2005 AIR/NPEC FOCUSED DISSERTATION FELLOWSHIP PROPOSAL

For-Profit Colleges – an Opportunity for Under-Served? Analysis of educational and economic outcomes for proprietary students.

Data sets of interest: NPSAS 1993/96/2001, BPS 1996/2001, NELS 1994/2000

Grant Amount Requested: $15,000

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2. Project Summary

This research project will use data from the National Postsecondary Student Aid Study for the years of 1993, 1996 and 2000, the Beginning Postsecondary Study for the years of 1996 to 2001, and the National Education Longitudinal Study for the years of 1994 and 2000 to examine educational and economic outcomes for students in the for-profit post-secondary institutions. The two main research questions investigated are: 1. How does a change in receipt of federal aid affect an under-served student's persistence and probability of graduation from a proprietary program? and, if higher amounts of federal aid in fact improve persistence outcomes, 2. Are there any significant returns on proprietary schooling that justify federal expenditures?

The study uniquely organizes the inquiry into the original over-arching sequential framework, which captures the complexity of students' decision-making process, makes it possible to use two-stage regression modeling, and yields more meaningful results to policymakers.

The project will utilize multiple logistic regression to determine how the amounts of Title IV aid affect for-profit students' within-year persistence and graduation rates. Type II Tobit will be used for the labor-market model to handle sample selection issues with the wage equation. The innovative proposed methodology supplies the study with a feasible population sample, at the same time treating the ominous selection bias.

This study will utilize the variable groups never included in the preceding literature: institutional characteristics, opportunity costs, state of the economy, such as business cycles and various industry and state effects.

While a full qualitative and quantitative understanding of proprietary education outcomes is sorely needed to formulate a functional policy, there is not enough quantitative research resolving the increasingly controversial policy issues over for-profit higher education. This study contributes to the very scarce literature on proprietary student research.

The results will be of interest to higher education faculty and the institutional research community who study for-profit provision of post-secondary education, policymakers, federal and state education administrators and legislatures, and private individuals considering for-profit post-secondary institutions as educational alternatives to traditional non-profit schools.

3. Table of Contents

4. Project Description

a. Statement of Problem.

Among the central topics of interest in higher education are increasing and equalizing access to higher education and improving the rates of successful graduation and job placement (or continuing education). The populations of special interest have been groups traditionally under-represented in higher education: students from low-income families and from families with low human capital, minority students, and non-traditional students. Under-served by the traditional public and private non-profit institutions, these populations are increasingly attracted to a quickly growing alternative –education provided by the for-profit[1] sector (Phipps et al. 2000). What are the defining demographics of proprietary students? Do proprietary institutions provide these students with an opportunity of investing in human capital which is valuable in the long run? Are these students in fact persisting and graduating with skills which benefit the local and national economies? What are the effects of government policies towards proprietary higher education institutions and their students? And what should these policies be? These are all extremely pressing but largely unanswered questions.

The paucity of quantitative analysis of the for-profit student population is truly astounding and distressing. Assessing the effects of past and present policies on for-profit postsecondary schools has been problematic (St. John, Starkey and Paulsen 1995) and hence for the most part absent. For decades, the main source of data for higher education research -- surveys and longitudinal panels conducted by the National Center for Education Statistic (NCES) -- did not provide large enough samples or adequate information about proprietary schools (Jaeger 1999). The multifaceted relationships between background and financial characteristics of proprietary students and outcome measures, such as access, persistence and employability, have significantly complicated the analysis, necessitating rather involved statistical models. To complicate things further, the proprietary industry has been continuously evolving, catering to the demands of the economy, affected by market reputation mechanisms and federal regulations for student financial aid, by school accreditation laws and changes in the student body. Meanwhile, even "… the basic demographics of the for-profit sector… [were] not well documented" (Breneman, Pusser and Turner 2000).

With the release of NPSAS:2000, came the opportunity for education researchers to fill in the gap in our knowledge about proprietary college students and their educational and economic outcomes. The latest work on

[1] In what follows, I use "for-profit" and "proprietary" interchangeably.

proprietary students' demographics using NPSAS:2000 was done by JBL Associates (2004) and Chung (2004). The studies confirmed the increasing percentage of low-income, minority and delayed enrollment students in proprietary schools and extended the earlier demographic reports by Phipps et al. (2000), Apling and Aleman (1990) and Lee and Merisotis (1990). Up to date, no analyses of educational or economic outcomes for proprietary college students using NPSAS:2000 have been published.

