

# ALUMNI NEWS

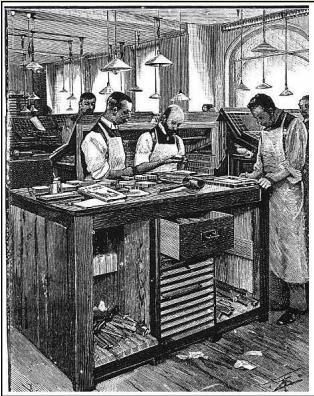
## DEPARTMENT OF ECONOMICS

INDIANA UNIVERSITY OF PENNSYLVANIA ☞ INDIANA, PA 15705-1087

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### IS COLLEGE WORTH IT? PART II: VARIATION IN EARNINGS BY MAJOR

BY DR. DAVID B. YERGER



*Editor's Note: This is a continuation of Dr. David Yerger's article "Is College Worth It?" that appeared in the Fall 2012 issue of Alumni News.*

In the previous newsletter I summarized some of the data on the differences in work-life earnings by education where the data utilized median earnings across all workers within an educational level such as high school graduate, associate's degree, or bachelor's degree. In this article, I will briefly review some of the available information on variation in earnings across college major. Before going to that data, however, we first will review earnings and employment data for the 18-24 years age group by educational attainment. The weak labor market challenges for young new bachelor's graduates are seen in Table 1 (see page 2) with an 8.0% decline in full-time employment from 2007-2011 from 1,081,000 to 994,000 with nearly flat inflation adjusted earnings over the same period. Clearly, some recent bachelor's graduates have been forced into part-time work since 2007 as part-time employment rose 16.4% while average part-time earnings fell 3.4%. Those young bachelor's graduates with only part-time work had average earnings of just \$16,734, not a salary with which one pays both the rent and student loans.

Fortunately, the data for 25-29 year old bachelor's degree holders suggests the primary effect of the economic slowdown on new bachelor's graduates has been to lengthen the time needed to land the full-time job rather than a large permanent reduction in the share of jobs that are full-time for bachelor's graduates. In 2007, 75.1% of working 25-29 year old bachelor's graduates had full-time work and this share only declined to 74.1% as of 2011. The typical 22 year old bachelor's graduate has 45 years to work before retirement. While a delay of a year or two in obtaining desired full-time employment is a long way from ideal, it does not substantively alter the life cycle earnings associated with completing a bachelor's degree.

Table 2 (see page 3) contains data from the 2012 Salary Report by [www.payscale.com](http://www.payscale.com). Their estimates are for Starting Salaries and Mid-Career Salaries for 130 different undergraduate majors for full-time jobs with two and 15 years' experience respectively. It is important to note that these salaries by major are for individuals with no degrees beyond the bachelor's. Space constraints preclude listing

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Editor: Nicholas Karatjas

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## IS COLLEGE WORTH IT? (CONTINUED)

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all 130 majors, so I have chosen many of the majors offered by IUP. The Starting Salary and Mid-Career Salary values are taken directly from the salary report. Lifetime earnings were computed by assuming a bachelor's graduate works 45 years with:

- Yr 1 Earnings = 90% of Starting Salary; Yr 2 Earnings = Starting Salary; Yr 15 Earnings = Mid-Career Salary;
- Yrs 3-14 Earnings have equal growth to rise from Yr 2 to Yr 15 Earnings;
- Yrs 16-31 Earnings grow 1% per year to approximate pattern for aggregate data on bachelor's holders;
- Yrs 32-45 Earnings fall 0.5% per year to approximate pattern for aggregate data on bachelor's holders

**Table 1: Number of Workers (000s) and Earnings (2011 \$s) Age 18-24 Years by Work Status and Education**

	2000	2000	2000	2007	2007	2007	2011	2011	2011
	HS	Assoc	Bach	HS	Assoc	Bach	HS	Assoc	Bach
# Full-Time Work	3,254	563	1,023	3,114	616	1,081	2,417	667	994
Mean Earnings	\$27,974	\$31,811	\$41,962	\$25,880	\$29,718	\$38,221	\$24,544	\$26,814	\$38,293
# Part-Time Work	3,437	559	879	3,156	543	999	3,096	739	1,163
Mean Earnings	\$11,239	\$13,465	\$17,761	\$10,705	\$12,301	\$17,328	\$8,717	\$10,912	\$16,734
			2000 to 2007				2007 to 2011		
			HS	Assoc	Bach		HS	Assoc	Bach
% Change # Full-Time Workers			-4.3%	9.4%	5.7%		-22.4%	8.3%	-8.0%
% Change # Part-Time Workers			-8.2%	-2.9%	13.7%		-1.9%	36.1%	16.4%
% Change Full-Time Earnings			-7.5%	-6.6%	-8.9%		-5.2%	-9.8%	0.2%
% Change Part-Time Earnings			-4.8%	-8.6%	-2.4%		-18.6%	-11.3%	-3.4%

Data from U.S. Census, www.census.gov, Table PINC-04, 2011

The Present Value column in Table 2 converts the 45 year stream of earnings into its present value equivalent using an interest rate of 5.1%. This interest rate was selected as it is the average of the subsidized federal student loan rate (3.4%) and the unsubsidized federal student loan rate (6.8%), a defensible proxy for the typical student's borrowing costs. Using a 5.1% interest rate, \$1 will grow in 10 years to  $\$1 \cdot (1.051)^{10} = \$1.64$ . Equivalently, \$1 in 10 years is said to have present value of  $1/1.64 = \$0.61$  today with an interest rate of 5.1%. Multiplying a major's forecasted year 10 salary by 0.61 converts the year 10 salary into its present value. Repeating this exercise for each of the 45 years and then summing yields the value reported in the Present Value column of Table 2. This was done for all 130 majors in the PayScale report and the majors were sorted in descending present value order.

