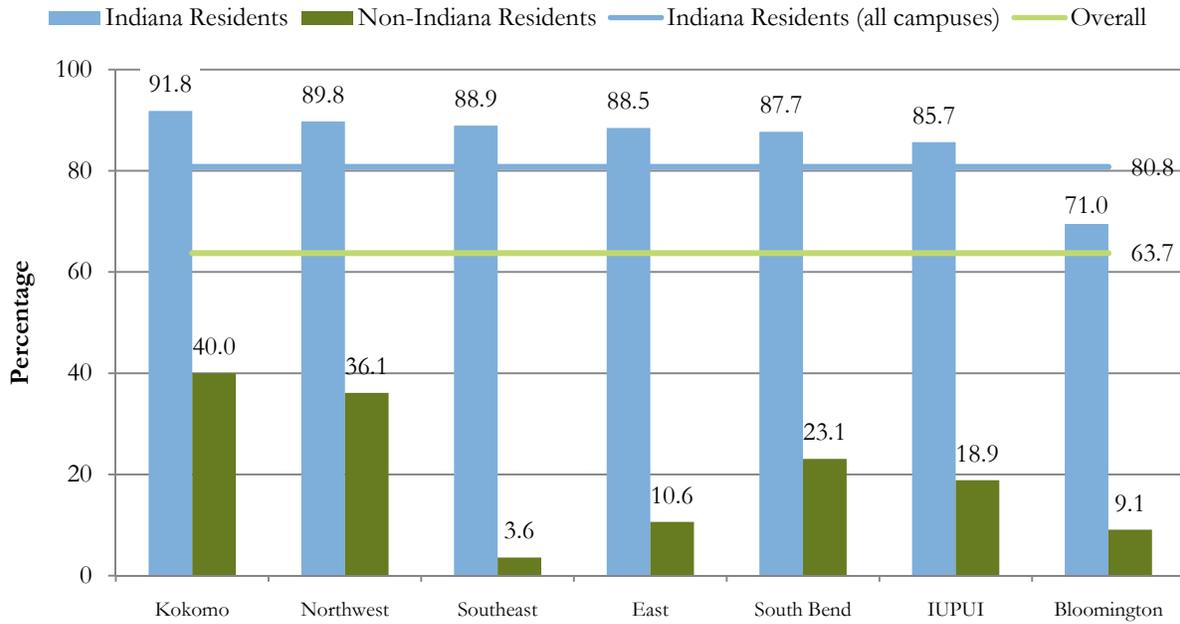
Retention of Graduates in Indiana

Recent IU alumni who were originally from Indiana are overwhelmingly likely to stay within the state after graduation. Figure 8 reveals that an estimated 81 percent of Indiana residents who graduated from IU between 2002 and 2005 still lived in Indiana at the start of 2008.¹⁵ For most campuses, over 85 percent of these graduates from Indiana remained in the state, including 92 percent of those from IU Kokomo. Furthermore, a non-trivial amount of IU graduates who were originally from other states and countries chose to stay in Indiana, notably at IUPUI where 19 percent of the 1,898 non-resident graduates remain in the state.¹⁶

¹⁵ Either current location nor residency status information was available for 5,085 graduates - representing 8.01% of the total of 63,466 graduates during this three-year period

¹⁶ While the percentage of non-resident graduates who remain in Indiana may appear higher at campuses such as IU Kokomo and IU Northwest – these figures represent only a small number of students since the vast majority of graduates from regional campuses are Indiana residents.

Figure 8: Percentage of IU Alumni that Graduated between 2002 and 2005 Residing in Indiana, by Campus, February 2008



Note: IUPUI figures include graduates of IUPU-Columbus. This chart represents 45,520 Indiana residents and 14,882 non-Indiana Residents but do not include the 5,085 graduates (8.01% of complete total of 63,466) for which neither current location nor residency status information was available.

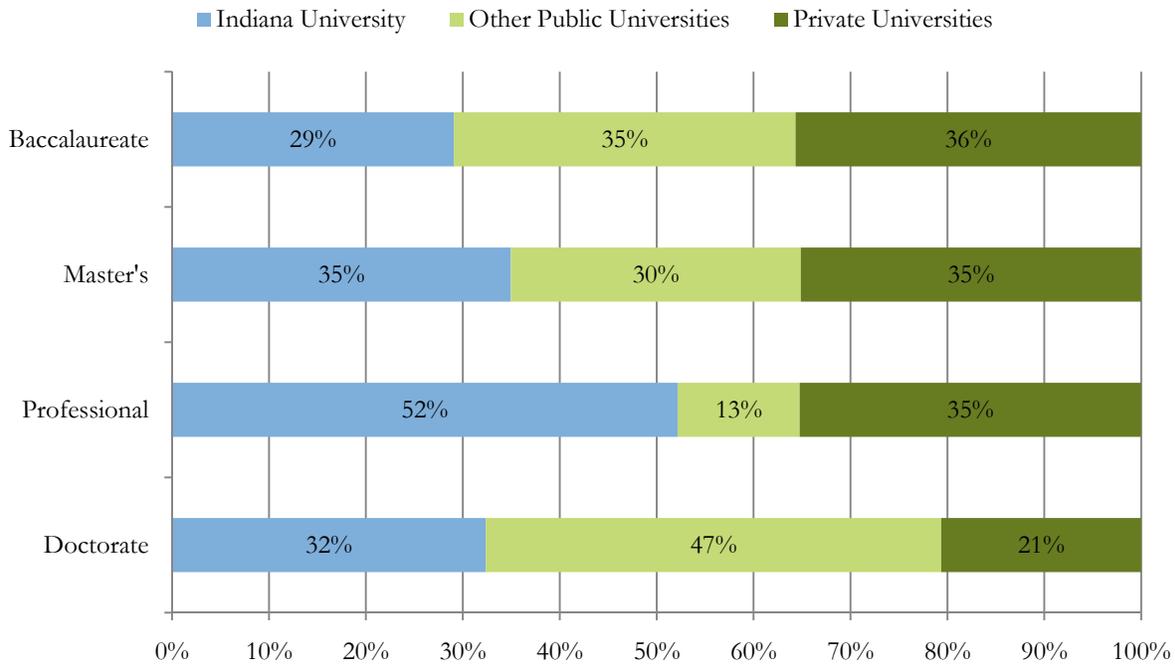
Source: IBRC, using data from the Indiana University Alumni Association and the Indiana University Office for University Planning, Institutional Research and Accountability

Contribution to Human Capital

Degrees Conferred

Indiana University leads all public and private institutions in the state in granting four-year college degrees and most graduate degrees. Among the 76 institutions across the state that grant baccalaureate or higher degrees, IU grants 29 percent of baccalaureate degrees, 35 percent of master’s degrees, over half of all professional degrees and almost one-third of doctoral degrees (see Figure 9).

Figure 9: IU’s Share of Baccalaureate and Higher Degrees Relative to All Public and Private Institutions in Indiana, 2002-2007

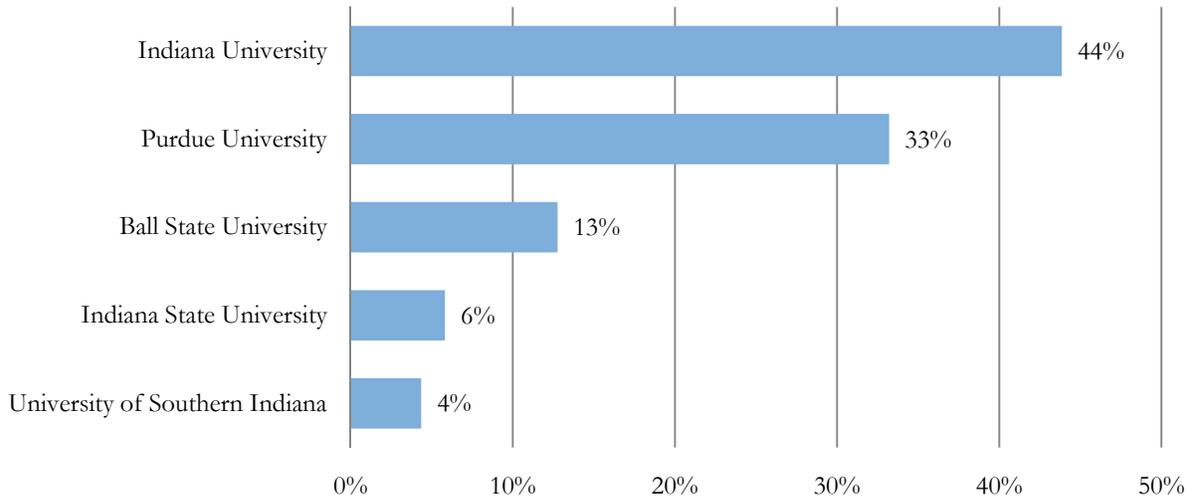


Note: Professional degrees include doctoral degrees in medicine, dentistry, law, optometry, theology and veterinary sciences.

Source: IBRC, using data from the Integrated Postsecondary Education Dataset System, U.S. Department of Education

Considering only Indiana’s public universities, IU represents an even larger share of degrees conferred in the past five years. Among the 121,285 baccalaureate degrees granted by state universities, IU represented 44 percent—with the most popular degrees in the fields of business administration, education and the arts and humanities, similar to the state as a whole. Purdue University granted one-third of the state’s baccalaureate degrees with business administration and engineering among its most popular fields. Ball State University, Indiana State University and the University of Southern Indiana granted the remaining 23 percent (see Figure 10).

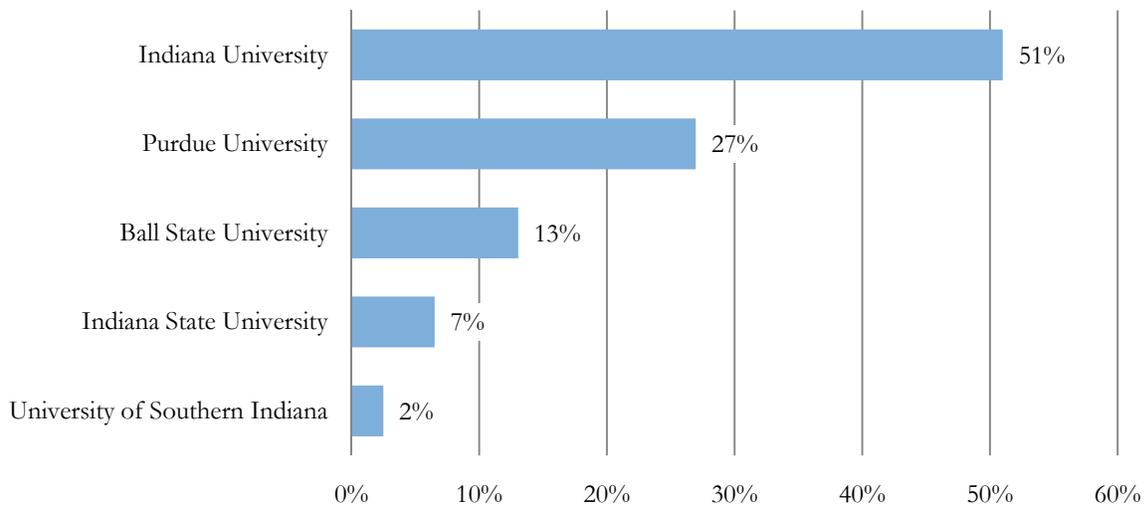
Figure 10: Baccalaureate Degrees Conferred by Indiana Public Universities, 2002-2007



Note: The total number of baccalaureate degrees conferred was 121,285.
 Source: IBRC, using data from the Indiana Commission for Higher Education

Between 2002 and 2007, Indiana’s public universities granted 35,153 master’s degrees, and Figure 11 shows that over half were conferred by IU. Similar to the state as a whole, the top two degree fields for IU master’s degrees were in business administration and education. Purdue University campuses meanwhile conferred just over a quarter of the public universities’ master’s degrees with engineering almost as popular as business administration. Other universities conferred the remaining 22 percent of these degrees with education degrees the most popular at Ball State University and Indiana State University and applied health most popular at the University of Southern Indiana.

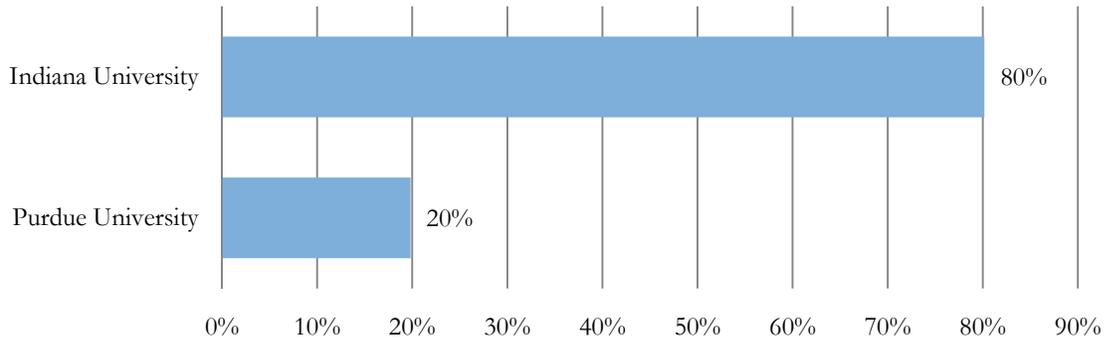
Figure 11: Master’s Degrees Conferred by Indiana Public Universities, 2002-2007



Note: The total number of master’s degrees conferred was 35,153.
 Source: IBRC, using data from the Indiana Commission for Higher Education.

IU plays a key role in granting professional degrees in Indiana as the only public institution offering “first professional” degrees in law, medicine, optometry and dentistry. As a result, IU conferred 80 percent of all professional degrees granted by public institutions. Due to its pharmacy and veterinary sciences programs, Purdue University offered the remaining 20 percent of professional degrees.¹⁷

Figure 12: Professional Degrees Conferred by Indiana Public Universities, 2002-2007



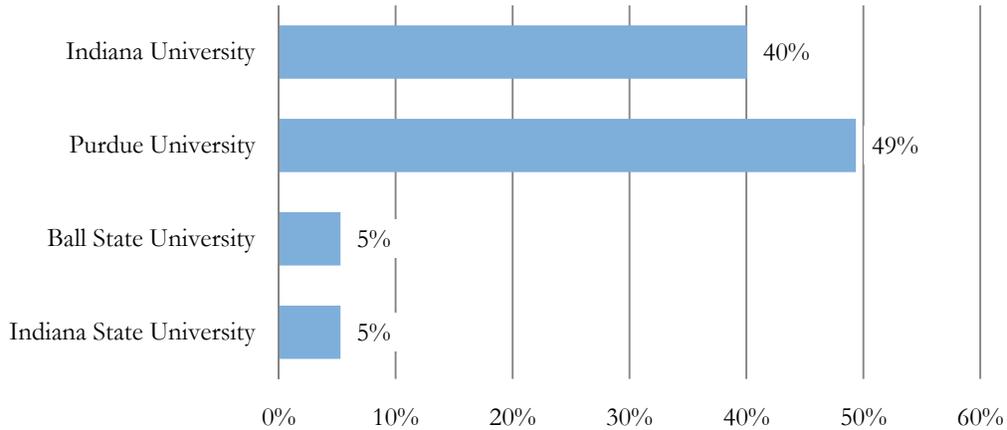
Note: The total number of professional degrees conferred was 5,592. Professional degrees include doctoral degrees in medicine, dentistry, law, optometry, pharmacy and veterinary sciences.

Source: IBRC, using data from the Indiana Commission for Higher Education

Between 2002 and 2007, IU granted 2,120 doctoral degrees or 40 percent of all doctoral degrees from Indiana’s public universities, behind only Purdue University which conferred 2,613 or 49 percent (see Figure 13). While IU’s most popular doctoral fields were education, social sciences, and the arts and humanities, Purdue University’s most popular fields were engineering, mathematics and physical sciences and the biological, agricultural and food sciences. Other public universities produced 560 doctoral degrees (10 percent), and education was most popular on these campuses, particularly at Indiana State University where they accounted for over two-thirds of all doctoral degrees.

¹⁷ Statewide, public universities also conferred a small number (13) of professional degrees or certificates in audiology and nursing practice at Ball State University and Purdue University.

Figure 13: Doctoral Degrees Conferred by Indiana Public Universities, 2002-2007



Note: The total number of doctoral degrees conferred was 5,293.

Source: IBRC, using data from the Indiana Commission for Higher Education

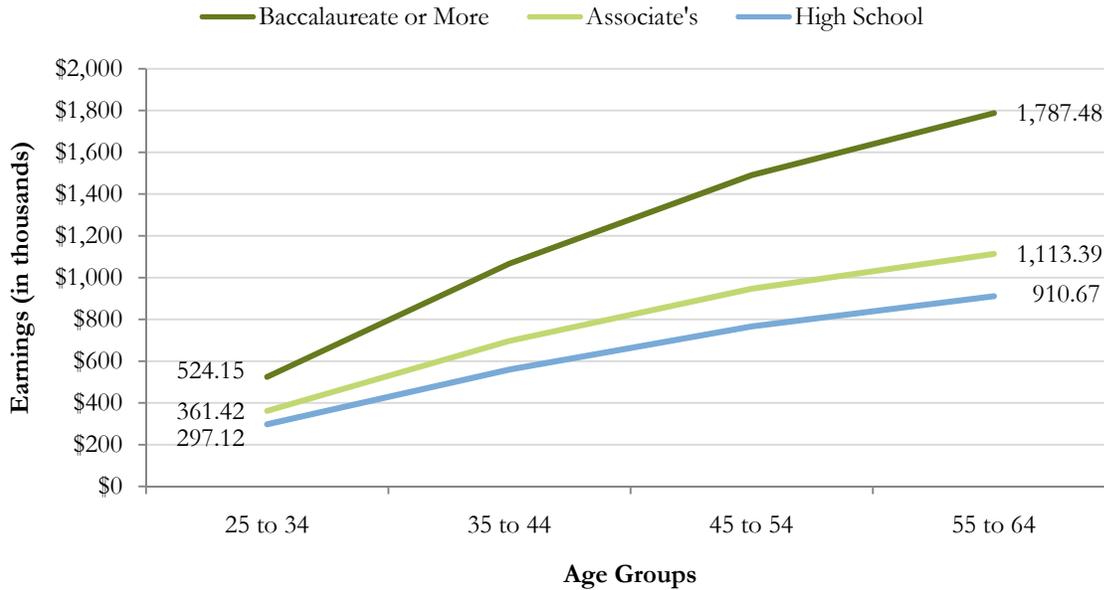
Expected Lifetime Earnings

Indiana University provides an education that not only enriches its graduates intellectually, but also financially. By granting baccalaureate, master’s, professional and doctoral degrees in diverse fields, IU allows Indiana residents the opportunity to greatly enhance their career options and wage-earning potential beyond what they might have earned with merely an associate’s degree or less.

