

Top Level Degrees in Indiana: A Look at the Numbers

The doctorate is the highest degree one can earn in most fields of study, qualifying the recipient as an expert and qualified to teach college. The requirements for obtaining a doctorate (usually referred to as a Ph.D.) in the U.S. typically include the successful completion of pertinent classes at an accredited university, passing a comprehensive examination, and the completion and defense of a dissertation.

A Ph.D. isn't just for teaching though. More and more employees with doctorates are being sought by companies in need of specialized expertise in particular disciplines. We see this in pharmaceuticals, of course, as well as businesses hiring people with doctorates in computer science, psychology, linguistics and other fields. In 2010, 36,579 Hoosiers (25 and older) were estimated to have a doctoral degree, up 26 percent from 2000.

Production and Retention

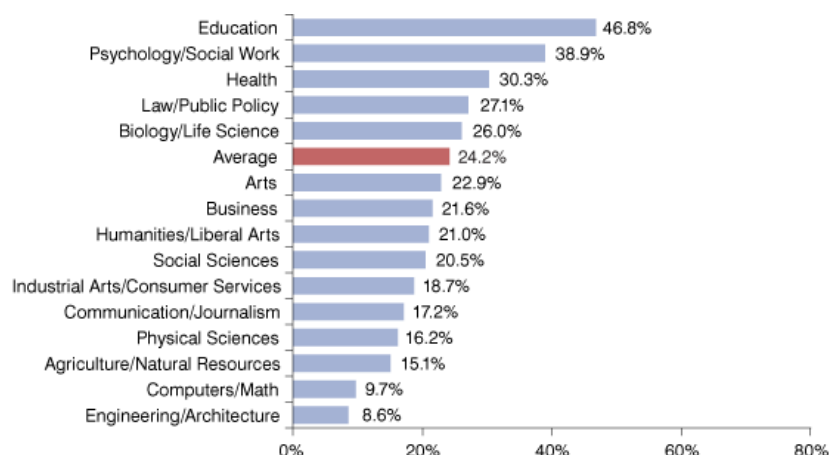
We wanted to look a bit deeper into Indiana's state university production of doctorates using the Indiana Workforce Intelligence System (IWIS) and following up on work reported in the study "How Education Pays in Indiana" (available at www.iwis.in.gov/research). IWIS is a longitudinal data system that can help determine whether students work in Indiana. The limitations are clear: state-supported colleges and payroll employers (those that employ more than two or three people and pay unemployment insurance taxes). However, state colleges enroll more than two-thirds of college students in Indiana and payroll employers employ more than 95 percent of workers. So, if not comprehensive, it does provide a very large sample for us to work with. We also need to keep in mind that IWIS currently has no way to gauge self-employment or those folks who work in other states but live in Indiana.

Those limitations covered, we can focus on the 9,400 public university doctoral graduates between 2000 and 2009 and how many of those worked for an Indiana employer one year after graduation. Please note that payroll employers will include colleges, universities, private businesses, government and nonprofit entities.

Popular Majors

The fields of discipline in which doctorates were awarded spanned education (16 percent of the total), liberal arts (10 percent), physical sciences (9 percent) and life sciences (8 percent). Where we see considerable differences is in the doctoral field of the graduates who stayed to work in Indiana (see **Figure 1**).

Figure 1: Doctoral Remain Rates for Indiana's Public Institution Graduates—One Year Post-Graduation, 2000 to 2009



Source: IBRC, using IWIS data

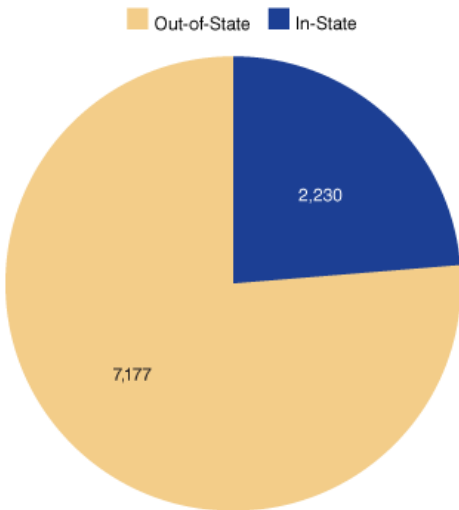
The majority of those staying to work in Indiana were education majors (47 percent) followed by psychology/social work graduates (39 percent) and those with doctorates in a health discipline (30 percent). The doctoral graduates least likely to wind up on an Indiana payroll one year out included those with engineering or architectural degrees (9 percent), computers and/or

math doctorates (10 percent), agriculture/natural resources degrees (15 percent) and those in the physical sciences (16 percent).