Across all 130 majors, economics had the 17<sup>th</sup> highest present value. Table 2 lists every major at IUP ranked higher than economics along with many of IUP's more popular majors. While a student should never select a major based solely upon the expected earnings from that major, there are large earnings differences across these majors and this information should be understood by students prior to their selection of undergraduate major. For illustration, compare Occupational Health and Safety to Criminal Justice where the present value difference is \$319,427. This means that the forecasted lifetime earnings differences for these two majors are equivalent to paying both majors at the Criminal Justice annual rate over their working lifetime, but at graduation the Occupational Health and Safety graduate is given an additional \$319,427. There are many pairwise comparisons in Table 2 between majors that a student might plausibly substitute between that have present value differences in excess of \$150,000 to \$200,000.

*(continued on page 3)*

## IS COLLEGE WORTH IT? (CONTINUED)

(continued from page 2)

**Table 2: Projected Present Value of Lifetime Earnings, Selected Majors**

Of 130					Present Value
Majors Rank	Major	StartSal	MidSal	Lifetime	r=5.1%
8	Computer Science (CS)	\$58,400	\$100,000	\$4,485,768	\$1,555,969
10	Applied Mathematics	\$50,800	\$102,000	\$4,506,216	\$1,533,492
12	Physics	\$51,200	\$99,100	\$4,392,668	\$1,501,167
17	Economics	\$48,500	\$94,900	\$4,202,313	\$1,434,305
21	Management Information Systems (MIS)	\$51,600	\$88,600	\$3,973,266	\$1,377,718
25	Geology	\$45,000	\$89,400	\$3,953,321	\$1,346,966
27	Mathematics	\$48,500	\$85,800	\$3,836,092	\$1,325,197
30	Chemistry	\$44,700	\$87,500	\$3,874,487	\$1,322,352
32	Finance	\$47,700	\$85,400	\$3,813,674	\$1,315,511
40	Supply Chain Management	\$50,500	\$76,700	\$3,485,671	\$1,228,315
41	Occupational Health and Safety	\$49,600	\$76,000	\$3,450,390	\$1,214,420
44	Nursing	\$54,100	\$70,200	\$3,252,524	\$1,172,387
45	Marketing Management	\$40,700	\$76,600	\$3,404,227	\$1,167,211
47	Accounting	\$44,300	\$74,500	\$3,348,154	\$1,164,038
59	Biology	\$39,100	\$72,200	\$3,214,513	\$1,104,675
63	History	\$39,000	\$70,200	\$3,133,234	\$1,080,084
69	Geography	\$39,800	\$67,400	\$3,026,871	\$1,051,403
76	English	\$38,100	\$65,500	\$2,936,977	\$1,018,231
78	Speech Communication	\$38,700	\$64,400	\$2,897,449	\$1,008,709
82	Fashion Design	\$36,300	\$63,900	\$2,858,367	\$988,044
85	Hospitality & Tourism	\$36,400	\$62,300	\$2,794,766	\$969,471
86	Anthropology	\$36,000	\$61,400	\$2,755,387	\$956,235
88	Organizational Management (OM)	\$40,700	\$58,400	\$2,671,784	\$948,996
90	Nutrition	\$40,600	\$57,900	\$2,650,872	\$942,390
92	Psychology	\$35,200	\$60,200	\$2,700,774	\$936,957
95	Fashion Merchandising	\$37,600	\$58,100	\$2,635,221	\$926,449
98	Sports Management	\$35,300	\$57,600	\$2,596,929	\$906,395
99	Interior Design	\$35,300	\$57,500	\$2,592,905	\$905,196
100	Sociology	\$36,000	\$56,700	\$2,566,239	\$899,883
101	Criminal Justice	\$35,200	\$56,700	\$2,559,919	\$894,993
104	Art	\$34,400	\$56,700	\$2,553,599	\$890,103
104	Education	\$37,200	\$55,000	\$2,507,304	\$886,836
112	Theater	\$33,200	\$55,600	\$2,499,851	\$869,579
115	Exercise Science	\$31,300	\$54,400	\$2,436,548	\$843,577
125	Special Education	\$33,900	\$48,900	\$2,235,746	\$793,526
129	Elementary Education	\$31,400	\$46,000	\$2,099,288	\$743,473
130	Child and Family Studies	\$29,300	\$37,700	\$1,748,672	\$631,121
	Average High School Earnings			\$1,948,068	\$624,169
	Average Associates Earnings			\$2,356,597	\$760,157

Source: 2012 Salary Data from [www.payscale.com](http://www.payscale.com) for 130 different undergraduate majors for Starting Salary and Mid-Career Salary. Lifetime Earnings, PV, HS, and Associate's calculated as explained in article.

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## MEET OUR NEW FACULTY!

*Editor's Note: We have three new faculty members starting in the Fall 2013 semester. To get you acquainted with them, I asked them to write a little about themselves.*

### DR. CHRISTOPHER JEFFORDS



Dr. Christopher Jeffords

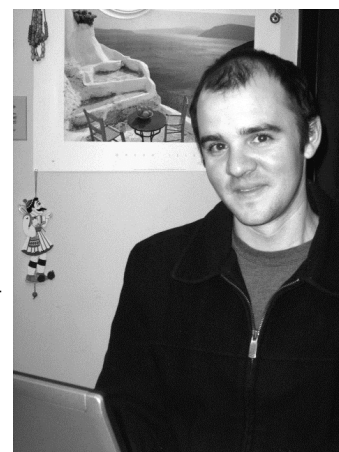
After spending a year as a Visiting Assistant Professor at Eastern Connecticut State University, Chris joins the department this fall as an Assistant Professor. Chris graduated from the University of Connecticut (UConn) in 2012 with a PhD and MS in Agricultural and Resource Economics. He also holds a MA in Economics and Advanced Graduate Certificate in Economic Forecasting, both from SUNY Albany (2006), and a BS in Business Economics from Hofstra University (2004). Chris is also an affiliate member of the Economic and Social Rights Group at the Human Rights Institute at UConn. His areas of expertise are applied microeconomics, environmental economics, and environmental human rights. Chris' interdisciplinary research approach has led to independent and co-authored publications in the *Review of Social Economy*, *Empirical Economics*, *Human Rights Quarterly*, *The Connecticut Economy*, and *Asset Based Finance Journal*. Chris also has two articles (one independent and one co-authored) in an edited book volume entitled "The State of Economic and Social Human Rights: A Global Overview" (Cambridge, 2013, Lanse Minkler ed.).