While many associate’s degree programs exist (including those offered by IU) that allow graduates improved wages, baccalaureate and higher degrees allow for substantially higher earning potential in the long run. Figure 14 provides a rough illustration of the differences in the cumulative lifetime earnings for full-time year-round workers with different terminal degree levels, assuming a 40-year career from age 25 through 64.¹⁸ We see that associate’s degree graduates can expect to earn a total of \$361,000 or about 22 percent more than high school graduates between the ages of 25 and 34. Three decades later, we expect that associate’s degree graduates would now have earned a total of \$1.1 million, compared to \$910,000 for high school graduates—still roughly a 22 percent increment. However, when comparing graduates with a baccalaureate degree or higher compared to associate’s degree graduates, we see that there is a 45 percent advantage in cumulative earnings by age 34—\$524,000 compared to \$297,000—and this gap in earnings widens considerably more over the life course. By retirement, graduates with baccalaureate and advanced degrees can expect to have earned an average total of \$1.8 million while associate’s degree graduates only reach \$1.1 million—a 61 percent advantage.

¹⁸ These are synthetic estimates based on the 2006 earnings of different age cohorts as recorded by the U.S. Census Bureau and assuming a 3 percent annual discount rate for future earnings. Please see the appendices for more details.

Figure 14: Estimated Cumulative Lifetime Earnings by Degree Level in the United States



Note: Lifetime earnings are synthetic estimates based on average wages for graduates by age and degree level. Figures use 2006 dollars and future earnings have been discounted at 3 percent.

Source: IBRC, using income data from the U.S. Census Bureau

Of course, lifetime earnings also differ by sex and by field—men earn significantly more than women on average and business degree graduates typically earn more than graduates of most other fields. This study used data from the National Survey of College Graduates to estimate the lifetime earnings by gender and to account for the different wages for graduates of popular degree fields within the IU system.

Among women, we can expect the roughly 1,213 graduates in the most popular education field to each earn approximately \$964,000 over the life course (see Table 8). Potentially earning more are graduates of other popular degrees in arts and humanities and business administration, fields associated with lifetime earnings of approximately \$1.3 million. Overall, the average lifetime earnings estimated for IU’s female baccalaureate graduates is \$1.2 million, assuming that each graduate does not complete an additional advanced degree.

Table 8: Estimated Lifetime Earnings for Female Baccalaureate Degree Graduates, All IU Campuses, 2002-2007

Field of Study	Average Annual Number of Graduates (2002-2007)	Lifetime Earnings per Person (in thousands)
Education (except Administrative and Math & Science Education)	1,213	\$964
Arts and Humanities (except Music, Visual & Performing Arts)	949	1,303

Field of Study	Average Annual Number of Graduates (2002-2007)	Lifetime Earnings per Person (in thousands)
Business Administration and Management	813	1,347
Social Sciences (except Economics)	750	1,182
Nursing	381	1,368
Communications	278	1,329
Allied Health Fields (except Nursing)	268	1,370
Biological, Agricultural & Food Sciences	248	1,263
Drama / Fine, Visual & Performing Arts	246	1,222
Public and Educational Administration and Management	223	1,173
Other Fields	813	1,258
Overall	6,182	\$1,220

Note: Lifetime earnings are synthetic estimates based on average wages for graduates by age, degree level and field. Figures have been adjusted to 2006 dollars and future earnings have been discounted at 3 percent.

Source: IBRC, using data from the Indiana Commission for Higher Education, and the National Survey of College Graduates

Female graduates who earn advanced degrees at IU are expected to earn over \$1.6 million from employment over the life course (see Table 9). Popular master’s degrees in education and business administration can earn graduates \$1.2 million and \$1.8 million, respectively. Doctoral degree graduates in the most popular education field potentially earn \$1.5 million over the life course. Highest of all are professional degree graduates who have lifetime earning potentials of more than \$2.7 million for medicine and \$2.4 million for law.

Table 9: Estimated Lifetime Earnings for Female Advanced Degree Graduates, All IU Campuses, 2002-2007

Degree Type	Field of Study	Average Annual Number of Graduates (2002-2007)	Lifetime Earnings per Person (in thousands)
Master’s	Education (except Administrative and Math & Science Education)	607	\$1,242
Master’s	Business Administration and Management	266	1,848
Master’s	Public and Educational Administration and Management	257	1,388
Master’s	Library Science	175	1,150
Master’s	Allied Health Fields (except Nursing)	108	1,588
Master’s	Other Fields	591	1,426
Professional	Law/Legal Studies	209	2,453
Professional	Medicine/Dentistry/Optomety	194	2,759

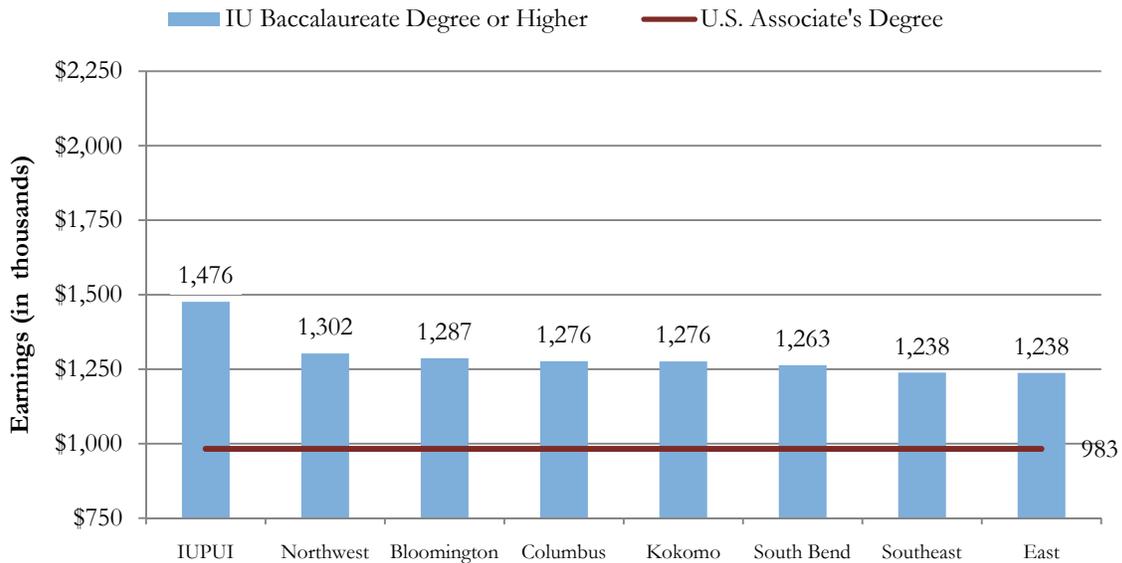
Doctoral	Education (except Administrative and Math & Science Education)	49	1,538
Doctoral	Social Sciences (except Economics)	31	1,610
Doctoral	Arts and Humanities (except Music, Visual & Performing Arts)	28	1,246
Doctoral	Biological, Agricultural & Food Sciences	20	1,744
Doctoral	Music	13	1,711
Doctoral	Other Fields	50	1,857
Overall		2,598	\$1,607

Note: Lifetime earnings are synthetic estimates based on average wages for graduates by age, degree level and field. Figures have been adjusted to 2006 dollars and future earnings have been discounted at 3 percent.

Source: IBRC, using data from the Indiana Commission for Higher Education, and the National Survey of College Graduates

Over the life course, female graduates from IU’s wide range of baccalaureate and advanced degree programs are expected to earn an average of \$325,000 (or 33 percent) more than associate’s degree graduates. Based on the wages associated with the popular degree programs at each campus, Figure 15 shows that estimated lifetime earnings range from \$1.2 million to a high of \$1.5 million. IUPUI’s graduates have the highest expected earnings partly due to the popularity of high-wage professional degree programs in medicine and law. Detailed information on the popularity and wages associated with various degree programs are available in the campus-specific reports.

Figure 15: Estimated Lifetime Earnings for IU Female Graduates (Baccalaureate Degree or Higher) by Campus, 2002-2007



Note: Lifetime earnings are synthetic estimates based on average wages for graduates by age, degree level and field. Figures have been adjusted to 2006 dollars and future earnings have been discounted at 3 percent.

Source: IBRC, using data from the Indiana Commission for Higher Education, National Survey of College Graduates and the U.S. Census Bureau

Men who recently completed baccalaureate degrees at IU are expected to earn \$1.7 million in lifetime earnings from employment (see Table 10). By far the most popular degree field, business administration and management is associated with lifetime earnings of \$1.9 million, even if these graduates do not complete an additional advanced degree. Other popular degree fields are in the arts and humanities, as well as education, and these fields allow graduates lifetime earnings of over \$1.5 million and \$1.2 million, respectively.

Table 10: Estimated Lifetime Earnings for Male Baccalaureate Degree Graduates, All IU Campuses, 2002-2007

Field of Study	Average Annual Number of Graduates (2002-2007)	Lifetime Earnings per Person (in thousands)
Business Administration and Management	1,177	\$1,902
Arts and Humanities (except Music, Visual & Performing Arts)	675	1,553
Education (except Administrative and Math & Science Education)	447	1,250
Social Sciences (except Economics)	404	1,757
Public and Educational Administration and Management	317	1,689
Computer and Information Science (not programming)	229	1,965
Biological, Agricultural & Food Sciences	195	1,549
Communications	180	1,539
Criminal Justice/Protective Services	152	1,435
Drama / Fine, Visual & Performing Arts	121	1,405
Other Fields	557	1,717
Overall	4,454	\$1,676

Note: Lifetime earnings are synthetic estimates based on average wages for graduates by age, degree level and field. Figures have been adjusted to 2006 dollars and future earnings have been discounted at 3 percent.

Source: IBRC, using data from the Indiana Commission for Higher Education, and the National Survey of College Graduates

Men who earn advanced degrees from IU earn an estimated \$2.2 million from employment over their lifetimes (see Table 11). The 632 graduates who complete the most popular master's degree (business administration and management) are expected to earn \$2.4 million. Doctoral degree graduates in the most popular arts and humanities field potentially earn \$1.5 million over the life course and earning even more are doctoral graduates in mathematics and the physical sciences (\$2.3 million). Highest of all are professional degree graduates who have lifetime earning potentials of \$3.5 million for medical fields and \$2.9 million for law.

Table 11: Estimated Lifetime Earnings for Male Advanced Degree Graduates, All IU Campuses, 2002-2007

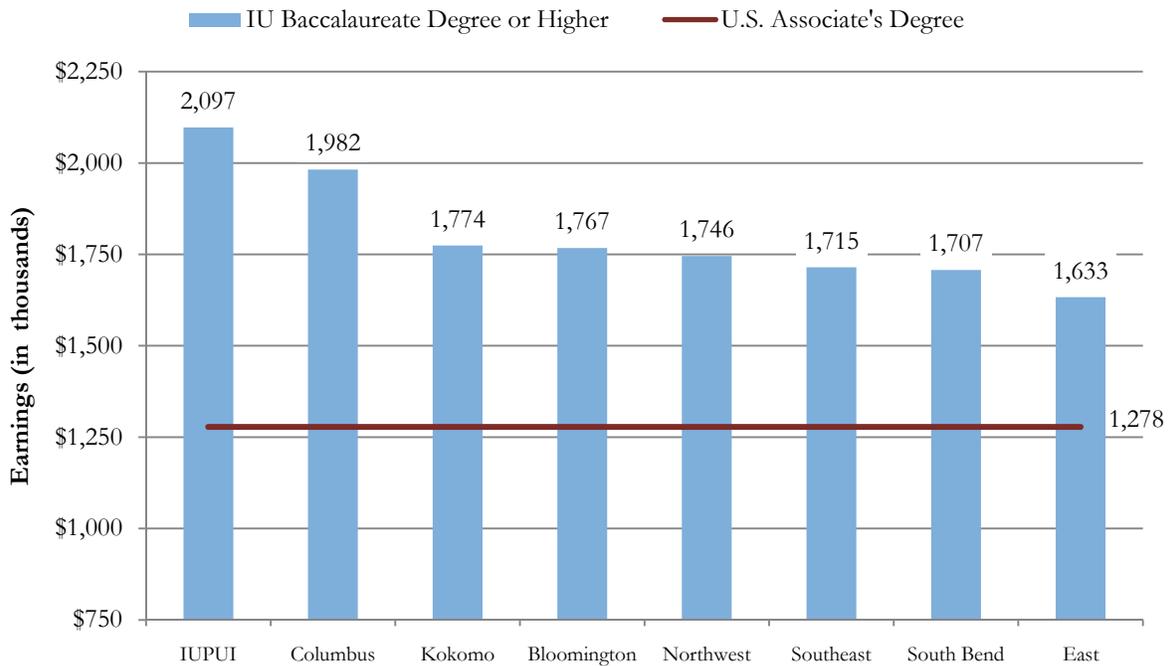
Degree Type	Field of Study	Average Annual Number of Graduates (2002-2007)	Lifetime Earnings per Person (in thousands)
Master's	Business Administration and Management	632	\$2,420
Master's	Education (except Administrative and Math & Science Education)	226	1,367
Master's	Public and Educational Administration and Management	125	1,634
Master's	Music	76	1,058
Master's	Arts and Humanities (except Music, Visual & Performing Arts)	72	1,264
Master's	Other Fields	451	1,782
Professional	Law/Legal Studies	256	2,903
Professional	Medicine/Dentistry/Optometry	237	3,488
Doctoral	Arts and Humanities (except Music, Visual & Performing Arts)	36	1,573
Doctoral	Education (except Administrative and Math & Science Education)	30	1,691
Doctoral	Mathematics and Physical Sciences	29	2,327
Doctoral	Social Sciences (except Economics)	27	1,910
Doctoral	Music	22	2,211
Doctoral	Other Fields	76	2,187
Overall		2,293	\$2,191

Note: Lifetime earnings are synthetic estimates based on average wages for graduates by age, degree level and field. Doctoral graduates in music have been assigned the average lifetime earnings for all doctoral fields. Figures have been adjusted to 2006 dollars and future earnings have been discounted at 3 percent.

Source: IBRC, using data from the Indiana Commission for Higher Education, and the National Survey of College Graduates

Male graduates from IU's diverse baccalaureate and advanced degree programs are expected to earn an average of \$528,000 (or 41 percent) more than associate's degree graduates. Based on the wages associated with the popular degree programs at each campus, Figure 16 shows that estimated lifetime earnings range from \$1.6 million to a high of \$2.1 million. Again, IUPUI's graduates have the highest expected earnings partly due to the popularity of high-wage professional degree programs in medicine and law. Detailed information on the popularity and wages associated with various degree programs are available in the campus-specific reports.

Figure 16: Estimated Lifetime Earnings for IU Male Graduates (Baccalaureate Degree or Higher) by Campus, 2002-2007



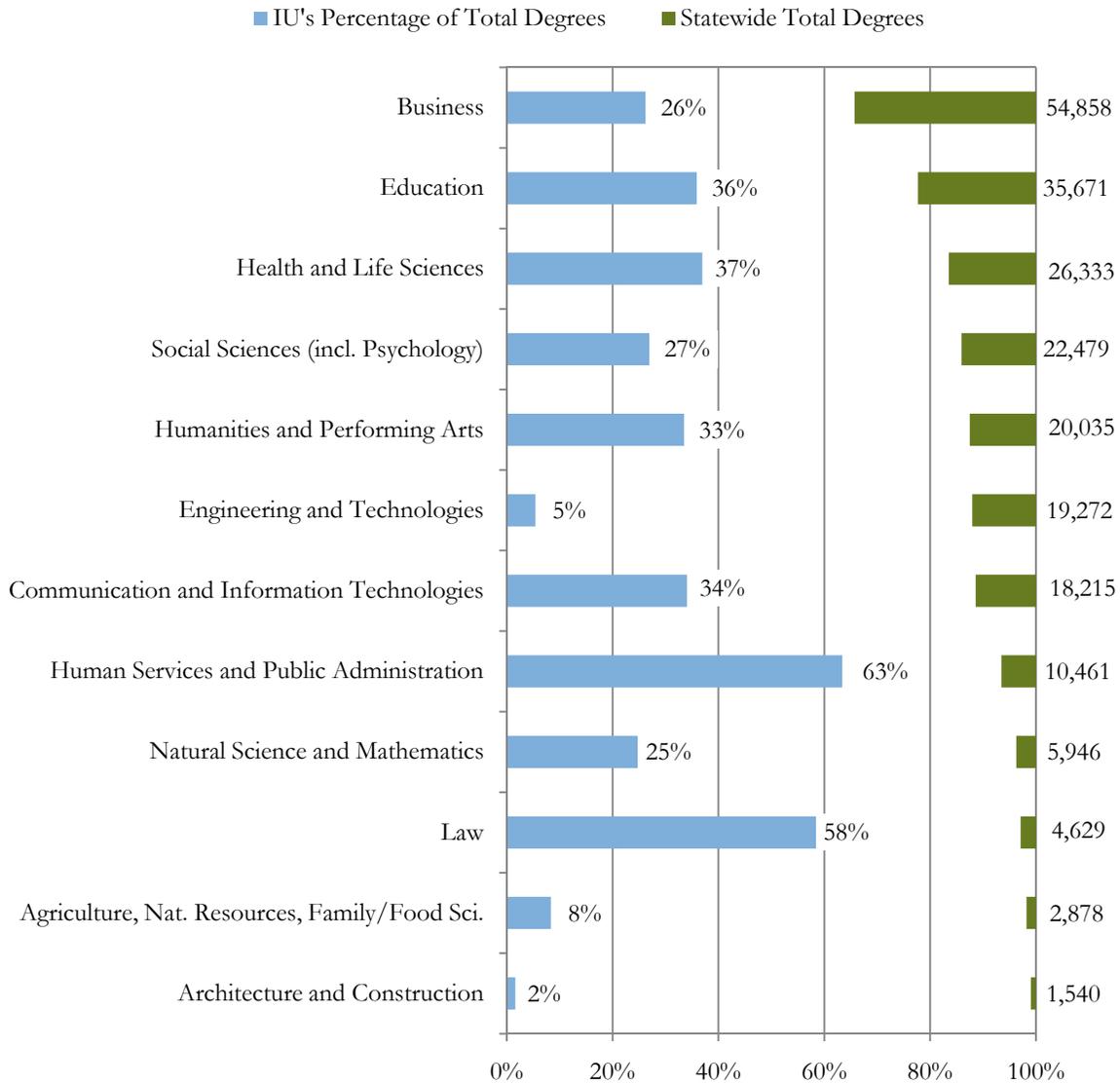
Note: Lifetime earnings are synthetic estimates based on average wages for graduates by age, degree level and field. Figures have been adjusted to 2006 dollars and future earnings have been discounted at 3 percent.

Source: IBRC, using data from the Indiana Commission for Higher Education, National Survey of College Graduates and the U.S. Census Bureau

Adding to Indiana’s Talent Pool

Indiana University plays a major role in educating the current and future generations of the state’s professionals, including business and government leaders, scientists and educators. Figure 17 shows that, compared to all institutions in Indiana, IU produces a quarter or more of all baccalaureate and advanced graduates in the five most popular degree fields—business (26 percent), education (36 percent), health and life sciences (37 percent), social sciences (27 percent) and the humanities and performing arts (33 percent). In addition, IU confers well over half of all law and human services degrees in the state at the baccalaureate level or higher.