Where They Come From Influences Where They Go

Our analysis found that 24 percent (nearly 2,300) of those 9,400 doctoral graduates remained to work on an Indiana payroll one year after receiving their doctorates, while 7,100 did not. Whether these graduates stay or go seems strongly influenced by whether they were in-state or out-of-state students. As many would guess, the doctoral graduates most likely to remain and work in Indiana one year after graduation were Indiana residents (58 percent remained), while only 14 percent of the out-of-state graduates stayed to work in Indiana (specifically, on an Indiana payroll). Indeed, most of the students receiving doctorates from state-supported universities in Indiana are out-of-state students, comprising 76 percent of the 9,400 doctorates awarded from 2000 to 2009 (see **Figure 2**).

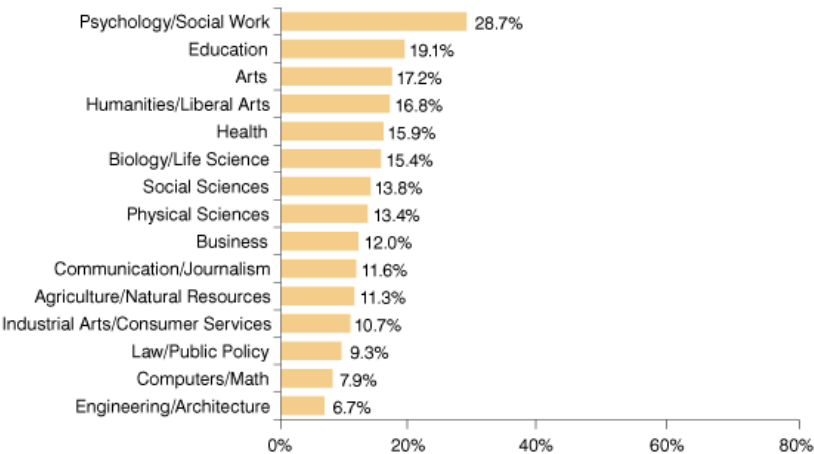
Figure 2: Doctoral Degrees Awarded from Indiana's Public Institutions by State Residency, 2000 to 2009



Source: IBRC, using IWIS data

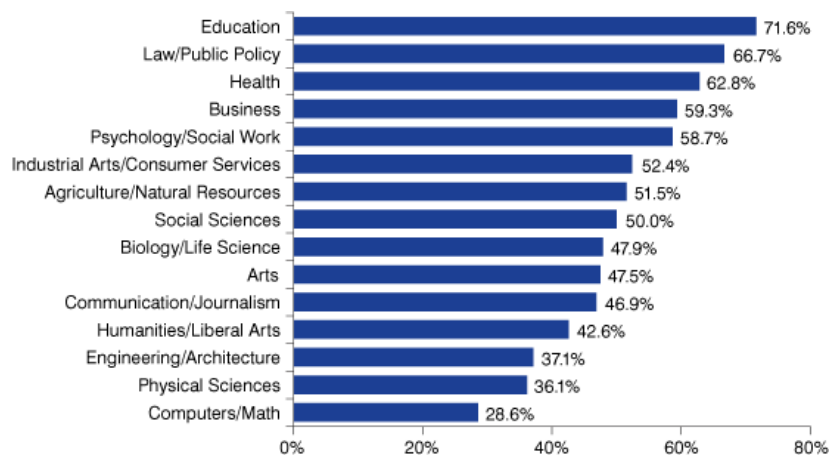
Most of the out-of-state doctoral graduates don't remain to work on an Indiana payroll. Those with doctorates in psychology/social work stayed on at the highest percentage; meanwhile, engineers and computer scientists were among the least likely to remain—for both out-of-state and in-state students (see **Figures 3 and 4**).

Figure 3: Doctoral Remain Rates for Out-of-State Graduates (2000 to 2009) by Academic Major



Source: IBRC, using IWIS data

Figure 4: Doctoral Remain Rates for In-State Graduates (2000 to 2009) by Academic Major



Source: IBRC, using IWIS data

Indiana and Other States

Indiana's public universities grant approximately 1,000 doctorates each year and that gives us an idea of the supply. What about demand? One way to consider that is to understand how many adults in Indiana hold doctorates and how we compare to other states. One percent of Hoosier adults 25 or older (36,579) have a doctorate, the same rounded percentage as 43 other states. The District of Columbia ranks highest at 4 percent, followed by Maryland, Massachusetts, New Mexico, Connecticut, Delaware, Vermont and Virginia all at 2 percent. These are small proportions, as well as remarkably similar across the states. Perhaps as more businesses and nonprofits seek Individuals with such high levels of expertise, we will begin to see some change in those proportions.

In the meantime, we plan to delve further into IWIS insights and welcome your feedback on our occasional reports in *InContext* using this important resource.

Carol O. Rogers

Deputy Director and Executive Editor, Indiana Business Research Center, Indiana University Kelley School of Business

Amia Foston

Economic Research Assistant, Indiana Business Research Center, Indiana University Kelley School of Business

Gateway: An Open Door to Indiana Local Government

Guided by a commitment to transparency for Indiana taxpayers, the Department of Local Government Finance (DLGF), the State Board of Accounts (SBOA), and the Indiana Business Research Center (IBRC) launched a new data reporting system for local governments in 2011. The system, entitled Indiana Gateway for Government Units, is a web portal that allows local governments to submit specific forms and reports to state agencies online.