Prior to attending the University of Connecticut, Chris worked as a stockbroker intern for a discount retail brokerage firm and as an analyst for a machinery and equipment appraisal company. Chris and his wife, Amy, currently live in northeast Connecticut and are excited to move to western Pennsylvania. Chris is originally from Long Island, New York, and Amy is originally from Kingston, Pennsylvania. Chris and Amy have a daughter named Mae, and a son named Ward.

### DR. ALEXI THOMPSON

I grew up in Auburn, Alabama, which is a typical college town like Indiana. I received my bachelor's and master's degrees in Economics from Auburn University. Both of my parents are in academics, so regardless of how much I tried I did not fall very far from the tree. I have a sister, Stacy, who lives in Texas. I had the opportunity to run a tourist business on a Greek island for a few summers, but I realized it is easier to talk about how to make money rather than worrying about actually making money, so I quit the business and decided to go for a PhD in Economics. I completed the PhD in Economics at Kansas State University in December 2012. I enjoy applied research, particularly in the area of tourism economics, and more recently on the relationship between economic growth and environmental quality. I enjoy teaching a wide variety of economics courses and interaction with students.

In my spare time I enjoy traveling, playing soccer, and watching college football. I also recently got married. My wife, Leidy, is from Colombia so in my spare time, somewhat reluctantly, I work on my salsa dancing and Spanish.



Dr. Alexi Thompson

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## MEET OUR NEW FACULTY! (CONTINUED)

*(continued from page 4)*

### DR. BRANDON VICK

Brandon Vick grew up on a farm near Wayside, Texas. He graduated with a class of 16 from Happy High School in 1995 and enrolled at Texas Tech University in Lubbock. In 1998, Brandon and his wife Penny lived in the Netherlands, where he studied international business at the Haagse Hogeschool. The following year, he graduated from Texas Tech with a Bachelor of Business Administration degree in Management Information Systems.

From 2000 to 2002, Brandon worked as a systems engineer for Compaq Computer Corporation. He and his wife then joined the Peace Corps, living in a Matawai village in the interior of Suriname. After this experience, he sought opportunities to study economic development and poverty and entered Fordham University in 2006, earning a Master of Arts degree in International Political Economy of Development in 2008. Brandon continued studies in pursuit of a doctoral degree in Economics.

During his time at Fordham, Brandon held an internship with the United Nations Development Program and a consultancy position with the World Bank and World Health Organization researching the relationship between disability and economic inequality. Along with Dr. Sophie Mitra, he participated in the New York-based Center to Study Recovery in Social Contexts, researching issues of mental health and poverty. Since 2008, Brandon has taught Basic Micro- and Macroeconomics, World Poverty, and Math Camp for incoming graduate students.

Brandon, Penny, and their sons Jonas (4 years) and Harlan (1 year) enjoy camping, hiking, and gardening. Brandon's hobbies include long-distance running, reading science fiction, and watching scary movies.



Dr. Brandon Vick and Jonas

## A THANK YOU TO OUR TEMPORARY FACULTY

With the hiring of our new permanent faculty members, the Department of Economics would like to say goodbye and thank you to Mr. Camilo Rubbini and Dr. Saima Bashir.

Camilo was hired in Spring 2012 as a temporary instructor in the Department of Economics. Prior to coming to IUP, Camilo worked as a full-time instructor of economics at the University of Pittsburgh in Titusville. He earned a MA degree in Economics at Penn State University and has pursued graduate studies in Economics at the University of Pittsburgh. He has just been accepted into the PhD program in economics at SUNY Stony Brook. Camilo taught Basic Economics, Principles of Microeconomics, International Trade, and Game Theory while at IUP.

Dr. Saima Bashir was hired in Fall 2012 as a temporary visiting assistant professor. She holds a PhD from West Virginia University. Saima taught Principles of Macroeconomics and Principles of Microeconomics while at IUP.

Thank you Camilo and Saima!



Mr. Camilo Rubbini



Dr. Saima Bashir

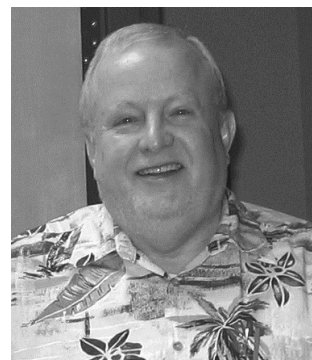


## GREETINGS FROM THE CHAIR: BY DR. NICHOLAS KARATJAS

Greetings, Alumni:

It is with much sadness that I have to report that Dr. James A. Dyal passed away on April 21, 2013. Jim had been a member of the Department of Economics since 1977. He retired in January 2012 after 35 years of service at IUP. Jim is survived by his wife Gloria and his two sons Jimmy and Jeffrey (both graduates of IUP's Department of Economics).

Jim received his Ph.D. degree in Economics from the University of Illinois at Urbana. He obtained a M.A. degree in Economics from the University of Illinois at Urbana, and a B.A. degree in Economics from Bucknell University. His areas of expertise were Urban and Regional Economics, Economics of Human Resources, Labor Economics, and International Trade. He was interested in and taught about poverty and the distribution of income long before they fell into favor. He also taught the liberal studies course, Poverty in America. His unique way of teaching this class contributed to its popularity. He employed a mixture of lecture, group work, use of videos, and required class presentations.