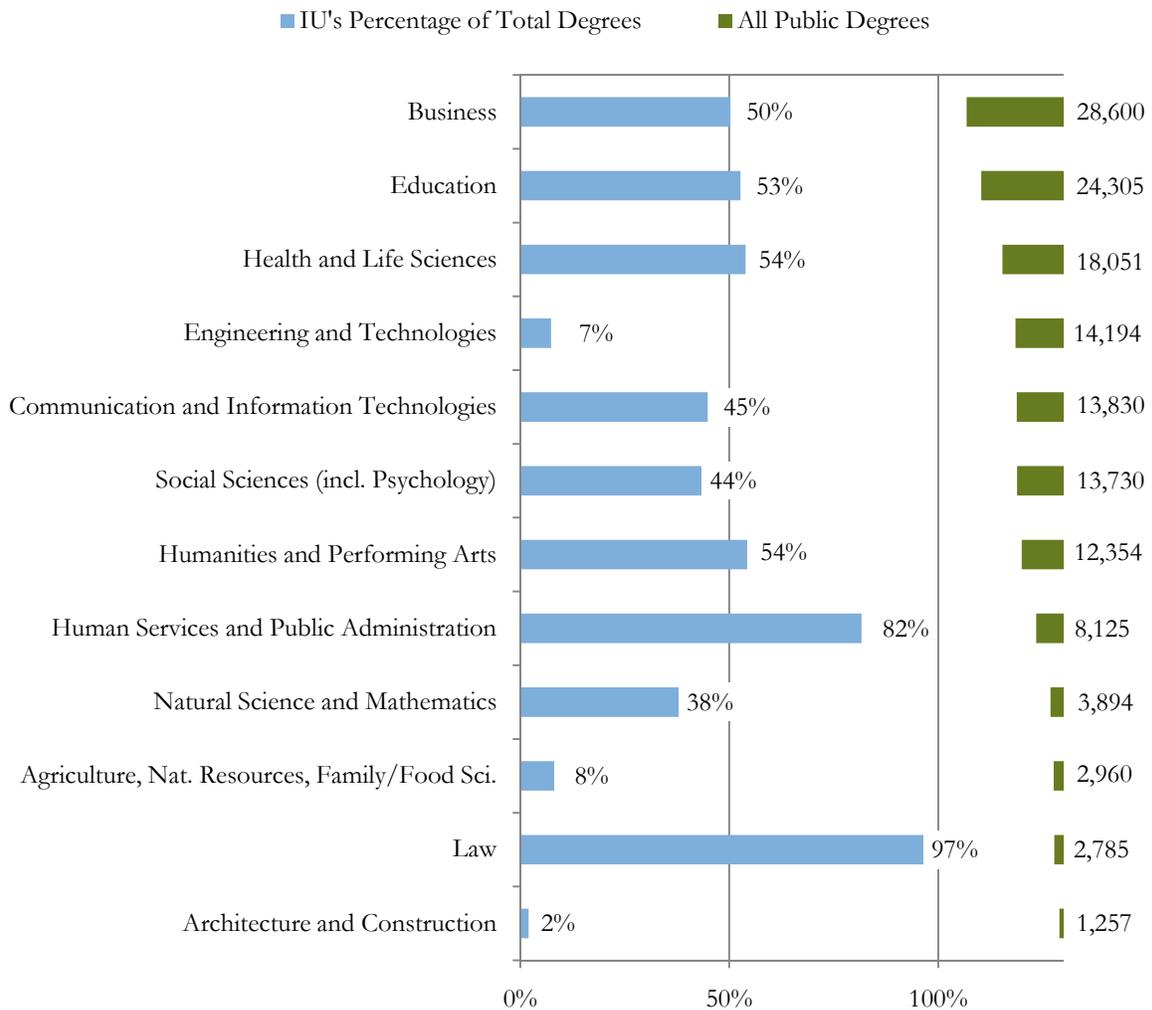
Figure 17: IU’s Baccalaureate and Higher Degree Production by Field Relative to All Indiana Institutions (Public and Private), 2002-2007



Source: IBRC, using data from the Integrated Postsecondary Education Data System, U.S. Department of Education

Figure 18 shows that, among Indiana’s public universities, IU confers over half of all baccalaureate degrees or higher in the three most popular fields—business, education and health and life sciences. Furthermore, IU confers virtually all advanced law degrees and the vast majority of human service and public administration degrees at public institutions, underscoring IU’s central importance for Indiana residents seeking educational opportunities at lower in-state tuition rates.

Figure 18: IU's Baccalaureate and Higher Degree Production by Field Relative to Indiana Public Institutions, 2002-2007



Source: IBRC, using data from the Integrated Postsecondary Education Data System, U.S. Department of Education

Life Sciences

This report examines the high-paying life sciences industry—key among Indiana’s industrial initiatives—since the state is among the “nation’s top four life sciences leaders” due to its high number and concentration of life sciences–related jobs.¹⁹ While graduates of almost any degree program can play a role in this cutting-edge industry, here we consider the following fields:

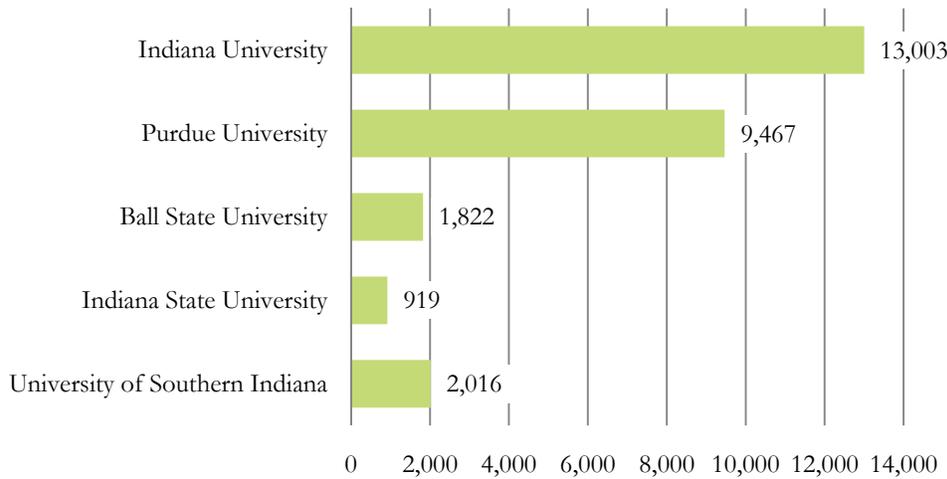
- Biological, Agricultural and Food Sciences
- Medicine/Dentistry/Optomety
- Nursing
- Bioengineering
- Biomedical Engineering

¹⁹ This information comes from the Indiana Economic Development Corporation: www.in.gov/iedc/industry.htm

- Materials Engineering
- Metallurgical Engineering

The IU system graduates 13,003 life sciences degrees or almost half of such degrees awarded by Indiana’s four-year public universities (see Figure 19). This represents almost half of life sciences degrees granted by peer institutions within this state, ahead of Purdue University which grants 9,467 degrees, as well as the other three institutions combined (4,757).

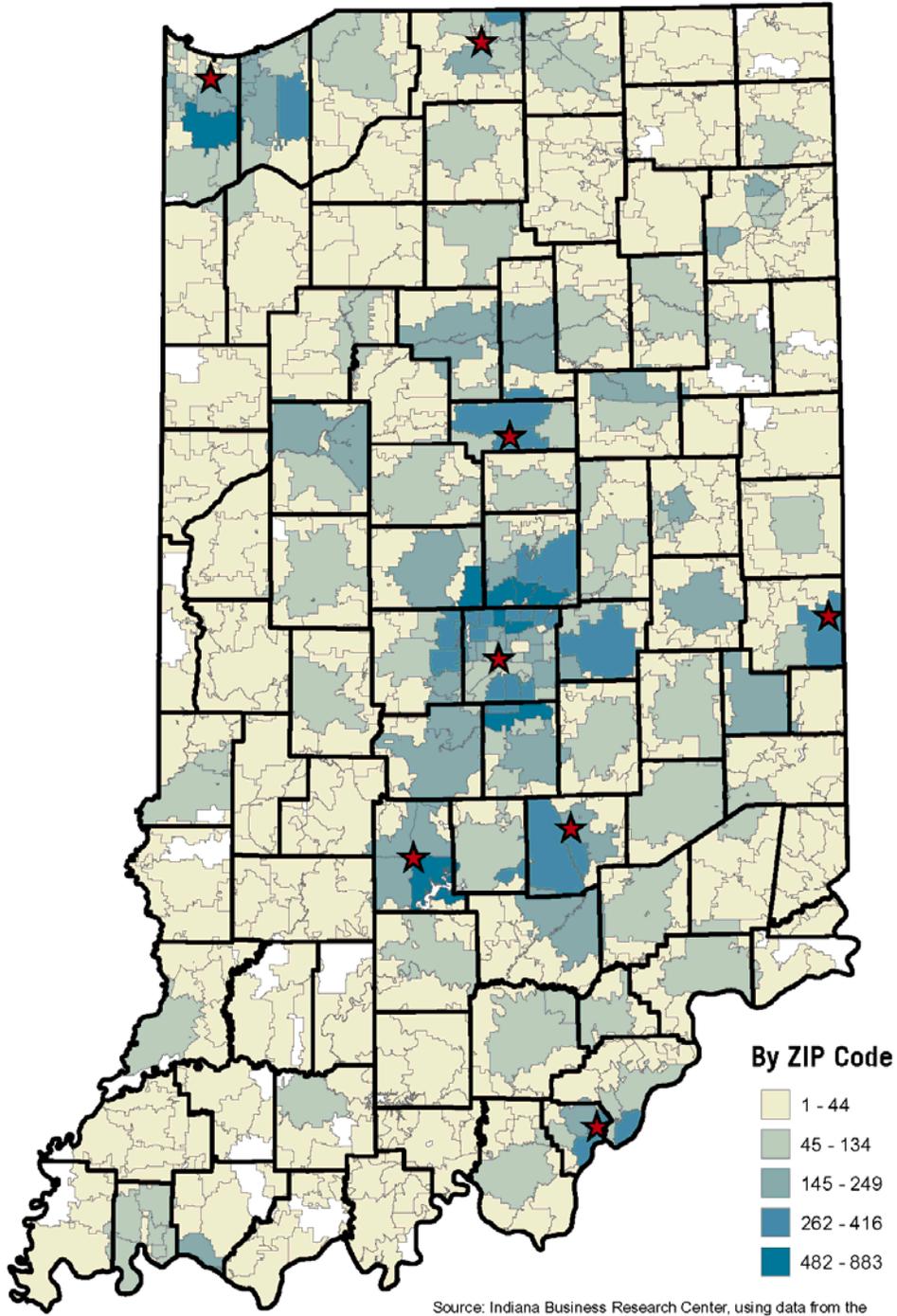
Figure 19: Life Sciences Degrees Conferred by Selected Indiana Public Universities, 2002-2007



Note: This figure includes all post-secondary degrees and certificates in the life sciences.
 Source: IBRC, using data from the Indiana Commission for Higher Education

Fifty-seven percent of all IU alumni with life sciences degrees currently live within Indiana, contributing a major proportion of the professionals needed to maintain state initiatives and start new businesses in this industry. Figure 20 shows that these graduates live throughout the state and particularly in communities near IU campuses.

Figure 20: Current Residence of Indiana University Alumni with Life Sciences Degrees, 2008



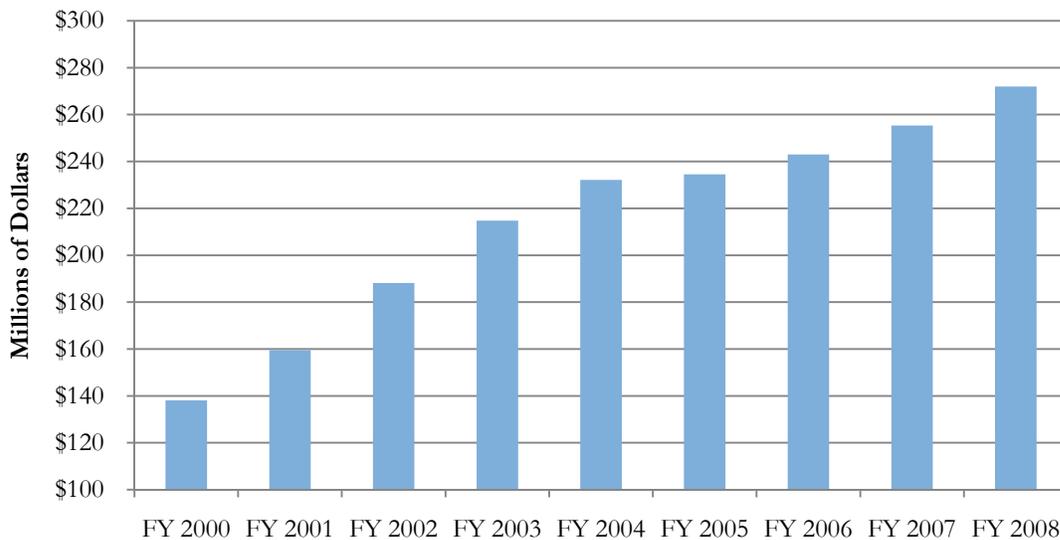
University Research and Business Development

Major research universities such as IU draw several hundred million dollars annually in research support from external sources including the federal government, private foundations, nonprofit organizations, and corporations. Sponsored research activity has largely been the domain of the Bloomington and Indianapolis campuses with the School of Medicine, in particular, attracting significant research dollars. This funding supports cutting-edge research that has direct and indirect effects on the local economy.

Research Inputs

IU's sponsored research expenditures totaled \$272 million in fiscal year 2008. This amount has grown at an 8.8 percent average annual rate and is nearly twice as large as expenditures in 2000 (see Figure 21). IU's full-time faculty has grown from 4,135 to 5,018 over this same period. Yet even when research expenditures are examined on a dollar per full-time faculty basis, this increase remains substantial. Research expenditures averaged \$54,204 per full-time faculty member in 2008 compared to \$33,391 in 2000—a 6.2 percent average annual rate of growth. The 2000 figure for research expenditures per faculty member becomes \$42,423 when presented in 2008 dollars (using the Consumer Price Index) and brings the inflation-adjusted average annual growth rate to 3.1 percent.

Figure 21: Annual IU Sponsored Research Expenditures, FY 2000 to 2008



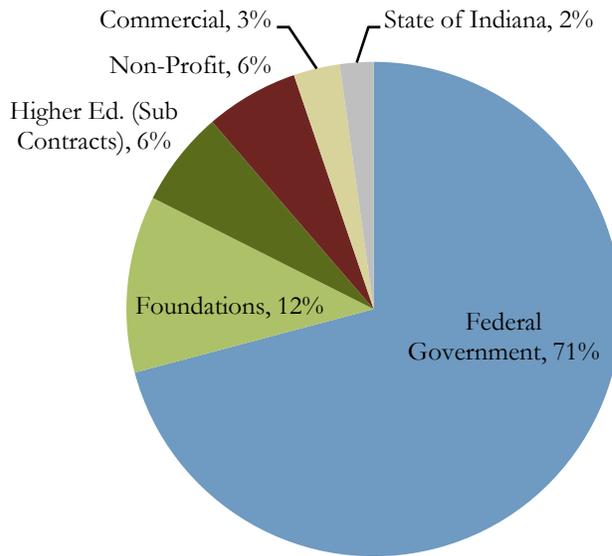
Source: IBRC, using the Executive Reporting Environment (ERE) of the Indiana University Office of Research Administration

Seventy percent of IU's sponsored research expenditures between 2006 and 2008 were funded by the federal government (see Figure 22). The impact of the IU School of Medicine is evident by the fact that nearly three-quarters of these federal government-sourced expenditures came from the

National Institutes of Health (NIH). The medical school alone accounted for 73 percent of the NIH funded research. The National Science Foundation is another significant source of funding with 14 percent of IU's research expenditures originating with this agency between 2006 and 2008.

After federal contracts and grants, private foundations were the next largest sponsors of research accounting for 12 percent of expenditures. Nonprofit organizations and sub-contracts from other colleges and universities each accounted for 6 percent of research expenditures. Only 2 percent of IU's sponsored research expenditures were funded by the State of Indiana.

Figure 22: Sponsored Research Expenditures by Funding Source, Three-Year Average, FY 2006-2008



Source: IBRC, using the Executive Reporting Environment (ERE) of the Indiana University Office of Research Administration

As discussed earlier, the School of Medicine is a major draw for research funding. Over the past three years the medical school was responsible for 56 percent of IU's total sponsored research expenditures and accounted for 87 percent of the total at the Indianapolis campus (see Table 12). At an average of nearly \$90 million per year, the Bloomington campus generated 35 percent of IU's sponsored expenditures between 2006 and 2008.

Table 12: Sponsored Research Expenditures by Campus, FY 2006 to 2008

	FY 2006	FY 2007	FY 2008	Three-Year Average	Campus Share of Three-Year Average
Bloomington	\$89,088,947	\$90,485,745	\$89,996,317	\$89,857,003	35%
IUPUI (Medical School)	137,436,410	142,472,545	154,870,254	144,926,403	56%
IUPUI (Other)	16,173,279	21,925,390	26,418,032	21,505,567	8%
Other Campuses	277,996	465,169	711,479	484,882	0.2%
IU Total	\$242,976,632	\$255,348,850	\$271,996,082	\$256,773,855	100%

Source: IBRC, using the Executive Reporting Environment (ERE) of the Indiana University Office of Research Administration

Research Outputs

Some IU research efforts have commercial applications that generate income for researchers and the university and, in some cases, result in start-up companies that create jobs. Table 13 details several key metrics of IU's technology transfer. The university has had a spike in invention disclosures and patent applications in recent years. Furthermore, research at the university led to 326 license agreements and 128 patents awards between fiscal years 2003 and 2007.

Table 13: Technology Transfer Outputs of IU Research, FY 2003 to 2007

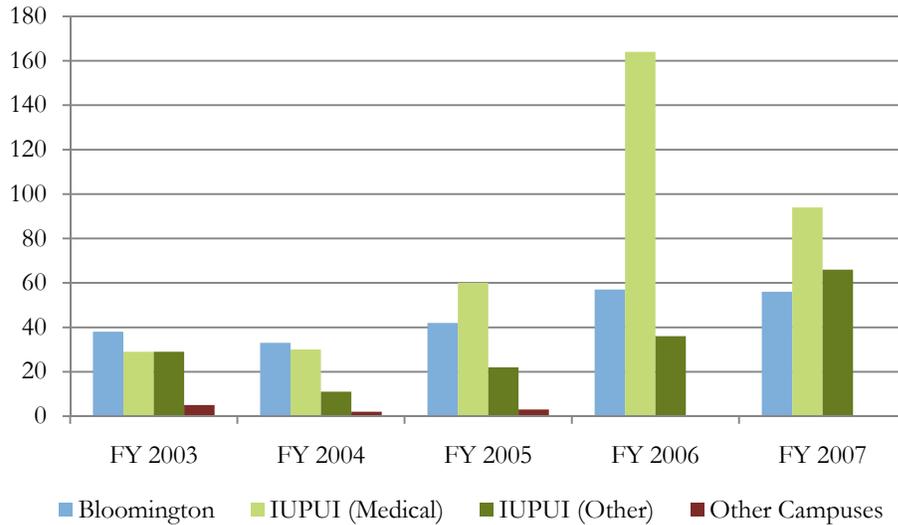
	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
New Invention Disclosures	101	76	127	257	216
New Licenses	90	57	44	65	70
Total New Patent Applications	97	56	50	69	118
Total New Patents Issued	36	23	26	19	24

Source: Indiana University Research and Technology Corporation

Corresponding to its success attracting research funds, the School of Medicine leads IU's technology transfer and business development (see Figure 23 and Figure 24). The medical school has generated an average of 75 invention disclosures annually since 2003. The years 2006 and 2007 were the school's most productive years over this period when it disclosed 164 and 94 inventions, respectively. The medical school was also awarded 54 patents between 2004 and 2007, accounting for 59 percent of IU's total.