The most recent quantitative research on educational outcomes by St.John, Starkey and Paulsen (1995) used NPSAS:1987 to investigate the effects of price subsidies on within-year persistence by proprietary students. The authors found that financial aid was positively associated with the persistence of under-served students (in particular, African Americans and Hispanics) in for-profit schools. The earlier investigation by Grubb (1993) of economic outcomes for proprietary students produced little support for proprietary education. Using NLS:1972, Grubb found no substantial benefits from proprietary education for long-run wage and earning patterns of proprietary graduates. While a full qualitative and quantitative understanding of proprietary education outcomes is sorely needed to formulate a functional policy, there is not enough quantitative research resolving the increasingly controversial policy issues over for-profit higher education.

b. Research Question

While there are many institutional factors influencing proprietary student outcomes, the policy variable that is immediately under control of the policymakers is reducing or increasing the amount of federal aid to proprietary students. The critical *educational outcome* question is:

> how does a change in receipt of federal aid affect an under-served student's persistence and probability of graduation from a proprietary program[2]?

And, if higher amounts of federal aid in fact improve persistence outcomes,

> are there any significant returns on proprietary schooling that justify federal expenditures?

The latter question pertains to *economic or labor-market outcomes* for proprietary students.

[2] This proposal intends to concentrate on undergraduate proprietary students only.

c. Research Methodology

i. Data Sources, Limitations, and Sample Sizes.

The two research questions considered here are of a quantitative nature and require demographic data on for-profit students, data containing proprietary school enrollments, federal financial aid packages, school characteristics, as well as a host of other information. The lack of reliable data on the for-profit sector and its students has long been a complaint of researchers. While the recent releases of NCES datasets related to postsecondary education have delivered improved sample sizes for proprietary students, better student and institution response rates, and enhanced technical reliability, limitations of every individual survey have kept researchers from producing much needed analyses. No data set is perfect. However, once the limitations are identified, it is feasible to combine the unique features of several surveys in a meaningful way. This project will adopt such approach. Utilizing several surveys can also help resolve selection bias problem: using NPSAS, I can formulate a selection equation and test for potential selection bias (see discussion of this problem in the next section of the proposal).

The main surveys employed in this project are the National Postsecondary Student Aid Study for the years of 1993, 1996 and 2000 (NPSAS:93, NPSAS:96, NPSAS:2000), the Beginning Postsecondary Students Longitudinal Study for the years of 1996-2001 (BPS:1996/2001), and the National Education Longitudinal Study for the years of 1994 and 2000 (NELS:1994/2000) conducted by the National Center for Education Statistic (NCES). Each data set has its own limitations and unique contributions to the intended study. I briefly discuss these limitations and contributions below.

NPSAS is the largest and most inclusive cross-sectional survey delivering the largest proprietary student population sample – a very useful feature, which increases the chances of producing sharp regression estimates in the models. It provides an accurate representation of the frequency of non-traditional students in the student population. This is an indispensable feature for a study of for-profit student population (in 2000, approximately 53% of all enrolled students in for-profit NPSAS schools were non-traditional (Chung 2004). However, only students enrolled in NPSAS-qualifying schools enter NPSAS data set, thereby creating potential bias in estimation[3].

[3] For example, one of the requirements satisfied by a NPSAS school is that the school must offer a course at least 3 months (or 300 hours) long (and the student interviewed must also be taking at least one such course). A lot of proprietary schools (and students) teaching (and taking) short vocational/certificate courses are excluded.

Also, NPSAS is a cross-sectional (rather than panel) data set. It contains the persistence information for the two years, during which it was conducted, but not beyond. This may prove a disadvantage when the task is to track the persistence of a student enrolled in a more-than-2-year program.

BPS, drawn from NPSAS, shares all of the foretold limitations and benefits with NPSAS, except for two. The additional benefit is that it is, in fact, a longitudinal study – a great advantage for a persistence study. This benefit comes at the expense of a much smaller sample size[4], introducing a risk of obtaining potentially imprecise estimators. Another limitation introduced by BPS (which, in fact, partially contributes to sample size problem) is that only beginning students are interviewed. This feature of the survey omits students with previous post-secondary education (who would tend to older, and frequently non-traditional) and former dropouts, who are of much interest in studies of persistence and retention. An additional advantageous attribute of BPS is the wealth of educational attainment and employment-related information. BPS lends itself very well to employment-outcome models.