Dr. James A. Dyal

Personally, Jim was one of the kindest people I have ever known. Jim was one of those rare persons who gave of himself unconditionally so that others could benefit. No matter what, I always knew Jim would be there. I got to know him best when we co-authored a basic economics textbook. We spent many hours writing and rewriting (and arguing!). I remember one time we were getting down to a deadline and it was over winter break. His wife was expecting twins and could go into labor any moment. I was applying for promotion and was completing the paperwork required of the application. Even though he deferred his own application because of the impending birth of his boys, he offered to help me prepare my application and we were hard at work in the office. He got a call that his wife was in labor and needed to go to the hospital. He made sure that I knew what I was doing in completing the application and then took off, following the ambulance all the way to Pittsburgh. In the end everything worked out fine. But it was his selflessness that I won't forget.

Jim was always thinking about others and how he could help. When we needed help in the department covering classes because someone was ill, he was the first to volunteer – even when he himself was not up to it. When my grandson was born, he made sure he came over to my house to meet him – again, even though he was struggling with his health issues. He had dragged himself into K-mart to buy a toy which he brought over and it became one of my grandson's favorite toys. When we needed to collect money for a gift or flowers, he was there to give whatever was necessary. I could go on and on but you get the idea. However, Jim was not an angel. He could be a brat. ☺ Jim loved a good practical joke. Years ago when the department was still in Keith Hall, he brought in an envelope labeled "SNAKE EGGS – DO NOT OPEN." Obviously, being the curious lot that we were, the temptation was too great and we had to take a peek. Upon opening the envelope, a spring snapped, scaring everyone who opened it. But Jim was not done. Dr. Yaw Asamoah (now our Dean) did not take too kindly to snakes so, of course, Jim had to make sure Yaw saw it. Curiosity getting the best of Yaw, he, too, opened the envelope. All I can say is that I have never seen Yaw run that fast!

As I noted above, Jim and I authored a successful textbook together. It was published in two editions for Macmillan Publishing and then we decided that we wanted to move on to other projects. Jim was an outstanding writer. Jim contributed significant service to the University and the Department. He served as chair of the department's tenure and evaluation committee on a number of occasions. He authored one of the department's five-year evaluations. He was a committed advisor and, above all, a caring instructor. Jim was known for his love of teaching and his sense of humor. He loved his pets but, most of all, loved his family. I don't know anyone who could care more about his children.

I feel blessed to be able to have had Jim as my friend. Jim is also sadly missed by his friends in the Department of Economics.

Nick Karatjas

## IS COLLEGE WORTH IT? (CONTINUED)

*(continued from page 3)*

The last two rows of Table 2 contain estimated lifetime earnings for high school graduates and associate's degree holders. The lifetime estimates assumed a high school graduate worked full-time each year from ages 18–67 and earned the average annual salary for a high school graduate their age using 2011 census data (Table PINC–04). Similarly, the associate's lifetime estimate assumed the graduate worked full-time each year from 20–67 and earned the average annual salary for an associate's graduate their age. The \$624,169 present value for high school graduates and \$760,157 for associate's graduates lag well behind all but the very lowest earning college majors. A common college-related news story these days compares the strong earnings for a few associate's degree occupations against the personal stories of a handful of recent bachelor's graduates struggling to find work. While it absolutely is correct that some students would be better served by completing a higher earnings associate's degree than by struggling to barely complete a bachelor's degree in a low earnings major, the vast majority of bachelor's majors generate higher average earnings than the average for associate's degree holders. This conclusion holds true even after accounting for the cost of the bachelor's education.

In addition to estimating national average earnings by college major, the PayScale report also provides estimates of the Starting Salary and Mid-Career Salary averages across all graduates of a college or university (again, data just for those with only a bachelor's degree). Table 3 contains these PayScale salary estimates for IUP and several other institutions along with lifetime earnings and present value estimates computed using the same methodology as for Table 2. The data is sorted on the present value of forecasted lifetime earnings. The approximate net cost of the degree by institution is estimated as “= 4 \* Average Net Price in 2010–11” where the Average Net Price is tuition less grants or scholarship aid as reported in the College Navigator data base at the National Center for Educational Statistics ([www.nces.ed.gov/collegenavigator](http://www.nces.ed.gov/collegenavigator)). The Debt per Graduate 2011 is the average debt for 2011 graduates from the institution who had debt upon graduation. Debt data is from the “Project on Student Debt” (<http://projectonstudentdebt.org>). Approximate Family Contribution is the Approximate Net Cost minus Debt per Graduate, this is an approximation of the contribution by the student and their family for those students who graduated from the institution with debt.



Dr. David B. Yerger

The Table 3 data (see page 8) was compiled for all PASSHE schools (except Cheyney, missing data). Bloomsburg had the highest present value across the PASSHE schools and Mansfield the lowest so these schools are included in Table 3. IUP ranked 6<sup>th</sup> of the 13 reported PASSHE schools, and was the highest ranked of the western schools. The higher average salary in the southeastern versus the western part of the state likely explains much of the geographic variation in present value across PASSHE schools. Unsurprisingly given their higher fraction of graduates in engineering, science, and math, Penn State and Pitt have the highest lifetime earnings estimates in Table 3. IUP compares quite favorably, however, against the presented western Pennsylvanian private colleges and universities. Based on present value of forecasted lifetime earnings less approximate net cost, IUP's value of \$1,045,807 – \$60,192 = \$985,615 only modestly lags Allegheny (\$1,089,855) and Duquesne (\$1,010,976). IUP's value is larger than for Robert Morris (\$973,187), Washington & Jefferson (\$955,530), Point Park (\$935,250), Thiel (\$854,376), and Seton Hill (\$790,194). IUP clearly compares favorably with these private institutions.