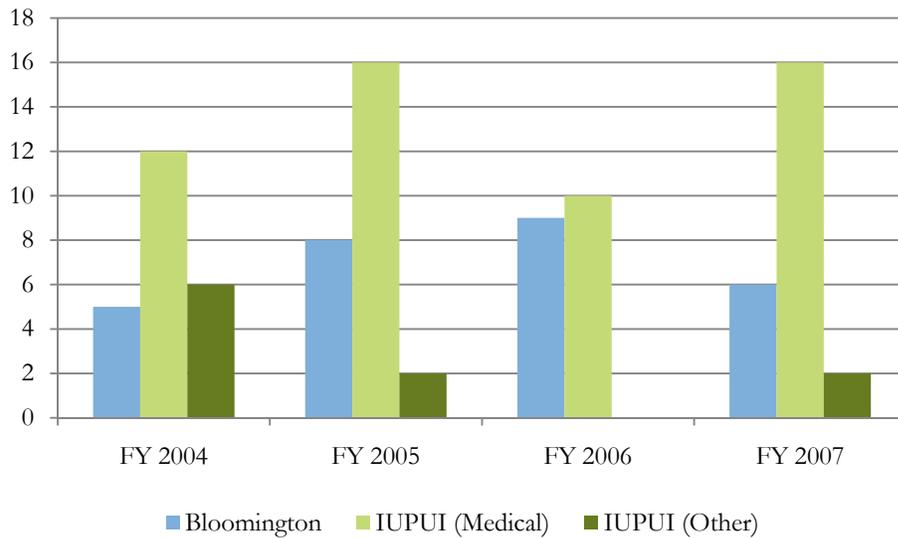
IU Bloomington along with non-medical departments of IUPUI have been productive in their own right. Researchers on the Bloomington campus averaged 45 invention disclosures annually between 2003 and 2007 while the non-medical departments at IUPUI averaged 33 disclosures. Like the medical school, both campuses increased disclosures in 2006 and 2007. IU Bloomington had 28 patents between 2004 and 2007 while IUPUI (non-medical) produced 10.

Figure 23: Annual New Invention Disclosures by Campus, FY 2003 to 2007



Source: Indiana University Research and Technology Corporation

Figure 24: Annual New Patents Issued by Campus (U.S. and Foreign), FY 2004 to 2007



Source: Indiana University Research and Technology Corporation

Since 1999, licensed IU technologies have been the basis for 15 start-up companies employing roughly 170 people in the state. As Table 14 illustrates, 11 of these firms are engaged in Indiana’s burgeoning life science industry while the other four start-ups operate in the information technology field. While the creation of start-ups is merely one small byproduct of the true mission of university research, these businesses provide tangible examples of the impact that IU research has on Indiana’s economy.

Table 14: Indiana Start-Ups Utilizing Licensed IU Technology, FY 1999-2009

Company Name (Year Licensed)	Field	Employees
Wisdom Tools (1999)	Information Technology	n/a
Angel Learning (2000)	Information Technology	>100
Semafore Pharmaceuticals Inc. (2003)	Life Sciences	11
LabRat Software Systems, LLC (2004)	Life Sciences	7
EndGenitor Technologies (2005)	Life Sciences	12
SGC Technologies LLC (2006)	Information Technology	n/a
CS-Keys, LLC (2006)	Life Sciences	5
ImmuneWorks, Inc (2007)	Life Sciences	5
Marcadia Biotech, Inc. (2007)	Life Sciences	3
Indiana Nanotech, LLC (2007)	Life Sciences	3
Pharmaco Photonics (2007)	Life Sciences	3
BehNeem, LLC (2007)	Information Technology	8
Spherosense Technologies, Inc. (2008)	Life Sciences	4
Apex Therapeutics, Inc (2008)	Life Sciences	6
Aeon Imaging (2009)	Life Sciences	3

Source: Indiana University Research and Technology Corporation

Civic Contribution

The benefit of the university does not stop with the success of its students or the economic impact of its spending but continues by promoting the vitality of rural and urban communities across Indiana through service, giving and making a wide variety of resources available to the public.

This report estimates volunteer service and charitable contributions based on responses to the Economic Impact Surveys which were sent to representative samples of students, faculty and staff on each of the eight campuses. Additionally, data on service-learning were collected from service centers on each campus or estimated conservatively using enrollment and the minimal service-learning requirements of relevant courses. Although the economic impact of service-learning or volunteering is difficult to assess, the figures presented here consider the equivalent compensation of occupations that perform similar roles, reducing them appropriately to avoid inflated estimates. The head administrative office of each campus (typically the Office of the Chancellor) helped compile listings of publicly available resources and IU libraries provided data on public library usage to which the research team applied economic value estimates from recent research.²⁰

Service-Learning

All IU campuses offer service-learning courses in which students serve neighboring communities along with, or in lieu of, traditional coursework. Service requirements of these courses not only benefit students with experiential learning or applied practice, but can greatly enhance the lives of nearby urban and rural residents. While this service may merely involve a two-hour community activity at a particular point of a semester, many courses require a far more intensive commitment of 10 or more hours every week.

Details on service-learning on each campus by department are available in the campus-specific reports though a few notable examples are summarized here. Leading the way is IUPUI, which effectively doubled its service-learning hours over the past few years and won the 2006 United States President's Award for its community service. IU Bloomington's School for Public and Environmental Affairs (SPEA) requires students to complete a minimum of 120 contact hours through nonprofit or public internships—often unpaid. Among the regional campuses, it is worth pointing out that many of their nursing and education programs have mandatory practicum courses in which students become highly valued non-paid assistants at local hospitals and classrooms. Business programs also support local communities, and IU Southeast has an innovative service requirement for its MBA and MSSF (Master of Science in Strategic Finance) students who must complete pre-approved community projects.

Although IU campuses differ widely in the extent to which they record their students' hours of service-learning, a conservative estimate of the total economic benefit of these courses is more than \$800,000 (see Table 15).

²⁰ Please see the appendix for more methodological details, plus a full list of volunteer roles and the compensation of equivalent occupations.

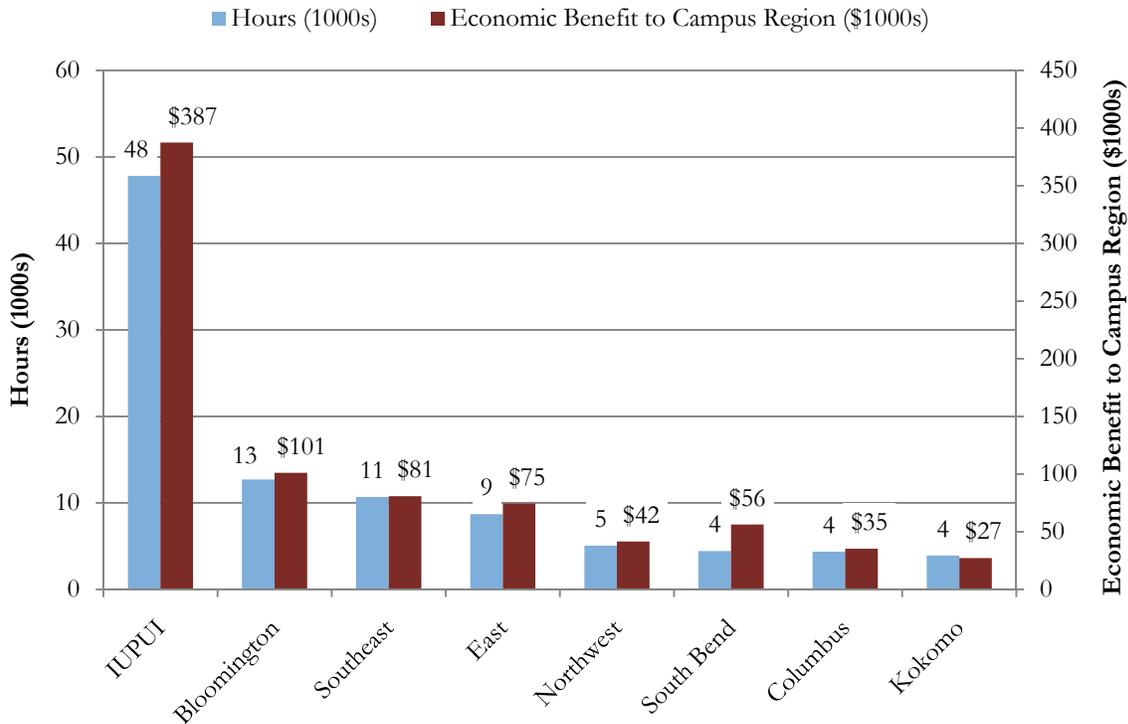
Table 15: Total Impact of Estimated Service Learning Hours at IU, 2006-2007

Estimated Total Service Learning Hours	97,656
Estimated Total Economic Benefit of Service-Learning	\$804,278

Source: IBRC, using wage data from the U.S. Bureau of Labor Statistics (BLS) and hours of service-learning from campus service-learning centers or estimated hours of service based on campus course listings. Please see individual campus reports for more detailed information by campus.

Figure 25 gives a rough comparison of the economic benefit that each campus' students provide to the community through their coursework; detailed information by department is available in the campus-specific reports. Overall, IUPUI appears far ahead of the other campuses in terms of the number of hours (47,797) and economic benefit (\$387,454) of its service-learning courses. However, this high impact is due not only to IUPUI's major service-learning initiatives and relatively large campus size but the tremendous effort of its Center for Service and Learning to track these hours. It is very likely that IU Bloomington, which does not centrally track its service-learning hours, may have far more than the 12,700 hours listed below since conservative estimates were used for this campus.²¹

Figure 25: Service-Learning Estimates by Campus, 2006-2007



Source: IBRC, using wage data from the BLS and hours of service-learning from campus service-learning centers or estimated hours of service based on campus course listings. Please see individual campus reports for more detailed information by campus.

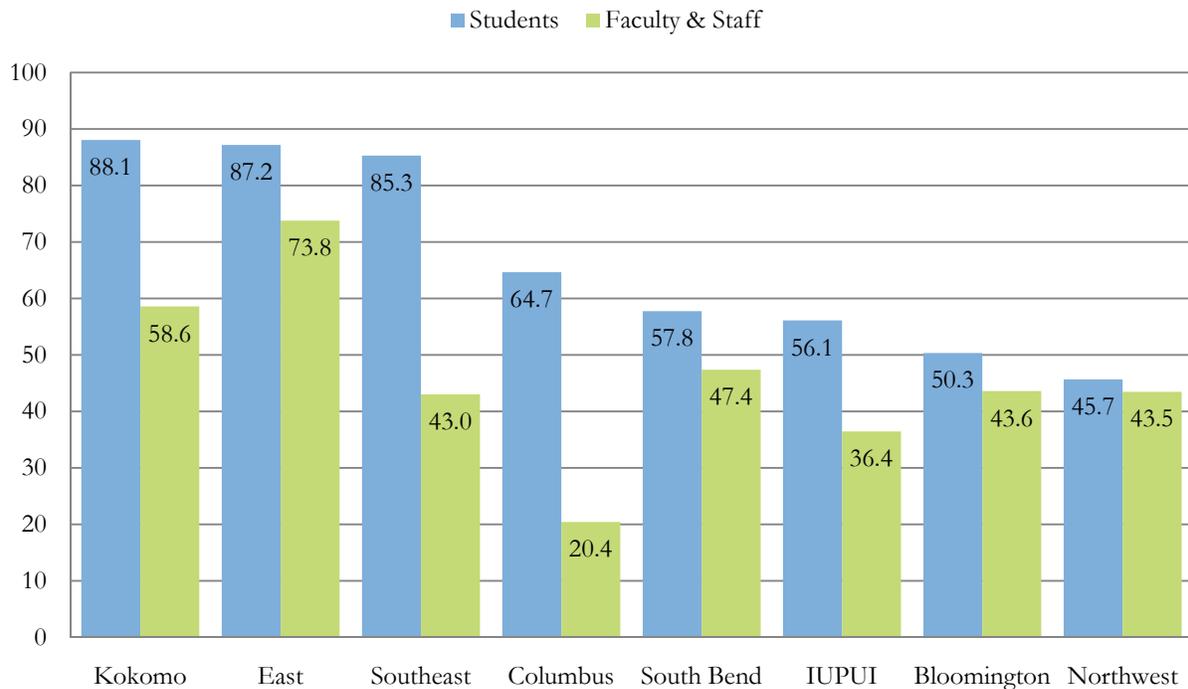
²¹ Please see the methodological appendix for more details on how hourly estimates were applied to these service-learning courses.

Volunteering

IU students, faculty and staff engage in a wide range of extracurricular volunteer activities to help community members through tutoring children, recreation instruction and board membership, and many other services. To gauge this activity, this report makes use of data from the IU Economic Impact Survey, which asked respondents to report the number of hours they spent doing 16 different types of volunteer service during the 2006-2007 academic year. While IU cannot claim credit for all of this volunteer activity, the campus-specific reports take into account the extent to which each activity took place within the campus' region and the number of 'out-of-town' students and faculty who might not have been active in the region but for the presence of the IU campus.

Figure 26 displays the average number of volunteer hours contributed by students, along with faculty and staff, among the eight IU campuses. We see that full-time students at IU Kokomo, IU East and IU Southeast volunteered a high average of over 85 hours per year. On average, full-time employees tended to volunteer about 41 hours per year, about 15 hours less than full-time students (56 hours). Though faculty and staff at some campuses appear to volunteer more than others, there were no statistically significant differences among campuses in faculty volunteer service .

Figure 26: Average Annual Volunteer Hours for Full-time Students, Faculty and Staff, by Campus, 2006-2007

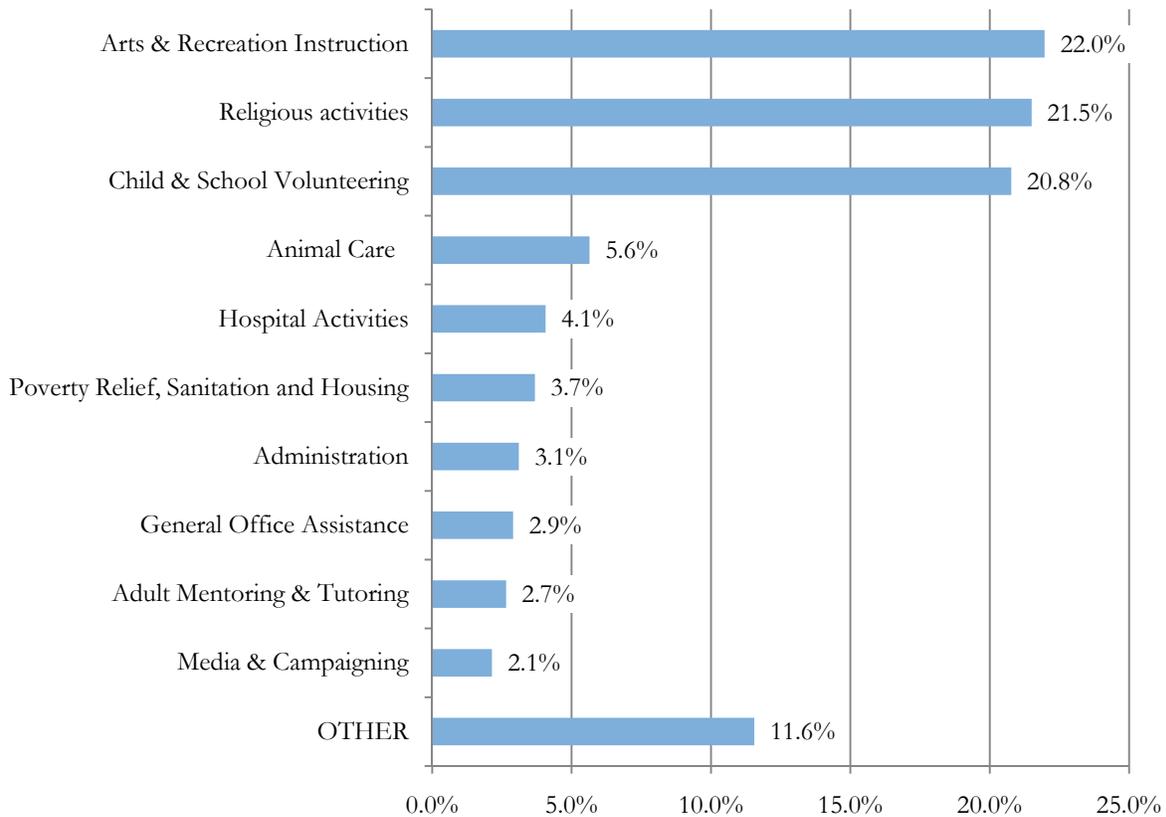


Note: Though statistically significant, the average volunteer hours for faculty and staff at IUPUI Columbus may seem excessively low due to the small sample size of this population. Not all differences among campuses are statistically significant.

Source: IBRC, using data from the IU Economic Impact Survey

Figure 27 shows that three types of activities were especially popular among students, accounting for almost two-thirds of all volunteer service: arts and recreation instruction, religious activities and child and school volunteering. On each campus there is considerable evidence that many of these activities are facilitated by IU, even if there is no comprehensive way to measure IU’s involvement. For example, the volunteer recruiter for the City of Bloomington Department of Parks and Recreation estimates that 85 percent of all volunteer hours come from organizations and students affiliated with IU Bloomington.²² Even religious activities that are not directly sponsored by the university can benefit from the presence of IU volunteers from outside the region who are present due to the local campus.

Figure 27: Volunteer Hours by Activity, Full-time IU Students, 2006-2007



Note: “Child and School Volunteering” combines four categories of volunteering selected by respondents: child mentoring, child tutoring, school volunteering, and camp volunteering. “Poverty Relief, Sanitation and Housing” combines two categories: poverty relief, and neighborhood cleanup and housing development.