The Gateway has two main functions:

1. The electronic submission of budget, expenditure and debt data by local units of government to DLGF and SBOA.
2. Generation of specialized dynamic reports that can be used by the public, the legislature, financial advisors, policymakers, researchers and the media. Through the public access components of Gateway, taxpayers have access to local government data with the click of a mouse, rather than having to submit public information requests. Additionally, Gateway has helped Indiana government operate more efficiently by reducing the cost of printing, storing and transporting paper documents.

The initial phase of the project launched in July 2011. In the first phase, the DLGF collected forms for budget year 2012 through Gateway for all units of local government except schools. From July to November 2011 more than 41,000 budget forms were submitted. These participating units gave overwhelmingly positive feedback. While previously these 41,000 forms were printed, transported, and stored at both the local and state level, Gateway allowed for instantaneous transmission and represented a major step forward for streamlining local government administration.

The second phase of the Gateway project began in November 2011 to collect debt reports through Gateway. All political subdivisions in Indiana are required to submit debt forms to DLGF. While previously done on paper, Gateway's online debt management application is now open for reporting. Two weeks before the reporting deadline (which is March 1, 2012), 25 percent of units had already reported more than \$2.4 billion in outstanding debt.

In addition to debt reporting, this spring units are using Gateway to file their annual financial reports, required by law to be submitted to the SBOA. Currently, more than 1,700 (out of 2,388) units have submitted their annual financial report since the reporting period began in January. Because of Gateway, all annual financial reports will be in a publicly accessible database, making analysis and comparison of local expenditures much easier. By March 1, the remaining units will complete their debt and expenditure reporting, and the results will be made public on Gateway soon after.

Public Access

The most exciting aspect of the Gateway project is its public access component:

<https://gateway.ifionline.org>. The project has been noted in a recent issue of Governing Magazine as "cutting edge".¹ The electronic collection of data has allowed the information to be placed in an online, statewide database. Standardized taxpayer-friendly dynamic reports summarize local unit spending and revenue. These data are also available for download, which facilitates the easy generation of specialized reports that can be used by the public, General Assembly, trade organizations, financial advisors and the media. The public access side of Gateway provides transparency to local government data in Indiana in a way that has never before been easily available. Already, the details of \$8.6 billion in appropriations adopted by local units for 2012 are available online. Constituents can enter their address and find each unit to which they pay property taxes. From there, an individual can drill down to look at the adopted tax rates, appropriations and cash balances for each unit of government.



The public access site is also a valuable tool for local governments by allowing easier comparisons across local units. This could enable local governments to identify best practices or to identify efficiencies by being better able to directly compare budgets and expenditures to their peers.

Launched in November, the public access site has quickly become a valuable resource. The website received hits from nearly 30,000 users since it became public. An individualized report builder on the website has been used more than 37,000 times and the statewide data files have been downloaded over 1,500 times. The Gateway public access project was the topic of a December 2011 column written by Purdue economist Dr. Larry DeBoer. He explained, "I understand there's more to come, but there's already more government data here than has ever been available this easily. So, Department of Local Government Finance: Please

sirs, can we have some more?"²

Enhancements

We are pleased to announce that more is on the way. This May, there will be a significant update to the public access website which will include the annual financial reports of expenditures made in 2011, further integration with IBRC demographic data, and incorporation of property assessment data. Once fully implemented, the public access site will allow budget, revenue and expenditure data to be cross-referenced with other data sets such as economic data like unemployment rates or median income, population data for per capita analysis, and comparisons with other units based on criteria like size, income and demographics. GIS technology will also allow for the creation of maps, giving users the opportunity to study other communities near them.

Additionally, two more key expansions of the Gateway project will occur in 2012. The DLGF will begin requiring submission of school budget forms through Gateway for budget year 2013, which will allow for school data in the public access site. Furthermore, the sales disclosure forms which provide key data for the creation of assessed values will be incorporated into the Gateway application in August 2012.

While much work remains to be done on the Gateway project, all members involved are excited about the challenges and look forward to completing this project in service to Indiana taxpayers. If you'd like to learn more about the Gateway, feel free to contact the IBRC at ibrc@iupui.edu.

Notes

1. Ryan Holeywell, "Did the Stimulus Do Anything for Transparency?" *Governing*, February 2012, www.governing.com/topics/mgmt/gov-did-the-stimulus-do-anything-for-transparency.html.
2. Larry DeBoer, "A Gateway to Indiana Local Government," *Capital Comments*, November 2011, www.agriculture.purdue.edu/agcomm/newscolumns/archives/CC/2011/111124CC.html.

Eric Bussis

Director of Data Analysis and CFO, Indiana Department of Local Government Finance