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## IS COLLEGE WORTH IT? (CONTINUED)

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**Table 3: Earnings, Education Costs, and Student Debt by Institution**

INSTITUTION	StartSal	MidSal	Lifetime	Present Value r=5.1%	Approx Net Cost	Debt Grad2011	Approx Family Cont
Penn State	\$48,600	\$83,000	\$3,724,199	\$1,292,237	\$85,368	\$33,530	\$51,838
U. of Pitt	\$44,500	\$78,300	\$3,502,662	\$1,210,822	\$80,304	\$26,612	\$53,692
Allegheny College	\$39,200	\$79,300	\$3,501,036	\$1,190,415	\$100,560	N/A	N/A
Bloomsburg	\$40,300	\$73,400	\$3,272,286	\$1,126,399	\$58,908	\$25,321	\$33,587
Duquesne	\$43,300	\$70,300	\$3,171,229	\$1,107,568	\$96,592	N/A	N/A
Robert Morris	\$39,400	\$68,300	\$3,059,931	\$1,059,749	\$86,292	\$42,477	\$43,815
Washington & Jefferson	\$37,900	\$68,900	\$3,072,227	\$1,057,774	\$102,244	N/A	N/A
IUP	\$38,100	\$67,800	\$3,029,539	\$1,045,807	\$60,192	\$32,416	\$27,776
Point Park	\$35,600	\$66,600	\$2,961,496	\$1,016,138	\$80,888	\$19,779	\$61,109
Thiel College	\$33,700	\$61,400	\$2,737,217	\$942,176	\$87,800	\$34,074	\$53,726
Mansfield	\$33,500	\$56,400	\$2,534,416	\$881,004	\$53,940	\$23,216	\$30,724
Seton Hill	\$33,400	\$55,500	\$2,497,406	\$869,602	\$79,408	\$30,979	\$48,429

In sum, these lifetime earnings forecasts indicate that IUP offers its students one of Pennsylvania’s most cost-effective college options when balancing expected earnings versus education costs. Since the family contributions are lower for the average IUP student than for students at many other schools, this does raise the average debt load for IUP graduates by several thousand dollars above many of its peers. When comparing the expected lifetime earnings for the average IUP graduate against the expected earnings for high school or associate’s graduates from Table 2, however, it is evident that the IUP degree has a high return for the average graduate. Net costs of about \$60,000 (with about \$32,000 as debt) obtain an IUP degree with a present value of forecasted lifetime earnings of over \$1,000,000 which is well above the forecasted values of \$624,169 for average high school earnings and \$760,157 for associate’s degrees.



# Keep in touch!

The Department of Economics at IUP considers its alumni a valuable resource. Please keep us posted on your work and well-being. We encourage former students to share with current students how they apply their economic studies in their jobs and their lives. If you plan to be in the area and wish to meet with students, please contact Dr. Nicholas Karatjas at [Nicholas.Karatjas@iup.edu](mailto:Nicholas.Karatjas@iup.edu).



# BEWARE PERCENTAGE-DRIVEN DECISION-MAKING: SIMPSON'S (YULE-SIMPSON) PARADOX

BY DR. WILLARD W. RADELL

Welcome to the disturbing world of the Simpson's Paradox (a.k.a. Yule-Simpson paradox after George Udny Yule and Edward H. Simpson) where percentages seem to lie.

Imagine that it is the final game of the NCAA Tournament and you are the coach of one of the teams. One of your key players has fouled out, there are 9 seconds left, you have the ball, and you have 2 players you could put in to overcome the one point deficit. Either a two-pointer or a three-pointer will do. Here are the shooting percentages for the two players up to this time of the game:

	Jabbar	James
Two Pointers	3 of 7 <i>or</i> 42.9%	2 of 4 <i>or</i> 50%
Three Pointers	1 of 4 <i>or</i> 25%	4 of 14 <i>or</i> 28.6%
Overall	4 of 11 <i>or</i> 36.36%	6 of 18 <i>or</i> 33.3%

Who do you put in for what may be the last possession of the game? Who is the best overall shooter? Most coaches would interpret that question as "who has the best overall shooting percentage (excluding free throws)?" and put Jabbar in the game because he has the best overall shooting percentage. But borrowing from Bayesian philosophy, we have the prior knowledge that the shot will either be a two-pointer or a three-pointer and not both. With that perspective we observe that James has a higher probability of hitting a two-pointer and James also has a higher probability that he will hit a three-pointer. Knowing this, coach Radell would put James in for the last run at a score to win, despite the fact that his overall shooting percentage is lower. Disturbing, isn't it. Hence the paradox.



Dr. Willard W. Radell

Most of the Internet versions of Simpson's Paradox presume that reality lives in the overall percentages and not in the disaggregated percentages. An exception is Dr. Theresa Amabile's **Against All Odds** (a statistics video series): "Does City University Discriminate?" She gives an example in which truth lives in the disaggregated percentages as it does in the basketball example I've presented here.

*What is the moral of the story?* Beware of aggregated percentages. In your professional lives, if someone presents you with a proposal premised on aggregated percentage, be skeptical. Ask for a breakdown into component parts if that is possible. If you are too trusting of aggregated percentages, you risk getting caught in a logical trap set in the spooky world where the Yule-Simpson Paradox is not known.



## USING MINIATURES IN THE FAMILY AND CONSUMER SCIENCES CLASSROOM: OPPORTUNITIES FOR CROSS-CURRICULAR LEARNING

BY DR. NICHOLAS KARATJAS

On Saturday, April 6, 2013, Dr. Nicholas Karatjas participated in a session titled “Using Miniatures in the Family and Consumer Sciences Classroom: Opportunities for Cross–Curricular Learning” at the Annual Pennsylvania Association of Family Consumer Science (PAFCS) conference which was held at the DoubleTree Downtown Pittsburgh. Also presenting at the session were Dr. Terri Owens, Assistant Professor of IUP’s Family and Consumer Sciences Education; Dr. Sally McCombie, Associate Professor of IUP’s Family and Consumer Sciences Education; and Mrs. Susan Karatjas, owner of sdk miniatures LLC.