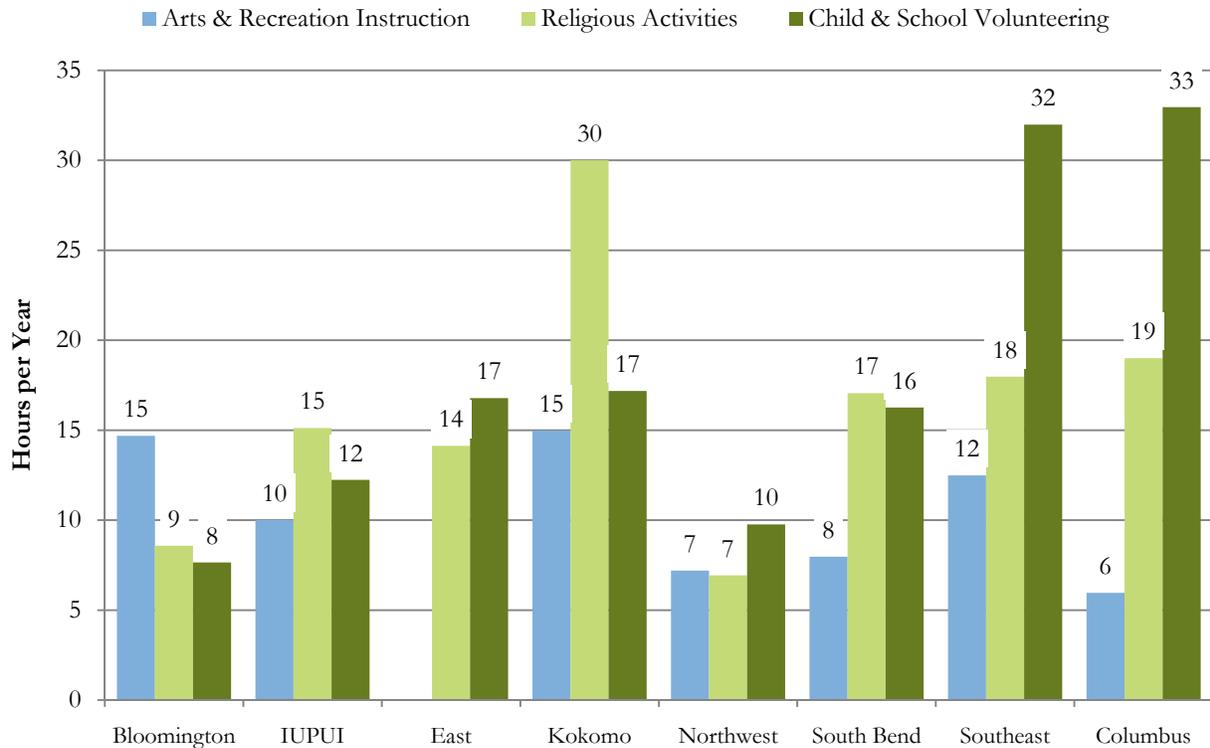
Source: IBRC, using data from the IU Economic Impact Survey

Campuses vary in the type of activities that are popular among their students (see Figure 28). While most differences among campuses are not significant, it is clear that only on the IU Bloomington

²² This information comes from City of Bloomington Department of Parks and Recreation

campus is arts and recreation instruction the most popular volunteer activity, and religious activity is the clear favorite among volunteers on the IU Kokomo campus. Otherwise, the other campuses generally favor all three of these popular activities equally, except for IU East where arts and recreation activities were performed by a small, though dedicated, number of students. While it appears that child and school volunteering is far more popular than the other two activities on the IU Southeast and IUPU Columbus campuses, these differences are not statistically significant.

Figure 28: Popular Volunteer Activities by Campus for Full-Time IU Students, 2006-2007



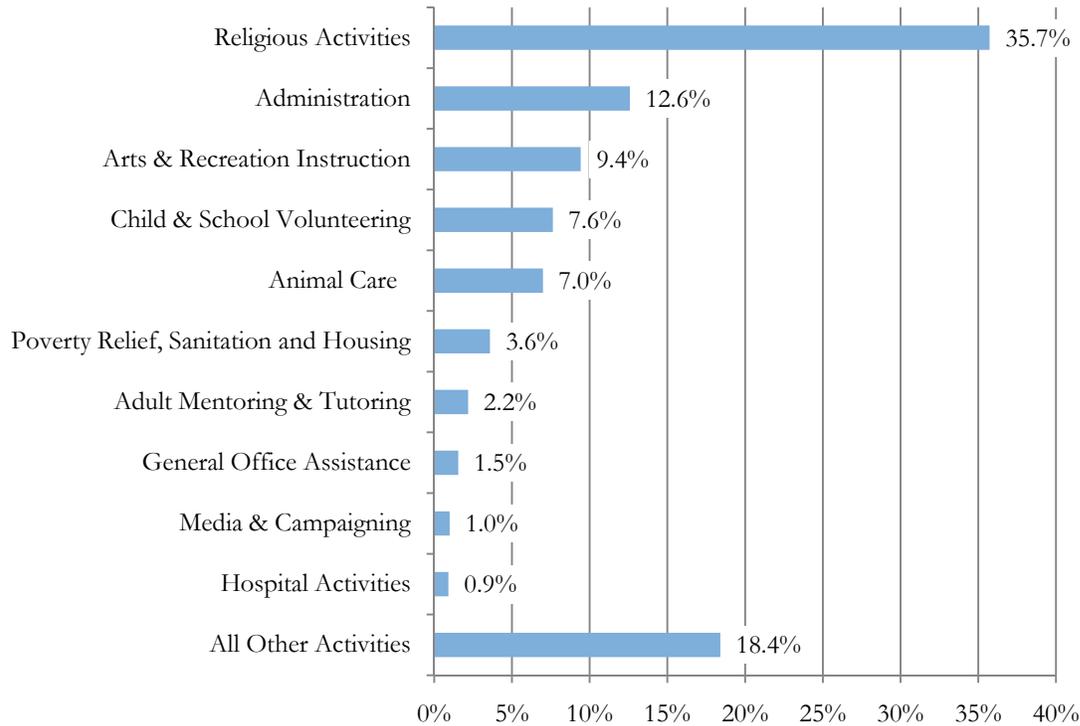
Note: “Child and School Volunteering” combines four categories of volunteering selected by respondents: child mentoring, child tutoring, school volunteering and camp volunteering. Not all differences between campuses or activities within each campus are statistically significant. The average hours of volunteering for arts and recreation instruction at IU East is not statistically significant.

Source: IBRC, using data from the IU Economic Impact Survey

Among faculty and staff, religious activities are clearly the most popular form of volunteer activity, amounting to 36 percent of all volunteer service (see Figure 29). Far less popular are other activities such as administration (13 percent), which include services such as board membership and sharing financial advice, and arts and recreation instruction (9 percent). This general trend is consistent across all eight campuses, except for IU Kokomo where arts and recreation instruction was a relatively rare form of volunteer service.²³

²³ Due to the small sample size of full-time faculty and staff at IUPU Columbus, it was not possible to accurately estimate the popularity of different volunteer activities on that campus.

Figure 29: Volunteer Hours by Activity, Full-time IU Faculty and Staff, 2006-2007



Note: “Child and School Volunteering” combines four categories of volunteering selected by respondents: child mentoring, child tutoring, school volunteering and camp volunteering.

Source: IBRC, using data from the IU Economic Impact Survey

All told, a conservative estimate of the overall economic benefit of the volunteer service of IU students, faculty and staff amounts to over \$14 million. While simply compiling the equivalent compensation that would have accrued to paid workers performing the same roles leads to over \$47 million, this study makes several adjustments—discussed in the methodology section and appendix—so that the benefit is not overstated. (see Table 16).

Table 16: Economic Benefit of IU Student and Faculty Volunteering, 2006-2007

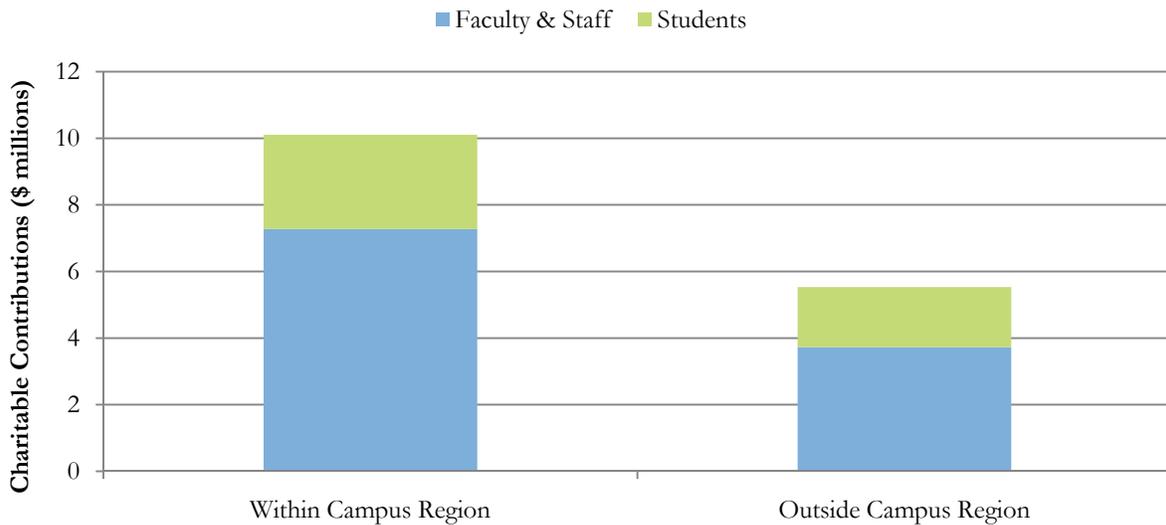
Total Volunteer Service Hours by Full-Time Students, Faculty and Staff	4,282,612
Equivalent Compensation (wages plus legally-required benefits)	\$47,162,484
<i>Discount of Compensation Due to Service Outside of Campus Regions</i>	<i>-\$8,001,744</i>
Raw Economic Impact to Campus Regions	\$39,160,740
<i>Discount of Impact Due to Students from Campus Regions</i>	<i>-\$14,355,271</i>
<i>Discount of Impact Due to Service Performed by Staff</i>	<i>-\$4,463,991</i>
Economic Impact to Campus Regions Based on Faculty and Non-Local Students	\$20,341,478
<i>Discount of Impact Due to 73% price-to-client value ratio</i>	<i>-\$5,492,199</i>
Overall Economic Benefit to Campus Regions	\$14,849,279

Source: IBRC, using volunteer data from the IU Economic Impact Survey, student origin and human resources data from the Indiana University Office of University Planning, Institutional Research and Accountability and wage data from the U.S. Bureau of Labor Statistics (BLS)

Charitable Contributions

Students, and particularly faculty and staff, make considerable charitable donations—with the majority choosing to do so within their campus region. In total, IU students and employees on all campuses donated an estimated \$15.6 million to charity during the 2006-2007 academic year, of which over \$10 million went to organizations within their campus regions (see Figure 30).

Figure 30: Charitable Contributions of IU Students, Faculty and Staff, 2006-2007



Source: IBRC, using data from the IU Economic Impact Survey

Despite their limited incomes, full-time students donated an average of \$71 each over the course of the 2006-2007 academic year for a total exceeding \$4.6 million. Of this amount, \$2.8 million (61 percent) was donated to organizations within the respective campus regions (see Table 17).

Table 17: Charitable Contributions of Full-Time IU Students, 2006-2007

Total Number of Full-Time Students	65,235
Average Donation per Student	\$71
Total Contribution of All Students	<u>\$4,636,818</u>
<i>Discount of Contributions Made Outside of Campus Region</i>	<i>-\$1,807,264</i>
Contribution within Campus Region	\$2,829,554

Source: IBRC, using data from the IU Economic Impact Survey

Owing to their higher wages, full-time faculty and staff have the resources to be even more generous than students, donating an average of \$695 during the 2006-2007 academic year (see Table 18). Table 18 shows that across all campuses, employees' donations amounted to almost \$11 million, of which \$7.3 million (66 percent) supported local organizations within their campus regions. To facilitate their giving, IU allows employees the convenient option of making donations to the United Way through payroll deduction.

Table 18: Charitable Contributions of Full-Time IU Faculty and Staff, 2006-2007

Total Number of Full-Time Employees	15,821
Average Donation per Employee	\$695
Total Contribution of All Employees	<u>\$10,999,693</u>
<i>Discount of Contributions Made Outside of Campus Region</i>	<i>-\$3,725,122</i>
Contribution within Campus Region	\$7,274,571

Source: IBRC, using data from the IU Economic Impact Survey

Resources for Indiana

Each campus invites the public to make use of a diverse array of community resources, from library services and speakers' bureaus to sporting facilities, which are typically available for little or no cost. Particularly outside of the Indianapolis and Chicago metropolitan regions, many Indiana residents find that their local IU campuses offer them irreplaceable opportunities for continuing education, business advice, health treatment and recreation.

Arts and Culture

Indiana University provides many opportunities for Indiana residents to engage in the arts and cultural events. These resources are summarized in the following four categories, and the campus-specific reports provide additional examples.²⁴

- **Music & Performing Arts**

Every campus contains at least one venue that hosts musical events ranging from concert performances to comedy shows and public lectures. Perhaps the jewel of IU's arts and culture resources is the Jacobs School of Music located on the Bloomington campus. As one of the top

²⁴ More information is available on the IU Arts & Culture Resources page at: <http://www.iu.edu/arts/>

music programs in the world, the Jacobs School administers over 1,100 performances annually, most of them free. The Bloomington campus also contains IU Auditorium, which has hosted a wide range of top international performers since 1941.

- **Fine & Visual Arts**

Displaying a wide array of artistic traditions are the many museums and art centers found on all IU campuses across the state. Besides its performing art functions, the Paul W. Ogle Cultural and Community Center at IU Southeast also has regular art exhibits. IUPUI also engages the public directly through its collaboration on the Indianapolis Museum of Art Community Project that benefits schools and cultural organizations by making digital art resources more accessible.

- **Film**

Besides the many film archives available through its libraries, IU also has numerous public screenings and festivals on many of its campuses. Some examples include the Monday Movies Spring Film Series at IU Northwest and the Human Experience Film Series at IUPU Columbus.

- **Popular Media**

IU produces not only scholarly academic journals but also popular media designed to engage the public. IU Northwest produces the *Spirits Literary Magazine* and hosts a streamed radio station – WIUN. IU Bloomington maintains public radio and television stations – WFIU and WTIU – and hosts activities of the independent *Ryder Film Series and Magazine*.

Library Services

The IU Library system not only has 38 brick-and-mortar libraries and research archives, but is part of a massive interlibrary and digital resource network that allows Indiana residents access to information from around the world. During the 2006-2007 academic year alone, 12,838 members of the public who were not IU students, faculty or staff registered as users and borrowed 33,489 books from IU libraries (see Table 19).²⁵ Owing to its large 27-library system, IU Bloomington accounted for almost half of all books loaned to public patrons, many of whom borrowed books regularly during the 2006-2007 year with an average of 5.5 books per patron. Meanwhile IUPUI, located in the state’s largest city, had the highest number of public patrons at 3,613. Following the methodology used in the study that measured the impact of Indiana’s public libraries, IBRC analysts used the estimated price of \$7.42 per loaned book, which brought the value of all books loaned to public patrons to \$248,488.²⁶

Table 19: Value of Books Loaned to Public Patrons of IU Libraries, 2006-2007

Campus	Public Patrons	Books Loaned	Total Value of Books Loaned
Bloomington	2,985	16,302	\$ 120,961
IUPUI	3,613	9,150	67,893
South Bend	1,175	2,829	20,991

²⁵ This information comes from Indiana University Libraries, courtesy Eric Bartheld.

²⁶ Indiana Business Research Center. 2007. “The Economic Impact of Libraries in Indiana.” Available online at: www.ibrc.indiana.edu/studies/EconomicImpactOfLibraries_2007.pdf

Campus	Public Patrons	Books Loaned	Total Value of Books Loaned
Kokomo	726	1,787	13,260
Southeast	1,196	1,623	12,043
East	581	1,000	7,420
Northwest	1,052	486	3,606
Columbus	1,510	312	2,315
Overall	12,838	33,489	\$ 248,488

Note: Value of each book loaned is estimated at \$7.42.

Source: IBRC, using patron and book loan data from IU Libraries

Besides borrowing books however, patrons can use resources that are generally inexpensive or free or simply use the modern facilities for on-site research and quiet study. Community members can use Internet-enabled computers with access to academic, legal and other digital resources. Computers also have popular word processing, data management and graphic design applications as well as specialized software programs (e.g., ArcGIS, SQL) for which training is often available. Patrons can also use a wide range of audiovisual and office equipment including re-recordable DVD players, microfilm readers and color laser printers. Approximately 150 network ID accounts are issued to public patrons every month, allowing them use of computers and equipment.²⁷

Catalogue of Other Resources

Besides the cultural events, civic engagement activities and library resources discussed earlier, there are six other broad categories of resources that IU provides to the public. Since IU is a public university and many of its affiliated service centers are nonprofit, almost all of these resources are free or available at very reasonable costs. Below is a brief description of each resource with examples. Detailed listings of these resources are available in the campus-specific reports.

- **Adult/Continuing Education**

Each IU campus is committed to providing lifelong learning opportunities for the public, well beyond its own students, faculty and staff. Non-degree programs allow participants to learn new skills or develop advanced proficiency in current skills. The commitment for such training can range from an hour-long lecture or day-long business workshop to extensive training programs that meet regularly for several months. A good example is the Community Learning Network at IUPUI which offers over 1,000 classes a year on topics as diverse as arts and humanities, medical and life sciences, college preparation and photography. Similarly, IU Southeast invites local residents to take part in 17 categories of non-credit and certificate courses, many of which are available online. IU Kokomo also offers innovative programs like *Project Complete*, which helps adults use college credits from an unfinished degree toward obtaining a bachelor's degree in general studies.

²⁷ There is no information on how many of these accounts are for new users or repeat users since Network ID records are purged after two months following IU Libraries' strict privacy policy.

- **K-12 Education Resources**

Indiana University offers several programs to enhance the learning of elementary, middle and high school students. IU students, faculty and staff work with students in local schools as mentors, teachers and guest lecturers and invite grade school students to take part in campus events including college preparation workshops. IU Bloomington offers summer programs for middle and high school students in diverse disciplines such as science and music, as well as pre-collegiate residential programs for students from low-income backgrounds and under-represented minority groups. IU also provides training and teaching resources for educators. For example, IUPU Columbus partners with other institutions in Bartholomew County through the Center for Teaching and Learning where they provide teacher training workshops. IU South Bend's Center for Economic Education also trains grade school teachers on how to incorporate economics into their curricula.

- **Economic Development and Business Leadership**

IU faculty, staff and students partner with businesses and civic organizations to achieve local economic development initiatives. Anticipating economic challenges, local campuses convene seminars and workshops led by experts and community leaders. IU East's Center for Entrepreneurship is dedicated to improving the quality of life in Richmond and surrounding areas by engaging the local business community through lectures, workshops and a bimonthly television program. The Indiana Business Research Center at IU's Kelley School of Business collects and analyzes the latest state and national data to share with the public via websites, publications and public seminars. IU is also an integral partner in major state initiatives, as when the Center for Urban Policy and the Environment at IUPUI's School of Public and Environmental Affairs provided staffing and support for the 2007 Indiana Commission on Local Government Reform.

- **Physical and Mental Health Treatment**

Besides the direct medical function of Indiana University medical centers and hospitals affiliated with the IU School of Medicine in Indianapolis, IU provides a variety of health services at the community level. These centers help members of the public obtain convenient medical, dental and optometric care at low cost while allowing researchers and students to complete their studies and gain practical training.²⁸ An example would IU Northwest's Dental Clinic in Gary where members of the public can receive preventive dental care such as oral exams and fluoride treatments. IU Bloomington has two local eye care centers where advanced optometry students assist patrons under the supervision of licensed optometrists. IU East's Center for Health Promotion offers several services to the community including a comprehensive personal health risk appraisal.