This year’s conference theme was *Planting Seeds for Success*. Throughout the two–day PAFCS conference, various sessions were conducted striving to integrate and provide practical knowledge about the things of everyday life – human growth and development; personal behavior; housing and environment; food and nutrition; apparel and textiles; and resource management – that every individual needs to make decisions that lead to a healthy, productive, and more fulfilling life in our curriculums.

At this particular session, participants learned that miniatures are not just for hobbyists. Miniatures can be used to teach the elements and principles of design, furniture styles, and architectural elements. Miniatures can also be used to facilitate creative writing, problem solving, and discussion of family interaction from an historical perspective. This session introduced participants to a wide range of ideas for using miniatures in the family and consumer sciences classroom. Participants also constructed a miniature furniture item during the session.



Left to right: Dr. Nicholas Karatjas, Mrs. Susan Karatjas, Dr. Sally McCombie, and Dr. Terri Owens

Dr. Karatjas is a Board member of the National Association of Miniature Enthusiasts (NAME). Susan Karatjas owns sdk miniatures LLC (<http://sdk.miniature.net/>), and it is very much a family business. Susan and her daughter, Pamela Ridgley, handcraft dollhouse miniatures including plants, furniture, and structures. Dr. McCombie, Dr. Owens, and Dr. Karatjas provided information about using miniatures in the classroom, while Susan Karatjas taught participants how to assemble miniatures. Dr. Karatjas also provided some information about the hobby and about NAME.

Since Susan Karatjas can create custom orders, she was able to incorporate the PAFCS name and year into the miniature furniture item design. In addition to providing the participants with a working example of her miniature kits, it also gave them a conference keepsake.



## AFRICAN NIGHT 2013: THE KNOWLEDGE OF OUR ROOTS

BY DR. YAYA SISSOKO, FACULTY ADVISOR OF THE  
PAN-AFRICAN STUDENT ASSOCIATION

On March 30, 2013, the Pan-African Student Association (PASA) hosted its annual African Night event in the HUB Ohio Room to spread awareness of and celebrate African culture. This event saw the attendance of more than a hundred individuals from the IUP and Indiana communities despite many students being away for the Easter weekend. The event consisted of several performances aimed to enlighten the audience on various African cultural perspectives. These performances included two African dance shows, two poetry readings, an essay contest, two rap songs, a presentation about the African and West African economies, an African food fair, and a fashion show that involved more than ten models.

- The two dance performances were real demonstrations of African moves using background music from three African musicians: D'Banj (Oliver Twist), Iyanna (Kukere), and Miriam Makeba (Pata Pata). These performances thrilled the audience beyond expectation. They showcased both the traditional and modern ways of entertainment and celebration in Africa.
- Concerning the poems, they respectively celebrated the black woman and some historical figures that marked the life of the African American people. The first poem titled *Femme Noir* (Black Woman) was written by Camara Laye, a Guinean writer in memory of his mother. It was presented in French (as originally written) and interpreted in English during the show. The second poem titled *My Prayers* was an acknowledgement of great leaders such as Kwame Nkrumah and Martin Luther King, who respectively combated colonization in Africa and contributed to the emancipation of black people in the United States of America.
- The slideshow presentation was educational and focused mainly on some background about Africa as well as some economic facts about Africa and West Africa. The presentation allowed the audience to understand the extent to which Africa possesses considerable resources necessary for its development, despite the over-recurring democratic issues experienced by many of its countries. These perspectives were emphasized by a background video which continuously displayed the positives aspects about Africa which are rarely shown by the media.
- As for the fashion show, modern and traditional African dresses were exhibited with all their richness in color, quality, and authenticity. This was aimed at showing the audience one of the artistic sides of the African culture.
- The food fair consisted of a taste of different African dishes including an okra and a peanut butter dish, fried red rice with fish, "surprised eggs," and African "gateau" (fried donuts). The food was delicious.



Dr. Yaya Sissoko (left) with PASA students.

The African Night event was not only about performances. The Pan-African Student Association also presented several awards, including one dedicated to the winner of an essay contest organized especially for high school students in Indiana, PA. The contest invited students to submit essays that describe their personal experiences and beliefs about the African continent and its culture. The award confirmed the tradition at IUP of recognizing achievements and promoting cultural understanding within its community.

In conclusion, the 2013 African Night was a real success that can serve as an example for future events to be hosted by PASA. It is very important to be aware of other cultures because culture is a driving force in people's everyday lives, beliefs, and attitudes. African Night can be used to foster relationships between African students and students from the other registered student organizations on campus.

## NEW TECHNOLOGIES FREE BOOKSTORES FROM TRADITIONAL TEXTBOOK PRICING

BY SARA ELLENBERGER

*Editor's Note: Sara (Thorell) Ellenberger graduated from IUP's Department of Economics in May 2006. She is currently the textbook director at IUP's Co-op Store. She graciously agreed to my request to write an article about the current trials and tribulations of a college bookstore.*

Textbooks are expensive. As the Textbook Director at The IUP Co-op Store, I see it every day. But what's a poor bookstore manager to do?

Fight it!

A decade ago, the answer would have been, "We can't do much about it." As recently as five years ago, most university bookstores held fast to the traditional model for textbook pricing: The publishers set the prices, and the bookstore sold new books at those publisher prices and used books at 75% of the publisher prices. We sourced new books from the publishers and used books from our own buybacks and the national textbook wholesalers. The prices basically set themselves. Ah, the simple days.

Today, in my opinion, if a university bookstore is still holding to that pricing model, they are either dangerously close to going out of business or they are very lucky. The main problem with the traditional pricing strategy, if one can call it a strategy, is that we now find ourselves in a world where students don't need the bookstore. Before the likes of Half.com, Chegg, Amazon Marketplace, and so many others, the university bookstore held a captive market. With little or no competition, book prices could be set using that rusty old pricing model. But today, used textbook sellers abound online, and those sellers can be anyone from a large textbook wholesaler to your neighbor down the street. And what does your neighbor down the street – let's call him Mike – know about pricing a textbook?

He probably knows just enough. Let's say that Mike wants to sell his old Principles of Microeconomics textbook online. He's probably not going to check to see what the new book price is, and he probably doesn't even care what the used book sells for at the university bookstore. Mike is going to look up his book on Half.com, see what prices other sellers are charging, and price his book accordingly.

And again I ask, what's a poor bookstore manager to do? Mike just priced his Principles of Microeconomics book at \$25.00?! That's less than the bookstore's cost! But this is where the fun begins. (Well, it's fun if you're an economics-major-turned-textbook-nerd.)

Several years ago, I was introduced to a new company called Verba Software, created by two young Harvard grads to revolutionize the way bookstores make purchasing and pricing decisions. Their trio of software tools allows the bookstore to collect faculty textbook orders more efficiently, source low-priced used books, price textbooks competitively, and offer price comparison shopping to our students.

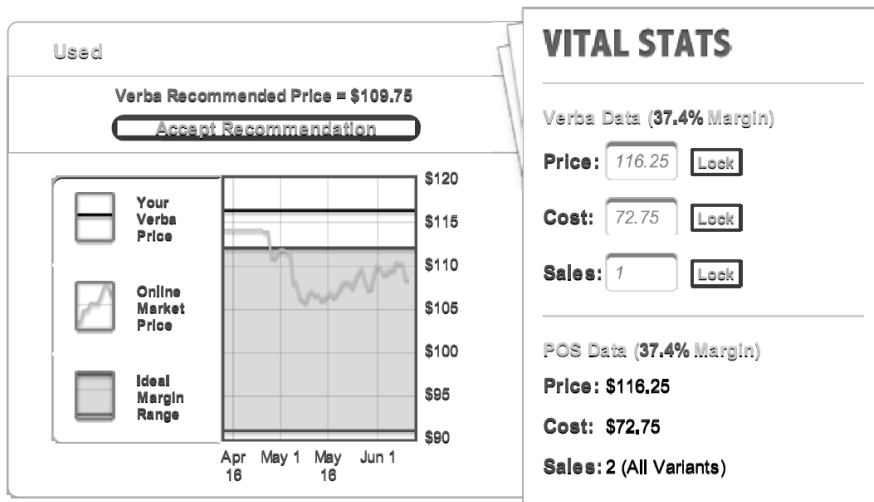
The most immediately exciting of these tools for this textbook nerd was the one that would allow me to see, for a given textbook, a snapshot of that book's online marketplace pricing – recent past, current, and forecasted. I was doing the same thing already, albeit haphazardly, checking online prices, trying to control my costs through strategic buyback pricing, and lowering some selling prices, especially on older edition textbooks. It was time consuming and frustrating. And it was impossible to do that for all 1,400 titles adopted for a given term. When I realized that someone had created software that could do all of that research for me on a large scale and in just a few seconds, I was overjoyed. Jumping up and down. Literally. You can ask my co-workers.

*(continued on page 13)*

# NEW TECHNOLOGIES FREE BOOKSTORES (CONTINUED)

*(continued from page 12)*

I now load my entire book list into this wonderful software universe, and it analyzes all of the textbook cost and pricing data in the time it takes me to make a cup of coffee. This is not to say that it makes any decisions for me; once I have the information loaded, I can commence to sift through it.



An example of one of Verba's pricing recommendations for a used textbook.

I see online buyback prices, which help me determine my own end-of-semester buyback prices; this becomes a major determinant in the average cost, and therefore the selling price, of a used book. I can see a snapshot of online selling and rental prices, most importantly those forecasted several months out, when I will actually be selling the books I am currently researching. And I can find low-priced used books to buy, thus lowering my cost and enabling me to offer a lower selling price in the bookstore.

With this type of software behind us, and a fierce determination to do so, bookstores can become very competitive with the online textbook marketplace. And we should, because our students – our customers – deserve to get the best possible prices while maintaining the convenience and customer service that a bookstore provides.

In a matter of less than five years, competition in the textbook marketplace has changed dramatically. I can't think of another industry that has been turned upside-down so quickly in recent years. The advent of widespread textbook rental programs, along with revolutionary software, make buying and selling textbooks a whole new world today.





## FACULTY NOTES

**Dr. Todd B. Potts** presented “Governance, Gender Inequality, and Olympic Success” at the 74<sup>th</sup> International Atlantic Economic Conference held in Montreal, Canada, on October 5–8, 2012.

**Dr. Todd B. Potts** presented “A Threshold VAR Model of the Propagation of U.S. Financial Stress to Production and Employment” at the Fall 2012 Meetings of the International Academy of Business and Economics held in Las Vegas, NV, on October 12–16, 2012.

**Dr. Yaya Sissoko** presented a research paper entitled “Impact of the Global Financial Crisis on the Economic Community of West African States (ECOWAS),” co-authored with Dr. Solomon Kone, at the 35<sup>th</sup> Northeast Association of Business, Economics, and Technology (NABET) Annual Conference held in State College, PA, on October 25–26, 2012.

**Dr. Yaya Sissoko’s** article entitled “Optimum Currency Areas and Synchronization of Business Cycles in Sub-Saharan Africa” was published in the *China-USA Business Review*, Vol. 11, Issue 11, November 2012.

**Dr. Yaya Sissoko’s** manuscript entitled “Should Sub-Saharan Africa Oil Exporter Countries Borrow More in U.S. Dollar or Euro to Stabilize their Balance of Payments? An Empirical Investigation,” co-authored with Solomon Kone, was accepted as a chapter contribution in the book *Financial Aspects of Recent Trends in the Global Economy (FINART)*. The book will be available from the Oeconomica Collection of ASERS Publishing.

**Dr. Willard Radell** presented the *Future of the Euro* as part of IUP’s Adult and Continuing Education’s Great Decisions Foreign Policy Lecture Series held at St. Andrews Senior Living Community on February 5, 2013.