- **Event Hosting and Shopping Facilities**

IU campuses also have a range of meeting spaces that members of the public can reserve for community meetings, workshops and celebrations. The Indiana Memorial Union at IU Bloomington and University Place at IUPUI are booked for events throughout the year and also provide daily dining and shopping options for the public. Additionally, IU Southeast welcomes members of the public to reserve the halls, lobby or outdoor amphitheatre of the Paul W. Ogle Cultural and Community Center.

²⁸ An extensive listing of Indiana University's many hospitals, research centers and clinics is available at www.indiana.edu/medical/.

- **Recreation Facilities and Sporting Events**

Many IU campuses have intercollegiate sports programs that count on local support as they host visiting men's and women's teams in popular sports such as basketball, football, baseball and tennis. Some campuses also have sports centers that offer memberships to the public to join fitness classes, use cardio and weight-lifting equipment, as well as swimming pools. The sports complex at IUPUI is widely regarded for the IU Natatorium and the Michael A. Carroll Stadium and Tennis Center. IU Southeast offers residents the opportunity to join the *Grenadier Club* that not only supports varsity athletic teams but gives members passes to the recreational facility.

The Economic Footprint of the University

Methodology

The Indiana Business Research Center analyzed the impact of IU on the state's economy, measuring the economic effect of IU compensation and purchasing expenditures, together with the spending of students. The IBRC used the IMPLAN economic analysis tool, standard widely-used input-output model, to calculate the economic ripple effects created by the purchases of the university, the compensation of its faculty and staff, and the collateral expenditures of students. The model's results are estimates, not a precise accounting, of the effects of IU on the Indiana economy.

Principal Findings

- The total economic footprint of IU on the state of Indiana amounts to \$4.6 billion annually.
- This economic activity generates approximately \$187.2 million in state and local taxes.
- The relevant portion of student spending and its ripple effects are estimated to total \$1.1 billion and account for approximately 7,870 jobs.
- IU faculty and staff spending, together with university direct purchases and construction projects, result in ripple effects of approximately \$796.9 million in additional economic activity that supports approximately 6,710 jobs.

Table 20 presents the relative economic effects of five major spending categories and their ripple effects. The ratio of the ripple effect to the direct effect depends on several factors, but two important factors are the size of the model region—the larger, the greater the ripple effects—and the degree to which the region is able to supply the goods and services demanded by the consumers and businesses of the region. As a result, the multipliers for the system wide analysis will differ from those used for the campus region analysis.

Table 20: Estimated Economic Footprint of IU, 2006-2007

Economic Output Effects of University	Direct Effects (in millions)	Ripple Effects (in millions)	Total Footprint (in millions)
Faculty and Staff Compensation	\$1,214.6	\$505.3	\$1,719.9
University Purchases of Goods and Services	597.7	222.1	819.8
University Construction	126.2	69.5	195.7
Student Expenditures	809.2	324.2	1,133.4
Medical School Supplemental Expenditures	439.4	335.6	775.0
TOTAL Effect on Economic Output	\$3187.1	\$1,456.7	\$ 4,643.8

Source: IBRC, using IMPLAN results based on IPEDS financial data reported by universities to the National Center for Education Statistics; Office of Financial Aid; IU Student Survey 2008; and Office of Planning, Institutional Research and Accountability

Table 21 presents the employment impact of IU. On a full-time equivalent basis, IU employs about 16,320 persons.²⁹ This is approximately the same number of Hoosiers who work in medical equipment and supplies manufacturing. The spending by the 16,320 university faculty and staff, together with spending by students, together with university purchasing, accounts for additional 36,340 jobs statewide. The reader should be aware that the types of jobs, and their associated wages and salaries, do not all have the same impacts. While the model estimates that IU creates demand for higher-paying jobs like physicians to serve faculty and staff, a majority of jobs are in the lower-paying service sector.

Table 21: Estimated Employment Footprint of IU, 2006-2007

Employment Effects of University	Direct Effects	Ripple Effects	Total Footprint
Faculty and Staff	11,660	4,310	15,970
University Purchases of Goods and Services	2,440	1,820	4,260
University Construction	800	580	1,380
Student Expenditures	5,130	2,740	7,870
Medical School Supplemental Expenditures	3,950	2,910	6,860
TOTAL Effect on Employment	23,980	12,360	36,340

Source: IBRC, using IMPLAN model results

Economic Injections and Leakages

In many ways, measuring the economic impact of a business or institution is an exercise in keeping track of good money (monetary flows into a region), bad money (monetary flows out of a region) and neutral money (transactions that re-circulate money within a region). Another way to view good money is as an injection into a region's economy; tourism is the classic example. Bad money could be considered a leakage from a region's economy; purchasing oil from overseas may be a good example of this concept.

In recent years, state universities—in their desire to advance their case for support to state legislatures—have highlighted the fact that universities and students attract visitors and those visitors bring money, good money, to their region. In this way, institutions have augmented their reported economic footprint. While there is nothing analytically wrong with counting the economic injections, if one adds these injections, one must also subtract the leakages from the region to obtain a net flow of good versus bad money. Most university impact reports do not subtract leakages.

In an attempt to conduct a balanced and consistent analysis of injections and leakages associated with student visitors, the IBRC included questions in the 2008 Student Survey to measure the frequency and spending associated with travelers from out of state and student travel to destinations out of the state. According to the survey results, IU students travel out of state longer and spend more in the process than people who come to Indiana to visit IU students. In other words, this is not an advantageous calculation.

²⁹ Based on IBRC's full-time equivalent calculations using payroll data received from the Office of University Planning, Institutional Research and Accountability.

Explaining the Data and the Results

In this report, the term “ripple effects” is used to describe the cascading effects of a purchase by either institutions (such as a university or business) or consumers in a regional or state economy. A purchase at a retail store by a consumer, for example, is the end of a chain of economic transactions. Working backward, a purchase of a gallon of milk at the local grocery store provides some income to the grocery worker and some profit to the store owner. If the milk was produced locally, it also provides income to the dairy farmer, the local large-animal veterinarian and a local agricultural supply store, to name a few. Those incomes are re-circulated in the local economy as those people spend their income on auto repair, groceries or home repair. Hence, that \$5 for the gallon of milk can be multiplied to \$7.50 or \$8.00 depending on how much of the money is retained and re-spent within the region of analysis.

The entire state of Indiana is the campus region for the IU system-wide report. Thus, the economic effects were measured for the state as a whole, in contrast to measuring the economic footprint of an IU campus on its region alone.

The treatment of state support is a thorny issue in measuring economic footprints. The most conservative approach would be to remove the of state appropriation portion from the IU operating budget because these funds would either be returned to Indiana taxpayers or redirected to other state programs and projects. In other words, the state support wouldn't disappear if IU went away; it would go somewhere else in the state economy, in contrast to the research and development funding, the student tuition and endowment revenues. The IBRC analysts kept all the types of funds in the calculation and note that state appropriations are “neutral;” that is, they don't represent injections into the regional economy nor do they represent leakages, or potential leakages, from the regional economy. As a result, the IBRC uses the term economic footprint to include all categories of monetary flows—injections, retention and recirculation. Economic *impact*, in the strict sense, would measure only the effects of monetary injections and retention.

The sum of all the direct effects will not add up to the IU system total operating budget as reported by the Integrated Postsecondary Education Data System (IPEDS). There are several reasons for this:

1. To assess the effects of spending by faculty and staff, the analyst must reduce total compensation to reflect the leakages associated with income taxes, payroll taxes and savings.
2. Scholarships and student financial assistance are a reduction in revenues, even though they are treated as an expense in the university books.
3. The IMPLAN model calculates the effects of current spending, not the consumption of fixed capital, i.e., depreciation.
4. Construction expenditures can vary greatly over time. As a result, a five-year average of construction expenditures was used.

There was no double counting of student spending for on-campus housing and meals. Student expenditures for on-campus housing and meals are captured within university expenditures. For the relevant number of students, on-campus room and board spending was removed from the impact calculation of student spending.

A Note about the Economic Footprint of the IU School of Medicine

Conducting an analysis of the economic impact of the IU School of Medicine (IUSM) is not straightforward. Many of the medical school's expenditures on goods, services and compensation are recorded in the accounts of IUPUI. Those expenditures recorded in the medical school accounts, and their economic ripple effects, are included as "Faculty and Staff Compensation" and the "University Purchases of Goods and Services" categories in Table 19 and Table 20. There are additional expenditures that are not recorded in the medical school accounts. There are complementary medical practice plans and services associated with the medical school that employ faculty and staff and purchase goods and services. For the fiscal year 2006-2007, the expenditures connected to these complementary activities totaled \$439.4 million. These expenditures and their ripple effects are presented in Table 19 and Table 20 under the category "Medical School Supplemental Expenditures."

The expenditure values and the estimated economic ripple effects presented in this report are considerably lower than those in a 2005 report prepared for Association of American Medical Colleges (AAMC). There could be several reasons for this difference. There may be different modeling assumptions. For example, the IBRC employed the conservative "but for" perspective that tends to dampen, rather than amplify, footprint estimates. As presented in the methodology section, this perspective was adopted to mollify critics of economic impact studies and to produce conservative and defensible estimates. The 2005 AAMC study reported statewide effects, while this study focused on the IUPUI campus region. As mentioned earlier, the larger the region used for analysis, the larger the value of economic ripple effects. Probably the greatest source of discrepancy is the base expenditure data. This study used expenditure figures from LCME Part I-A Annual Financial Questionnaire on Medical School Financing—Schedule A—of the Liaison Committee on Medical Education.

While the AAMC 2005 study may differ with respect to the base expenditure data and footprint estimation methodology, the AAMC report does present additional types of impact that were outside the scope of this study. For example, the AAMC reports that out-of-state visitors who came to see patients in AAMC-Member Medical Schools and Teaching Hospitals injected into Indiana \$31.5 million in spending. While it is legitimate to include this *type* of spending on hotels, meals and gifts by visitors from out-of-state as an economic impact, the units of analysis differ between the AAMC study and the study conducted by the IBRC. (For example, the region of analysis for the AAMC study is the entire state, while the IBRC uses the IUPUI campus region.) In addition, there was no way to verify the veracity of the figures in the AAMC study because conducting a survey on the origins of Medical Schools visitors and their spending patterns was outside the scope of this study. As a result, the IBRC analysts were not able to stand behind the \$31.5 million estimate and did not include it in the total economic footprint.

Conclusion

IU makes a vital contribution to Indiana. This study presents a comprehensive, innovative and conservative assessment of the economic impact that IU has on the state. IBRC researchers used many of the standard tools and methods to measure IU's impact, the economic effects of which are clear. Through the spending of 16,320 full-time employees and purchases of goods and services, IU creates economic ripples through the state. This analysis estimated that the direct and ripple effects of university expenditures accounts for a total of \$4.6 billion in economic activity.

Students, faculty and staff also “give back” to the community by volunteering and contributing to local charities. This study is one of few that chronicle and measure the economic benefits of the community and civic engagement. Information related to IU's civic engagement was gathered through an extensive student and staff survey that collected data on a range of topics including spending patterns, volunteer activities and charitable contributions. The civic engagement dollar figure, which totals approximately \$15.7 million, was estimated by applying to total service-learning and volunteer hours the equivalent wages of occupations performing similar roles.

Assigning a dollar value to a university is a challenging task. Many university impact studies have overestimated the economic impact and overlooked, or underestimated, the other types of economic and cultural contributions that the institution makes to the region it serves. Clearly, the total dollars-and-cents contribution of IU as reported in this study is but one dimension of IU's total impact. This study attempted to provide a balanced view by expanding the scope and understanding of the contributions—tangible economic contributions as well as intangible contributions—that a university makes.

Technical Appendix

Contribution to Human Capital Methodology

Degrees Conferred

This section uses both federal and state data sources to determine Indiana University's proportion of graduates relative to other universities across the state. Federal data came from the Integrated Postsecondary Education Dataset System (IPEDS) administered by the U.S. Department of Education, which allowed for easy comparison of both public and private school systems.

In most cases, however, the research team used data from the Indiana Commission for Higher Education (CHE), which had comprehensive records for comparing Indiana University and other public universities within the state. Students who completed double-majors were accredited with only having completed one degree at one time in their primary major field. The research team also collapsed the 11 CHE "program degree levels" into five simplified degree categories. Undergraduate programs over two years but less than four years were combined with *associate's degrees*. Post-baccalaureate certificates were combined with *baccalaureate degrees*. Specialist and post-master's certificates were combined with *master's degrees*. The small number of first-professional certificates were combined with *professional degrees*— primarily non-academic doctoral programs in law and jurisprudence, medicine, dentistry, optometry, veterinary sciences, pharmacy and theology. *Doctoral degrees* refer to academic doctorates, such as Ph.D. (Doctor of Philosophy).

It is important to note that in the campus-specific reports, regional campuses (Columbus, East, Kokomo, Northwest, South Bend and Southeast) were compared to other local institutions based on how many degrees they conferred to *natives of their respective campus regions*. CHE data allowed the research team to note the county in which each graduating student lived prior to start of their educational program. This information is vital to understanding the popularity of local IU campuses for residents of surrounding communities who could have chosen to leave the region for their schooling. A far simpler approach was used to compare the degrees conferred by the larger IU Bloomington and IUPUI campuses—their total graduation numbers were merely compared to those of peer institutions across the state.

Expected Lifetime Earnings

For these estimates, the research team used data from CHE, the National Survey of College Graduates (NSCG) and the U.S. Census Bureau.

CHE data was used to determine the most popular degree programs by field. Since CHE categorizes majors based on the U.S. Department of Education's Classification of Instructional Programs (CIP) system, these majors were first re-categorized into fields that were compatible with the National Science Foundation (NSF) system used in the NSCG dataset. Then all the degrees conferred during the five academic years starting in 2002 and ending in 2007 were compiled to produce the average

annual number of degrees by field for each IU campus for both men and women.³⁰ In all, calculations were made for 35 fields (see Table 22).

Table 22: List of NSF-based Fields of Study Examined for the Economic Impact Report

IU/NSF Field Code	Field of Study
11	Computer and Information Science (not programming)
12	Mathematics and Physical Sciences
21	Biological, Agricultural & Food Sciences
22	Environmental Sciences
41	Economics
42	Social Sciences (except Economics)
51	Engineering (except Bio-, Biomedical, Material & Metallurgical)
52	Bioengineering and Biomedical Engineering
53	Materials Engineering
54	Metallurgical Engineering
61	Medicine/Dentistry/Optometry
62	Nursing
63	Allied Health Fields (except Nursing)
64	Science and Mathematics Teacher Education
65	Technology And Technical Fields (Including Computer Programming)
66	Actuarial Science
67	Architecture, Environmental Design & Other Science & Engineering Related Fields
71	Sales and Marketing
72	Business Administration and Management
73	Public and Educational Administration and Management
74	General Management Fields (except Business, Public and Education Administration)
81	Education (except Administrative and Math & Science Education)
82	Social Work
83	Music
84	Drama / Fine, Visual & Performing Arts
85	Arts and Humanities (except Music, Visual & Performing Arts)
86	Criminal Justice/Protective Services
87	Law/Legal Studies
88	Library Science

³⁰ It is likely that a relatively small number of graduates may have received more than one degree from IU during this five-year time period. However, by using the average number of graduates per year we can expect that the impact of this small amount of double-counting would be minimal and not affect the overall trends.

IU/NSF Field Code	Field of Study
89	Parks, Recreation, Leisure And Fitness Studies
91	Communications
92	Journalism
93	Other Natural Resources And Conservation
94	Other Non-Science & Engineering Fields
99	Other Categories

Source: IBRC, using a coding system loosely based on the National Survey Foundation classification used in the National Survey of College Graduates.

To meet the challenge of calculating lifetime earnings, the research team relied on NSCG and Census data, using a similar synthetic estimation strategy to the Census Bureau³¹ but using five-year age cohorts and discounting future earnings at a rate of 3 percent per year. In the most recent NSCG survey (2003), a nationally representative sample of college graduates (baccalaureate and above) were asked detailed questions about their educational history, wages and work status, along with demographic information (such as sex and age).³² This information was then used to determine the average annual wages (adjusted to 2006 dollars) of each five-year age cohort of graduates (male and female) based on the degree level (baccalaureate, master’s, etc.) and field of study of their terminal degree. Only the data of full-time, year-round workers was used—that is the earnings of persons who worked 35 hours or more per week (or were on paid leave) during at least 50 weeks of the year. To reflect a typical 40-year career, the research team used eight five-year cohorts: 25-29 through 60-64. This average wage of each age cohort was multiplied by five to produce the five-year cumulative real earnings. Earnings for each subsequent age cohort were then used as synthetic “future earnings” by discounting them at an annual rate of 3.0 percent. This discounted value was calculated by modifying a standard discount formula based on compound interest: $1/(1+0.03)^y$, where y reflects the number of years between the “present” and the mid-point of the particular five-year period in the “future.” After all cohort calculations were made for the cumulative real earnings of each five-year period, the earnings were summed to produce estimated lifetime earnings for each combination of sex, degree level and field, as summarized in the formula below:

$$estimated\ lifetime\ earnings = \sum_{a=1}^8 (5 * \widehat{realearn}_a) * \left(\frac{1}{(1 + d)^{(5*a)-2.5}} \right)$$

where:

- a is the cohort numbered 1 through 8 (representing 25-29, 30-34...60-64)
- $\widehat{realearn}_a$ is the average annual wage of the cohort in 2006 dollars
- d is the discount rate (set at 0.03 for this study)

³¹ More information is contained within the Census Report “The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings” issued in July 2002 and available at: www.census.gov/prod/2002pubs/p23-210.pdf.

³² While the National Survey of College Graduates is administered by the National Science Foundation which focuses on the careers of Science & Engineering degree graduates, the NSCG is designed to collect data on a representative of college graduates in all fields. Detailed information is available at: <https://sestat.nsf.gov/flex/sestat.jsp>

By multiplying the number of graduates for each degree level and field by the estimated lifetime earnings associated with each profile, the research team estimated the average lifetime earnings for both women and men at each of the eight IU campuses. Since the NSCG did not collect information on the wages of associate’s degree and high school graduates, synthetic lifetime earnings for these groups was determined using data from the U.S. Census Bureau.³³ However, since Census data for full-time, year-round workers was not available by field or for five-year age cohorts, the average for all fields and 10-year cohorts was used.

Adding to Indiana’s Talent Pool

Since comparisons are made here between Indiana University and both public and private institutions in Indiana, the research team used the federal Integrated Postsecondary Education Dataset System (IPEDS) to determine IU’s share of degrees by field. To enable much larger categories, fields were determined here simply by using the first two digits of Classification of Instructional Programs (CIP) code as follows:

CIP (2-digit)	Broad Field
01, 02, 03	Agriculture, Natural Resources, Family and Food Sciences
04, 46	Architecture, Construction
52	Business
09, 10, 11	Communication, Information Technologies
13	Education
14, 15, 41, 47	Engineering, Technologies (other than Information Technologies)
26, 51	Health, Life Sciences
43, 44	Human Services, Public Administration
16, 23, 38, 50	Humanities, Performing Arts
22	Law
27, 40	Natural Sciences, Mathematics
42, 45	Social Sciences (including Psychology)

Source: IBRC, using classification proposed by the Office of University Planning Institutional Research and Accountability

To compare life sciences degrees conferred by Indiana University and peer four-year public institutions within Indiana, the report returns to the use of data from the Indiana Commission for Higher Education (CHE). Here, all life sciences degrees and certificates (including those at the associate’s degree level) are compared.