**Dr. Todd B. Potts** and **Dr. David B. Yerger’s** article, “Impact of U.S. Financial Shocks Upon the Canadian Economy,” has been published in the *Journal of International Finance and Economics (JIFE)*, Volume 13(1), 2013.

**Dr. Yaya Sissoko** reviewed an article entitled “Revisiting the Finance–Growth Nexus in Sub-Saharan Africa: Results from Error Correction–Based Panel Cointegration Tests” for the *Journal of African Development Review*, Spring 2013.

**Dr. Yaya Sissoko** presented a research paper entitled “Outsourcing Effects on the U.S. Manufacturing Sector: A Panel Estimation Approach,” co-authored with Evelyn Wamboye, at the 77<sup>th</sup> Midwest Economics Association (MEA) Annual Conference held in Columbus, OH, on March 22–24, 2013.

The Pan-African Student Association (PASA) hosted its annual African Night on Saturday, March 30, 2013, at the HUB Ohio Room. PASA aims to share African culture, tradition and to create awareness about Africa in general. In addition, **Dr. Yaya Sissoko** talked about “Economic and Business Opportunities in Africa and West Africa.” Dr. Sissoko is the faculty advisor of PASA and the coordinator of African Night (see page 11).

### Faculty

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## FACULTY NOTES (CONTINUED)

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In April 2013 **Dr. Nicholas Karatjas** participated in a session titled “Using Miniatures in the Family and Consumer Sciences Classroom: Opportunities for Cross-Curricular Learning” at the Annual Pennsylvania Association of Family Consumer Science (PAFCS) conference which was held at the DoubleTree Downtown Pittsburgh (see page 10).

At the 2013 IUP Undergraduate Scholars Forum held on April 2, **Dr. James J. Jozefowicz** organized the Undergraduate Scholars Forum session “Applied Economics.” **Dr. Yaya Sissoko** judged the session.

At the 2013 IUP Undergraduate Scholars Forum held on April 2, **Dr. Yaya Sissoko** organized the Undergraduate Scholars Forum session “Economic Development.” **Mr. Camilo Rubbini** and **Dr. James J. Jozefowicz** judged the session.

**Mr. Camilo Rubbini** has been accepted with funding to the Ph.D. program in economics at SUNY Stony Brook. *Congratulations Camilo!*

**Dr. Yaya Sissoko’s** article entitled “Outsourcing Effects on the U.S. Manufacturing Sector: A Panel Estimation Approach,” co-authored with Dr. Evelyn Wamboye, has been accepted for publication as a chapter contribution in the upcoming book titled *Econometric and Forecasting Models* published by The Edwin Mellen Press, Spring 2013.

**Dr. James J. Jozefowicz** was the invited guest speaker at the School of Management Honors Banquet held Sunday, April 28, 2013, at his alma mater, Marist College, in Poughkeepsie, NY. He earned both a BS in biology and a BA in economics from Marist College.

## THOSE OLD PHOTOGRAPHS



The Department of Economics faculty at Dr. Walker's retirement reception in 1998.  
 Front row: Dr. Nicholas Karatjas, Dr. Yaw Asamoah, Dr. Donald Walker, Dr. George Radakovic, Dr. Robert Stonebraker.  
 Back Row: Dr. Alexander Garvin, Mr. John Cross, Dr. Arthur Martel, Mr. Harry Holt, Dr. James Dyal, Dr. Willard Radell.

## STUDENT NOTES

- Economics major, Ryan Egan, has been selected to be a research intern at Stewart Capital Advisors LLC, a subsidiary of S&T Bank, in Indiana, PA. His internship at Stewart Capital involves researching and performing valuations on companies that investment advisors are considering as potential investments.
- At the 2013 IUP Undergraduate Scholars Forum held on April 2, the following economics students and majors presented their research papers:

- Ashley Alt & Dan Oberkofler: “The Effects of Power, Prestige and Performance on Salary in the National Hockey League.”  
Advisor: Dr. James J. Jozefowicz
- Grey Berrier & Angela Rowland: “The Combined Effects of Socioeconomic and Demographic Factors on State-Level Unemployment Rate Volatility.” Advisor: Dr. James J. Jozefowicz
- William Harman: “Determinants of Congressional Reelection Rates.” Advisor: Dr. James J. Jozefowicz



Dr. James Jozefowicz with some of the Forum presenters.

- Shaye Kurdziel: “Where Are You Shipping Out From?”  
Advisor: Dr. James J. Jozefowicz
- Amanda Wade: “Uganda: An African Leader in Development.” Advisor: Dr. Yaya Sissoko
- Wenjing Yun: “The Determinants of China's Economic Development.” Advisor: Dr. Yaya Sissoko
- Chioma Umunakwe: “Ethiopia's Underdevelopment: Rising Beyond Missed Opportunities.” Advisor: Dr. Yaya Sissoko
- Economics majors Ashleigh Craig and Chioma Umunakwe served as student moderators at the Undergraduate Scholars Forum. In addition, Economics students Wenjing Yun, and Ashley Alt and Dan Oberkofler won the College of Humanities & Social Sciences’ “Outstanding Presentation” award at the Undergraduate Scholars Forum. Outstanding Presentation Award winners received a \$100 award and will have their papers published in *The Inkwell*, IUP’s undergraduate refereed social science journal. Also, Dr. Yaya Sissoko’s student, Chioma Umunakwe, who is pursuing dual baccalaureate degrees in economics and management, was recognized with the Eberly College of Business and Information Technology Dean’s Award for Excellence at the Undergraduate Scholars Forum. *Congratulations to all of the winners!*

- Riley Smith was the 2013–2014 recipient of the Donald A. Walker Scholarship. The scholarship is awarded to an IUP student majoring in economics who has outstanding academic potential.
  - Erica Sittig was the 2013–2014 recipient of the Karl A. McDermott Scholarship. The scholarship is awarded to a student majoring in economics who has demonstrated overall academic achievement and the promise for future success. Preference is given to eligible female students, to overcome the underrepresentation of women in economics and related professions.
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