³³ The U.S. Census releases historical income tables for a wide range of demographic groups, using the Current Population Surveys. Data relevant to this research are available at: www.census.gov/hhes/www/income/histinc/histinctb.html

Civic Contribution Methodology

Service-Learning and Volunteer Impact Calculations

An often overlooked impact that a large university can have on surrounding communities is the impact of the unpaid services that students provide—through their coursework or as volunteers. While the economic impact of volunteer service is difficult to assess, an established model is to consider the equivalent wages of occupations that perform similar roles. Scholarly support for this approach comes from the work of Eleanor Brown³⁴ and a similar strategy is currently used by the Points of Light Institute in their online resource.³⁵ This study uses this method by assigning an equivalent occupation to each service-learning or volunteer role, based on the Standard Occupational Classification (SOC) used by the U.S. Department of Labor. Using the SOC framework had the advantage of allowing the research team to research the median wages for that occupation in Indiana based on U.S. Bureau of Labor Statistics (BLS) data released in May 2006. Additionally, BLS also released estimates of non-wage employee compensation so that estimates of total compensation (wages plus benefits) were possible for every occupation. A listing of these occupations and their equivalent compensation is available in Table 23.

To minimize the extent to which the economic impacts of service-learning or volunteering may be inflated, each service-learning activity was matched to the occupation of similar role that received the lowest minimal wages. Where roles were unknown, an activity was matched with the “personal care and service occupation” group whose median wages were only \$8.79 per hour in Indiana.³⁶ Furthermore, while non-wage compensation averages 30.2 percent of wages for service occupations (factoring in optional benefits such as employer-sponsored health plans), we apply only legally-required benefits (such as social security) which amount to 8.3 percent of wages.³⁷ A full listing of voluntary unpaid roles and the compensation of equivalent occupations is available in the appendix. Finally, this study accounts for the possibility that not all services provided by volunteers would be paid for if funded recipients had the choice. With this in mind, the study assesses the economic impact of service learning as 73 percent of the value of total compensation following the factor of proportionality between market price and client value suggested by Brown.³⁸

Where reported hours were not available for particular service learning courses, a minimal number of two hours of service was assigned to each enrolled student over the course of the semester. Of course, many courses and unpaid internships require far greater amounts of service, including public nursing practicum courses that may ask for 20 or as many as 40 hours per week.

To account for the volunteer service of students, faculty and staff at each campus, this study relies on data that were collected as part of the IU Economic Impact Survey. For each campus, the average amount of service for each individual was estimated for 17 different activities and then

³⁴ Brown, Eleanor. "Assessing the Value of Volunteer Activity." *Nonprofit and Voluntary Sector Quarterly* 28, no. 3 (1999): 3-17.

³⁵ <http://www.pointsoflight.org/resources/research/calculator.cfm>

³⁶ While this analysis uses BLS data for May 2006 (the start of the 2006-2007 academic year), current wage data is available at: http://www.bls.gov/oes/current/oes_stru.htm

³⁷ BLS Employment Cost Trends information is available at: <http://www.bls.gov/ncs/ect/home.htm>

³⁸ For more information, please see the article by Eleanor Brown mentioned earlier as well as the article she cites by Michael P. Murray: i) Brown, Eleanor. "Assessing the Value of Volunteer Activity." *Nonprofit and Voluntary Sector Quarterly* 28, no. 3 (1999): 3-17; ii) Murray, Michael P. "How Inefficient Are Multiple in-Kind Transfers?" *Economic Inquiry* 32 (1994): 209-27.

multiplied by the number of full-time students, faculty and staff.³⁹ Survey respondents were also asked to indicate the primary county in which they conducted each volunteer activity.

However, unlike service-learning, the university cannot simply claim that this volunteer activity occurs “but for” the presence of the university—many students and staff may be members of the local community and would have donated their time regardless of the presence of IU. To account for this fact, the economic impact associated with volunteering (gauged similarly to service-learning) is further reduced so that only the volunteering of faculty and the percentage of students who come from outside the service region is claimed by the university. Additionally, the university only claims the proportion of volunteer service that occurs within the campus region since service outside the region is less likely to have been organized by Indiana University.

Table 23: Equivalent Occupations and Wages for Different Types of Service

Type of Service	Title of Equivalent Occupation	SOC	Hourly Wage	Required Benefits	Com-pensation
Administration (graduate students)	Social and community service managers	11-9151	\$19.78	\$1.64	\$21.42
Administration (undergrad students)	Community and social service specialists	21-1099	13.21	1.10	14.31
Adult Mentoring/Counseling	Counselors, all other	21-1019	13.25	1.10	14.35
Adult Tutoring	Adult literacy, remedial education, and GED teachers and instructors	25-3011	15.80	1.31	17.11
Animal Care	Nonfarm animal caretakers	39-2021	8.51	0.71	9.22
Architecture	Architectural and civil drafters	17-3011	18.87	1.57	20.44
Awareness Campaigning	Door-to-door sales, news and street vendors and related workers	41-9091	7.90	0.66	8.56
Child Mentoring/Counseling	Social and human service assistants	21-1093	11.66	0.97	12.63
Child Tutoring	<i>Teacher assistants*</i>	25-9041	<i>9.63</i>	<i>0.80</i>	<i>10.43</i>
Church Volunteering	Religious Workers, All Other	21-2099	11.05	0.92	11.97
Computer Programming	Computer support specialists	15-1041	17.00	1.41	18.41
Dental Assistant	Dental assistants	31-9091	14.95	1.24	16.19
Design	Designers, All Other	27-1029	16.00	1.33	17.33
Food Pantry Volunteer	Food servers, nonrestaurant	35-3041	8.51	0.71	9.22
Fundraising by Telephone	Telemarketers	41-9041	10.91	0.91	11.82

³⁹ To ensure that these volunteer hours were not inflated, those who volunteered far more than the raw average for each activity (over two standard deviations higher) were removed to estimate a more conservative revised average that would be multiplied by the full-time population to compute the total hours.

Type of Service	Title of Equivalent Occupation	SOC	Hourly Wage	Required Benefits	Com- pensation
Fundraising face-to-face	Door-to-door sales, news and street vendors and related workers	41-9091	7.90	0.66	8.56
General Art Work	Artists and related workers, all Other	27-1019	15.04	1.25	16.29
General Health	Healthcare support workers, all other	31-9099	11.80	0.98	12.78
General Health Workers	Healthcare practitioners and technical workers	29-9099	13.62	1.13	14.75
Health/Physical Education	Fitness trainers and aerobics instructors	39-9031	9.08	0.75	9.83
Health/Rehabilitation	Physical therapist aides	31-2022	10.35	0.86	11.21
Media	Broadcast technicians	27-4012	12.05	1.00	13.05
Media (alternate)	Media and communication workers, all other	27-3099	20.01	1.66	21.67
Medical Assistant	Medical assistants	31-9092	12.08	1.00	13.08
Neighborhood Sanitation	Landscaping and groundskeeping workers	37-3011	9.73	0.81	10.54
Neighborhood Sanitation (alternate)	Janitors and cleaners, except maids and housekeeping cleaners	37-2011	9.76	0.81	10.57
Non-profit project management	Community and social service specialists	21-1099	13.21	1.10	14.31
Nursing / public health and hospital assistants	Nursing aides, orderlies and attendants	31-1012	10.36	0.86	11.22
Office Assistance (graduate)	Office and administrative support workers, all other	43-9199	14.47	1.20	15.67
Office Assistance (undergraduate)	Office clerks, general	43-9061	11.17	0.93	12.10
Other Services (graduate students)	Community and social services occupations	21-0000	14.88	1.24	16.12
Other Services (undergraduate students)	Personal care and service occupations	39-0000	8.79	0.73	9.52
Physical Education/Recreation Aide	Recreation workers	39-9032	8.99	0.75	9.74
Physical Therapy	Physical therapist aides	31-2022	10.35	0.86	11.21
Research	Social science research assistants	19-4061	15.98	1.33	17.31
Set/Exhibit Design	Set and exhibit designers	27-1027	18.39	1.53	19.92

Type of Service	Title of Equivalent Occupation	SOC	Hourly Wage	Required Benefits	Com-pensation
Translation	Interpreters and translators	27-3091	14.48	1.20	15.68

*Median Teacher Assistant salary was not available so an annual figure was used and then divided by 52 weeks and 40 hours per week

Note: Total Hourly Compensation is calculated by using Indiana median wage estimates (May 2006) using Standard Occupational Classification (SOC) codes, and adding only legally required benefits—8.3 percent of total compensation for service-providing occupations.

Source: IBRC, using data from the U.S. Department of Labor, Bureau of Labor Statistics, December 2006

Charitable Contributions

The IU Economic Impact Survey asked respondents to choose which one of several dollar ranges best reflects the value of their charitable contributions during the 2006-2007 academic year. While a many respondents made large charitable contributions, the minimal dollar amount of each range was used so as not to overstate the value of these contributions. For example in the faculty/staff survey, a contribution in the “less than \$50” range was counted as \$1, a contribution in the “\$101-\$200” range was counted as \$101, and a contribution in the “over \$2,000” range was counted as \$2,001.

To gauge the local impact of these charitable contributions, respondents were also asked to estimate the percentage of their charitable contributions that went to organizations within their campus regions, to other parts of Indiana and outside of Indiana.

Resources for Indiana

This section catalogues different types of publicly available resources on each campus and pays particular attention to the usage of IU libraries by members of the public. With input from the head administrative office of each campus (typically the Office of the Chancellor), a list of publicly available resources was compiled for each campus. Recent research on the value of Indiana public library services estimated that the equivalent price of each library book borrowed by a patron is \$7.42.⁴⁰ This figure is used to gauge the overall value of book loans at each campus by non-affiliated community members.

IU Economic Impact Surveys

Survey Design and Distribution

Key data were obtained through two economic impact surveys—one to students, the other to faculty and staff—that were administered on all eight campuses. Using the 2006 to 2007 academic year as the focal period, both surveys asked a wide range of questions in the following categories (with brief descriptions):

- **Background Information:** Basic demographic questions about the respondent, such as sex and age, along with enrollment status.

⁴⁰ Indiana Business Research Center. 2007. “The Economic Impact of Libraries in Indiana.” Available online at: www.ibrc.indiana.edu/studies/EconomicImpactOfLibraries_2007.pdf

- **Popular Local Businesses:** Most frequented businesses, excluding utility companies
- **Visitor Spending:** Spending of out-of-town visitors the respondent received.
- **Travel Spending:** Spending of respondent during out-of-town trips.
- **Volunteer and Community Service Activities:** Hours spent volunteering by type of activity and the primary location of each activity.
- **Charitable Spending:** Amount donated and the percentage that went to organizations in the campus regions.
- **Household Information:** Composition of household, including number of children in public and private school, along with market value of owned property.
- **Sources of Income.** Annual income by personal, family and government sources and the percentage that came from sources in the campus region and outside the campus region.

While spending estimates were made for faculty and staff using IMPLAN analysis (explained earlier), students were also asked detailed questions about their spending including:

- **Housing Utility Payments.** Key utility bills by semester and over the summer months.
- **General Expenses.** Monthly spending habits for 16 different popular expenses, excluding tuition and fees.

The survey was developed into an online instrument that was approved by the Indiana University Institutional Review Board's Human Subjects Committee at all campuses (Study # 07-12568).⁴¹ This survey was developed by closely examining research goals, reviewing best practices among other university economic impact studies and testing the early versions of the survey instrument on groups of undergraduate students.

Students, faculty and staff were invited to complete the survey through an e-mail invitation by their local campus administrator (usually the Chancellor) in January 2008. At least two follow-up messages, via e-mail, were sent by IBRC analysts during the month of February to encourage respondents to complete the survey. Additionally, students at each campus were offered the chance to win a \$50 gift card upon completing the survey.

Survey Sampling and Margins of Error

The research team sought to have an adequate number of persons complete the survey so as to achieve estimates of the full student or faculty and staff populations with at least a ± 10 percent sampling error at the 95 percent confidence interval.⁴² The research team was also aware that despite the repeated encouragement of those invited to complete the survey, typical response rates are only around 30 percent.⁴³ As a result, sample frames were selected that assumed that only 30 percent of faculty and staff and only 25 percent of students would respond to the survey due to the longer length of their survey instrument.

⁴¹ Sample copies of the online survey instrument are included at the end of this report.

⁴² The sampling frame also assumed the most conservative 50/50 split to accommodate questions with two answer options that are likely to be equally popular (such as "full-time vs. part-time" or "male vs. female").

⁴³ A meta-analysis of 13 studies between 1998 and 1999 found that they had an average response rate of 31 percent. See Sheehan, Kim. 2001 "E-mail Survey Response Rates: A Review" *Journal of Computer-Mediated Communication*. 6 (2) available at: <http://jcmc.indiana.edu/vol6/issue2/sheehan.html>

Despite these challenges, low margins of error were achieved on all student surveys, despite their low response rates. This was particularly true on the larger Bloomington and IUPUI campuses where IBRC analysts only needed to invite a random sample of less than 15 percent of the student body to participate in the survey.⁴⁴ Table 24 shows that, even with completion rates of only 20 percent and 15 percent respectively, the margin of error for the Bloomington and IUPUI campus surveys is less than ± 10 percent.

Owing to the very high response rates to the faculty and staff surveys, low margins of error were also achieved for all campuses, except for IUPUI Columbus. Here even a fairly high 35.7 percent participation rate among faculty and staff could not make up for the very small population size; therefore the margins of error for estimates based on this survey are as high as 12 percent. While this meant that some estimates for faculty and staff were not possible for IUPUI Columbus (such as the most popular volunteer activities), the research team was still able to make statistically significant estimates for most survey responses.

Table 24: IU Economic Impact Survey Completion Rates and Margins of Error

Population	Population Size	Number Invited	Number Completed	Completion Rate	Margin of Error
<i>Students</i>					
Bloomington	38,990	4,160	824	19.8%	$\pm 3.4\%$
IUPUI	28,321	4,160	641	15.4%	$\pm 3.8\%$
Columbus	1,533	798	116	14.5%	$\pm 8.8\%$
East	2,423	1,233	145	11.8%	$\pm 7.9\%$
Kokomo	3,025	1,457	286	19.6%	$\pm 5.5\%$
Northwest	4,790	2,675	196	7.3%	$\pm 6.9\%$
South Bend	7,686	4,014	678	16.9%	$\pm 3.6\%$
Southeast	6,427	3,460	416	12.0%	$\pm 4.6\%$
Total-Students	93,195	21,957	3,302	15.0%	$\pm 1.7\%$
<i>Faculty/Staff</i>					
Bloomington	7,611	4,296	1,765	41.1%	$\pm 2.0\%$
IUPUI	7,679	3,674	1,428	38.9%	$\pm 2.3\%$
Columbus	181	140	50	35.7%	$\pm 11.8\%$
East	328	280	112	40.0%	$\pm 7.5\%$
Kokomo	290	236	125	53.0%	$\pm 6.6\%$
Northwest	584	489	179	36.6%	$\pm 6.1\%$
South Bend	841	683	263	38.5%	$\pm 5.0\%$

⁴⁴ The Indiana University Office for University Planning, Institutional Research and Accountability provided random samples of students, faculty and staff on each campus according to the sampling frames requested by IBRC analysts. Only students who had completed at least one full year at IU were included in the sample.

Population	Population Size	Number Invited	Number Completed	Completion Rate	Margin of Error
Southeast	671	544	244	44.9%	±5.0%
Total-Faculty and Staff	18,185	10,342	4,166	40.3%	±1.3%
ALL	111,380	32,299	7,468	23.1%	±1.1%

Note: Population Size numbers combine full-time and part-time students, as well as faculty and staff. The completion rate is based on the number invited. The margin of error assumes a 95 percent confidence interval and a 50/50 split for responses to binary survey questions.

Source: IBRC, using data collected from the Indiana University Economic Impact Surveys

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Indiana University Economic Impact Study 2007

Study # 07-12568

You are invited to participate in a research study that assesses the many ways in which the campuses of Indiana University may impact local communities and the State of Indiana.

INFORMATION. To participate in this study, we ask that you complete this confidential on-line survey. The survey asks multiple-choice and open-ended questions concerning your studies and work at Indiana University, as well as your income, spending, travel and volunteering. The questions should take less than 15 minutes to complete.

BENEFITS. The results of this research will help Indiana University to estimate the economic and social impact of its campuses so as to demonstrate its value to the public as well as identify areas for future improvement.

CONFIDENTIALITY. All responses that you provide are confidential. Responses identifying specific individuals will not be reported – only data that reflects combined responses will be included in the report. Only research personnel will have access to the data.

COMPENSATION. Participation in the survey is voluntary.

CONTACT. If you have any questions about the study, feel free to contact the researcher: Dr. Jerry Conover, 1275 E. 10th St., Suite 3110, Bloomington, IN 47405, 812-855-5507, conover@indiana.edu.

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have not been honored during the course of this project, you may contact the office for the Indiana University Bloomington Human Subjects Committee, Carmichael Center L03, 530 E. Kirkwood Ave., Bloomington, IN 47408, 812/855-3067, or by e-mail at iub_hsc@indiana.edu.

PARTICIPATION. Your participation in this study is voluntary; you may refuse to participate without penalty. If you decide to participate, you may withdraw from the study at anytime without penalty and without loss of benefits to which you are otherwise entitled.

IRB APPROVAL

Approval Date: January 11, 2008

Expires: January 11, 2015

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Background Information

Please answer questions based on the past academic year (September 2006 through August 2007).

1. Sex:

Male

Female

2. Age:

Under 25

25-29

30-39

40-49

50-59

60 or over

3. Marital Status:

Single

Married

Partnered, not married

Separated or divorced

Widowed

Prefer not to answer

Other, please specify

4. Primary role at IU:

Faculty

Professional Staff

Administrative, Technical and Clerical Support Staff

Skilled Crafts, Maintenance and Service Staff

5. Faculty or staff status:

Full-time

Part-time, please specify average number of hours worked per week

6. How long have you worked at IU?

less than 2 years

2-4 years

5-9 years

10-19 years

20 years or more

7. In what county do you live for most of the last academic year?

8. In what zip code do you live in for most of the academic year?

Zip Code

9. How far is your typical one-way commute to the campus?

Less than 2 miles

2-4 miles

5-9 miles

10-19 miles

20-39 miles

40 miles or more

10. What is your usual method of transportation to the campus?

Personal automobile

Carpool

Bicycle

Walking

Public Transportation

Other, please specify

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Popular Local Businesses

Please answer questions based on the past academic year (September 2006 through August 2007).

11. Please list the names of up to six businesses (stores, restaurants, etc.) close to your campus where you spent money regularly during the past academic year. Exclude utility companies.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

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Visitor Spending

Please answer questions based on the past academic year (September 2006 through August 2007).

12. What is the total number of out-of-town visitors that you received over the past academic year?
Please provide a numeric response.
13. How many of your out-of-town visitors came from **outside of Indiana**?
Please provide a numeric response.
14. How many days did each visitor stay in a typical visit? (please give your best number estimate)
Please provide a numeric response.
15. Estimate the **average daily non-hotel expenses** per visitor (food, shopping, entertainment, etc.).
- \$15 or less
 - \$16-\$30
 - \$31-\$45
 - \$46-\$60
 - \$61-\$75
 - \$76-\$100
 - \$101-\$150
 - \$151-\$200
 - over \$200
16. Over the past academic year, what is the **total** number of hotel room-nights that you and your visitors purchased while they were visiting you?
Please provide a numeric response.

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Personal Travel Spending

Please answer questions based on the past academic year (September 2006 through August 2007).

17. Over the past academic year, how many personal trips did you make out-of-town?
Please provide a numeric response.
18. How many of your personal trips were outside of Indiana?
Please provide a numeric response.
19. How many days did you stay in a typical personal trip? (please give your best estimate)
Please provide a numeric response.
20. Estimate your **average daily non-hotel expenses** during trips (food, shopping, entertainment, etc.).
Please exclude the spending of companions during trips.
- \$15 or less
 - \$16-\$30
 - \$31-\$45
 - \$46-\$60
 - \$61-\$75
 - \$76-\$100
 - \$101-\$150
 - \$151-\$200
 - over \$200
21. Over the past academic year, what is the **total** number of hotel room-nights that you purchased during your out-of-town trips...
Please provide a numeric response.
- in Indiana?**
- outside of Indiana?**

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Charitable Spending

Please answer questions based on the past academic year (September 2006 through August 2007).

22. Over the past academic year, please estimate the **total dollar amount** of your household's contributions to charities and other tax-deductible programs.

None

less than \$50

\$50-\$100

\$101-\$200

\$201-\$500

\$501-\$1,000

\$1,001-\$2,000

over \$2,000

23. What **percentage** of your charitable spending goes to organizations in: 1) your primary **campus region*** (see below); 2) other parts of Indiana; or 3) outside of Indiana? Please give your best total estimate.

* Your campus region for IU Northwest includes the following counties: Jasper, Lake, La Porte, Newton, Porter, Pulaski, and Starke.

Please provide a numeric response.

The sum of the numbers entered must equal 100.

Primary Campus
Region*

Other Parts of Indiana

Outside of Indiana

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Household Information

Please answer questions based on the past academic year (September 2006 through August 2007).

24. How would you classify your place of residence?

The place of residence could be an apartment, house or trailer.

Place that I

rent

Place that I

own

Other, please specify

25. If you own your home, what is your estimate of its current market value?

Under \$50,000

\$50,000 to \$99,999

\$100,000 to \$199,999

\$200,000 to \$249,999

\$250,000 to \$299,999

\$300,000 to \$399,999

\$400,000 to \$499,999

\$500,000 or more

26. Do you share your home with a spouse or domestic partner?

Yes

No

27. Besides your spouse or partner, how many other people live in your home?

Please provide a numeric response.

Number of other family
members

Number of unrelated
housemates

28. If you live with dependent children,

how many of them are
enrolled in **public**
school, grades K-12.

how many of them are
enrolled in **private**
school, grades K-12.

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Annual Household Income

Please answer questions based on the past academic year (September 2006 through August 2007).

29. Please estimate your **gross household income** (before taxes and withholding) during the past academic year, not including university-paid benefits. If you are not sure, please make your best estimate.

Annual Income (\$)
Jobs at Indiana University
Other employment you have (apart from IU)
Spouse/domestic partner/relatives
Income from the federal government (such as Social Security or veteran's benefits)
Other retirement income (except Social Security)
Investment income (other than retirement)
Other
TOTAL

30. What **percentage** of your household income comes from sources in: 1) your primary **campus region*** (see below); 2) other parts of Indiana; or 3) outside of Indiana? Please give your best total estimate.

* Your campus region for IU Northwest includes the following counties: Jasper, Lake, La Porte, Newton, Porter, Pulaski, and Starke.

Please provide a numeric response.
The sum of the numbers entered must equal 100.

Primary Campus
Region*

Other Parts of Indiana

Outside of Indiana

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Volunteer & Community Service Activities

31. Please consider all your non-paid volunteer activities at different times during the past academic year, both on your own and with organizations. Estimate the total number of months that you served for each activity, as well as your typical number of hours per month and the main county for each activity.

Please answer this question based on the 12-month period from September 2006 through August 2007.

A few examples are provided in parentheses after each type of volunteer activity.

	Number of Months	Number of Hours per Month	Name of County of Activity
Child mentoring / counseling (big brother/big sister, scouts)			
Adult mentoring / counseling (crisis intervention, career counseling)			
Child tutoring (math, writing, test preparation)			
K-12 Grade School volunteering (assisting teachers, coordinating events)			
Camp volunteering (summer programs, adult retreats)			
Adult tutoring (literacy, GED preparation, English)			
Arts, recreation & sports instruction (swimming, softball, karate, music)			
Food & clothing poverty relief (food pantries, clothing drives)			
Neighborhood cleanup or housing development			
Church Activities (usher, lead religious meetings, provide transport)			

Hospital Activities

(assisting patients, fundraising)

Media (radio/TV broadcasts, publications)

Campaigning

(petitions, signature collection, political organizing)

Administration & Board Membership
(advising, accounting)

General Office

Assistance (clerical support)

Animal Care

32. **Other volunteer activity** (please specify):

Type of Activity

Number of Months

Hours per Month

33. County of Other volunteer activity:

34. **Other volunteer activity** (please specify):

Type of Activity

Number of Months

Hours per Month

35. County of Other volunteer activity:

IU Economic Impact Study :: Northwest Fac./Staff

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Volunteer & Community Service Activities

36. Do you do any of your volunteering or community service with organizations? If so, please list up to three organizations with which you volunteer:

1.

2.

3.

IU Economic Impact Study :: Northwest Student

Page 1

Indiana University Economic Impact Study 2007

Study # 07-12568

You are invited to participate in a research study that assesses the many ways in which the campuses of Indiana University may impact local communities and the State of Indiana.

INFORMATION. To participate in this study, we ask that you complete this confidential on-line survey. The survey asks multiple-choice and open-ended questions concerning your studies and work at Indiana University, as well as your income, spending, travel and volunteering. The questions should take less than 20 minutes to complete.

BENEFITS. The results of this research will help Indiana University to estimate the economic and social impact of its campuses so as to demonstrate its value to the public as well as identify areas for future improvement.

CONFIDENTIALITY. All responses that you provide are confidential. Responses identifying specific individuals will not be reported – only data that reflects combined responses will be included in the report. If you would like to be entered into a random prize drawing, you will be given the opportunity to register your contact information on a separate web page at the end of the survey. Only research personnel will have access to the data.

COMPENSATION. Although this survey is voluntary, you can enter a prize drawing in which one randomly-selected respondent on your campus will win a \$50 Barnes & Noble gift card, which can be used at the IU bookstore. At the end of the survey, you will be taken to a separate webpage where you can enter your contact information if you are interested in the prize. Your contact information will not be linked to your survey responses. Winners will be notified on or before February 28, 2008.

CONTACT. If you have any questions about the study, feel free to contact the researcher: Dr. Jerry Conover, 1275 E. 10th St., Suite 3110, Bloomington, IN 47405, 812-855-5507, conover@indiana.edu.

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have not been honored during the course of this project, you may contact the office for the Indiana University Bloomington Human Subjects Committee, Carmichael Center L03, 530 E. Kirkwood Ave., Bloomington, IN 47408, 812-855-3067, or by e-mail at iub_hsc@indiana.edu.

PARTICIPATION. Your participation in this study is voluntary; you may refuse to participate without penalty. If you decide to participate, you may withdraw from the study at anytime without penalty and without loss of benefits to which you are otherwise entitled.

IRB APPROVAL

Approval Date: January 11, 2008

Expires: January 11, 2015

IU Economic Impact Study :: Northwest Student

Page 2

Background Information

Please answer questions based on the past academic year (September 2006 through August 2007).

1. Sex: *

Male

Female

2. Age: *

Under 21

21-24

25-29

30-34

35-39

40 or over

3. Marital Status: *

Single

Married

Partnered, not married

Separated or divorced

Widowed

Prefer not to answer

Other, please specify

4. Student Status: *

Full-time

Part-time

5. Program during the past academic year (2006-2007): *

- Undergraduate Freshman
- Undergraduate Sophomore
- Undergraduate Junior
- Undergraduate Senior
- Graduate Master's
- Graduate Doctorate
- Graduate Professional (e.g. MBA, JD, MD, DDS, OD)

6. How would you classify your place of residence during the past academic year?*

The place of residence could be an apartment, house or trailer.

- Dormitory/University housing
- Fraternity/Sorority House
- Other place that I **rent**
- Place that I **own**
- Place that is owned by family members where I do not pay rent
- Other, please specify

7. In what county did you live during the **Fall 2006 semester**?*

8. In what county did you live during the **Spring 2007 semester**?*

9. In what county did you live during the **Summer 2007 semester**?*

10. How far is your typical one-way daily commute to the campus?

- Less than 2 miles
- 2-4 miles
- 5-9 miles
- 10-19 miles
- 20-39 miles
- 40 miles or more

IU Economic Impact Study :: Northwest Student

Popular Local Businesses

Please answer questions based on the past academic year (September 2006 through August 2007).

11. Please list the names of up to six businesses (stores, restaurants, etc.) close to your campus where you spent money regularly during the past academic year. Exclude utility companies.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

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Page 4

Visitor Spending

Please answer questions based on the past academic year (September 2006 through August 2007).

12. What is the total number of out-of-town visitors that you received over the past academic year?*
- Please provide a numeric response. If you did not receive any visitors, please enter "0" in the text box below.
13. How many of your out-of-town visitors came from **outside of Indiana**?
- Please provide a numeric response.
14. How many days did each visitor stay in a typical visit? (please give your best number estimate)
- Please provide a numeric response.
15. Estimate the **average daily non-hotel expenses** per visitor (food, shopping, entertainment, etc.).
- \$15 or less
 - \$16-\$30
 - \$31-\$45
 - \$46-\$60
 - \$61-\$75
 - \$76-\$100
 - \$101-\$150
 - \$151-\$200
 - over \$200
16. Over the past academic year, what is the **total** number of hotel room-nights that you and your visitors purchased while they were visiting you?
- Please provide a numeric response.

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Page 5

Travel Spending

Please answer questions based on the past academic year (September 2006 through August 2007).

17. Over the past academic year, how many trips did you make out-of-town?*
- Please provide a numeric response. If you did not travel out-of-town, please enter "0" in the text box below.
18. How many of your trips were outside of Indiana?
- Please provide a numeric response.
19. How many days did you stay in a typical trip? (please give your best estimate)
- Please provide a numeric response.
20. Estimate the **average daily non-hotel expenses** during trips (food, shopping, entertainment, etc.).
- \$15 or less
 - \$16-\$30
 - \$31-\$45
 - \$46-\$60
 - \$61-\$75
 - \$76-\$100
 - \$101-\$150
 - \$151-\$200
 - over \$200
21. Over the past academic year, what is the **total** number of hotel room-nights that you purchased during your out-of-town trips...
- Please provide a numeric response.
- in Indiana?**
- outside of Indiana?**

IU Economic Impact Study :: Northwest Student

Volunteer & Community Service Activities

22. Please consider all your non-paid volunteer activities at different times during the past academic year, both on your own and with organizations. Estimate the total number of months that you served for each activity, as well as your typical number of hours per month and the main county for each activity.

Please answer this question based on the 12-month period from September 2006 through August 2007.

A few examples are provided in parentheses after each type of volunteer activity.

	Number of Months	Number of Hours per Month	Name of County for this Activity
Child mentoring / counseling (big brother/big sister, scouts)			
Adult mentoring / counseling (crisis intervention, career counseling)			
Child tutoring (math, writing, test preparation)			
K-12 Grade School volunteering (assisting teachers, coordinating events)			
Camp volunteering (summer programs, adult retreats)			
Adult tutoring (literacy, GED preparation, English)			
Arts, recreation & sports instruction (swimming, softball, karate, music)			
Food & clothing poverty relief (food pantries, clothing drives)			
Neighborhood cleanup or housing development			
Church Activities (usher, lead religious meetings, provide transport)			

Hospital Activities

(assisting patients, fundraising)

Media (radio/TV broadcasts, publications)

Campaigning

(petitions, signature collection, political organizing)

Administration & Board Membership (advising, accounting)

General Office

Assistance (clerical support)

Animal Care

23. **Other volunteer activity** (please specify):

Type of Activity

Number of Months

Hours per Month

24. County of Other volunteer activity:

25. **Other volunteer activity** (please specify):

Type of Activity

Number of Months

Hours per Month

26. County of Other volunteer activity:

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Volunteer & Community Service Activities

27. Do you do any of your volunteering or community service with organizations? If so, please list up to three organizations with which you volunteer:

- 1.
- 2.
- 3.

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Page 8

Charitable Spending

Please answer questions based on the past academic year (September 2006 through August 2007).

28. Over the past academic year, please estimate the **total dollar amount** of your contributions to charities and other tax-deductible programs.*

None

less than \$25

\$25-50

\$51-\$100

\$101-\$250

\$251-\$500

over \$500

29. What **percentage** of your charitable spending goes to organizations in: 1) your primary **campus region*** (see below); 2) other parts of Indiana; or 3) outside of Indiana? Please give your best total estimate.

* Your campus region for IU Northwest includes the following counties: Jasper, Lake, La Porte, Newton, Porter, Pulaski, and Starke.

Please provide a numeric response.

The sum of the numbers entered must equal 100.

Primary Campus
Region*

Other Parts of Indiana

Outside of Indiana

IU Economic Impact Study :: Northwest Student

Page 9

Household Information

Please answer these questions based on the main location where you lived **during** the past academic year (September 2006 through August 2007).

30. Including yourself, how many people live in your home? (Please do not consider your parents' home unless you lived there for most of the academic year)*

Please provide a numeric response.

31. How many of the above persons are roommates or unrelated housemates?

Please provide a numeric response.

32. If you live with dependent children,

how many of them are enrolled in **public school**, grades K-12.

how many of them are enrolled in **private school**, grades K-12.

33. If you own your home, what is your estimate of its current market value?

Under \$50,000

\$50,000 to \$99,999

\$100,000 to \$199,999

\$200,000 to \$249,999

\$250,000 to \$299,999

\$300,000 to \$399,999

\$400,000 to \$499,999

\$500,000 or more

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Page 10

Annual Sources of Income

Please answer questions based on the past academic year (September 2006 through August 2007).

34. Please estimate your **gross annual income** (before taxes and withholding) during the past academic year, not including university-paid benefits. If you are not sure, please make your best estimate.*

Please provide numeric responses. If your income was zero in any category, please enter a "0" in the text box.

Annual Income (\$)
Job at Indiana University (not Federal work/study)
Federal work/study job
Other employment you have (apart from IU)
Spouse/domestic partner
Contribution from Parents/guardians & other relatives
Income from the federal government (such as Social Security or veteran's benefits)
Financial Aid (for expenses that do not go directly to IU)
Investment income
Other

35. What **percentage** of your annual income comes from sources in: 1) your primary **campus region*** (see below); 2) other parts of Indiana; or 3) outside of Indiana? Please give your best total estimate.

* Your campus region for IU Northwest includes the following counties: Jasper, Lake, La Porte, Newton, Porter, Pulaski, and Starke.

Please provide a numeric response.
The sum of the numbers entered must equal 100.

Primary Campus
Region*

Other Parts of Indiana

Outside of Indiana

IU Economic Impact Study :: Northwest Student

Page 11

Monthly Housing Utility Payments

36. Please estimate your **typical monthly utility payments** during the fall and spring semesters (2006-2007), as well as the summer (2007). If you share an expense with unrelated roommates, please estimate only your portion. **Please exclude university expenses** such as tuition, IU housing, and meal plans.*

Please provide numeric responses. Insert a "0" in each text box if not applicable.

	Fall 2006 (\$)	Spring 2007 (\$)	Summer 2007 (\$)
Housing (monthly rent or house payment)			
Utilities (electric, gas, water)			
Communications (land-line telephone, cable, internet)			

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Monthly General Expenses

This is the final and most important section of the survey. On the following page you will be asked to identify your average **monthly expenses** in the following categories:

1. **Books and educational supplies** (textbooks, pens, paper, supplies)
2. **Groceries** (food, small household items)
3. **Eating & drinking establishments** (bars, restaurants)
4. **Packaged alcohol and tobacco**
5. **Entertainment and recreation** (concerts, movies, sports membership)
6. **Personal care & services** (beauty and barber services, dry cleaning, laundry)
7. **Retail shopping** (personal items, clothes, books, gifts, household furnishings)
8. **Medical and dental** (non-reimbursed prescriptions & care)
9. **Childcare and child activities**
10. **Cell phone**
11. **Computers & electronics**
12. **Public transportation** (buses, taxis)
13. **Automobile payments & lease fees**
14. **Automobile insurance**
15. **Automobile maintenance** (gasoline, repairs)
16. **Insurance apart from automobile** (property, life, medical)

If you have additional expenses that do not fit in one of the above categories, two "Other" boxes are provided at the bottom of the next page.

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Page 13

Monthly General Expenses

Please estimate your **typical monthly expenses** to businesses in:

1. your **primary campus region*** (see below);
2. other parts of Indiana; or
3. outside of Indiana? (please give your best estimate).

If you share an expense with unrelated roommates, please estimate only your portion. **Please exclude university expenses** such as tuition, housing, and meal plans.

* Your campus region for IU Northwest includes the following counties: Jasper, Lake, La Porte, Newton, Porter, Pulaski, and Starke.

37. **Books and educational supplies** (textbooks, pens, paper, supplies)*

Please provide numeric responses. Insert a "0" in the text boxes below if not applicable.

Monthly Expenses in
Campus Region* (\$)

Monthly Expenses in
other parts of Indiana
(\$)

Monthly Expenses
outside Indiana (\$)

38. **Groceries** (food, small household items)

Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)

Monthly Expenses in
other parts of Indiana
(\$)

Monthly Expenses
outside Indiana (\$)

39. **Eating & drinking establishments** (bars, restaurants)

Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)

Monthly Expenses in
other parts of Indiana
(\$)

Monthly Expenses
outside Indiana (\$)

40. **Packaged alcohol and tobacco**

Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

41. **Entertainment and recreation** (concerts, movies, sports membership)
Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

42. **Personal care & services** (beauty and barber services, dry cleaning, laundry)
Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

43. **Retail shopping** (personal items, clothes, books, gifts, household furnishings)
Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

44. **Medical and dental** (non-reimbursed prescriptions & care)
Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

45. **Childcare and child activities**
Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

46. Cell phone

Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

47. Computers & electronics

Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

48. Public transportation (buses, taxis)

Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

49. Automobile payments & lease fees

Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

50. Automobile insurance

Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

51. **Automobile maintenance** (gasoline, repairs)

Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

52. **Insurance apart from automobile** (property, life, medical)

Please provide numeric responses.

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

53. **Other expense** (please specify):

Please provide numeric responses.

Type of Expense

Monthly Expenses in
Campus Region* (\$)
Monthly Expenses in
other parts of Indiana
(\$)
Monthly Expenses
outside Indiana (\$)

54. **Other expense** (please specify):

Please provide numeric responses.

Type of Expense

Monthly Expenses in
Campus Region* (\$)

Monthly Expenses in
other parts of Indiana
(\$)

Monthly Expenses
outside Indiana (\$)