Unfortunately, neither NPSAS nor BPS provides quite enough satisfactory detail on high-school achievement and preparation, as well as on cognitive and non-cognitive skills. While NELS offers little advantage in a way of sample size for for-profit students, and samples a group of students, selected at a very particular time, it can lend many insights into underlying assumptions about students' preparation and skills. Also, NELS student records provide a distinctly different set of observations, which could produce a separate set of results comparable to those derived from NPSAS and BPS. This could help resolve the controversy due to the disparate findings by St.John, Starkey and Paulsen (1995) and by Grubb (1993).[5] Finally, NELS does contain both students who pursued post-secondary training, and those who did not. This feature frees NELS of selection bias emanating from self-selection of interviewed students into higher education. It will be possible then to utilize the data universe containing non-college-going students, who appear unobservable in other data sets, in the selection equation.

Due to the above-described limitations and benefits, it is useful to derive underlying assumptions about proprietary students' preparation and skills from NELS, as well as to utilize NELS to check for possibility of presence of selection bias in our model. It is also appropriate to employ BPS to test the model of persistence and the model of labor-market outcomes, using combined NPSAS for the first stage of Heckman selection algorithm.

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[4] From Table 2 it can be approximated that the final sample size in all three NPSAS combined will be around 12,221 students, while in BPS:1996/2001, it is 1,261.
[5] St.John, Starkey and Paulsen (1995) used NPSAS:87, and Grubb (1993) used NLS:72.

Having justified the use of data sets chosen for this project, I must address one more frequently raised concern about data on proprietary students – the quality of data, or the response rates of for-profit student respondents. While somewhat inferior, proprietary students' response rates are comparable to those from the students attending public institutions of similar levels. Please, refer to Table 1 in Appendix 4 for these rates.

ii. Conceptual Framework and Research Variables.

The two policy questions stated above lead to the two quantitative models proposed here: *a model of persistence* and a *model of labor-market returns to proprietary education*. The policy (control) variable of immediate interest in the persistence model is the amounts of Title IV grants and loans. The dependent variable in the model of persistence is a multinomial outcome: a student persists, obtains the intended award, or drops out. Whether a persisting or non-persisting proprietary student enters labor market successfully is reflected by the dependent variable in the labor-market model – the logarithm of a student's wage.

While this project breaks down the fundamental policy questions into two very particular models, this research also complements and completes an over-arching approach to the 3-tiered proprietary educational "pipeline." As the diagram in Appendix 1 illustrates, this 3-tiered process consists of: 1. the decision of a student to enroll in proprietary college; 2. the decision of a student to persist or not; and 3. the decision of a student to accept employment in a given industry at a given wage. The first stage of this research has been performed in Chung (2004). The next two stages are the core of this project. Performing these analyses sequentially captures the complexities of students' decision-making process, makes it possible to use two-stage regression modeling, and yields more meaningful results to policymakers. Appendices 2 and 3 isolate stage 2 (the model of persistence) and stage 3 (the model of labor-market outcomes) for easier viewing.

As seen in Appendix 2, the outcome in the model of persistence is influenced by numerous factors, which are grouped as: demographic characteristics, set of achievement and preparation variables, college experience information, financial factors, opportunity costs, and institutional characteristics.

The model of labor-market outcomes outlined in Appendix 3 is rather complicated, but it lends itself well to the construct determined by: 1. a selection equation defining enrollment in proprietary institution (Chung 2004), and 2. labor-market outcomes (wages) influenced by: state of economy, experience on the job, industry characteristics, certificate/diploma/degree, employment status, duration of training, and college experience.

The choice of variables for the persistence model was in part based on the set of student characteristics used in the literature on proprietary students (St. John, Starkey and Paulsen 1995), (Phipps et al. 2000), (Wilms, Moore and Bolus 1987), (Apling, Aleman and Library of Congress. Congressional Research Service. 1990), (Grubb 1993). The "institutional characteristics" category has never been included in the similar analyses before. Controlling for the unique characteristics of proprietary institutions will be helpful in dealing with unobserved heterogeneity in student population.

Variables included in the model of labor-market returns draw from research by Kane and Rouse (1995) on labor-market returns to two- and four-year colleges, as well as from the study by Chung (2004) on the proprietary student population in NPSAS:1996 and NPSAS:2000. Controlling for business cycles distinguishes this model from other attempts to evaluate returns on proprietary training. Also, BPS provides us with the opportunity to include variables pertinent to the experience of a student on the job, which will contribute to improving the model's fit.

Appendix 5 lists selected variables contained in the data sets to be used.

iv. Analyses Procedures.

The probability of within-year persistence, getting an award, or dropping out conditional on observed characteristics of for-profit students will be modeled by multinomial logistic regression. The panel nature of BPS will allow fixed effects estimation to be used for this regression analysis.

Besides the issue of unobserved heterogeneity, the model of labor-market outcomes presents a problem of sample selection: as in any model of labor force participation and the wage offer, we can only observe the wage for the individuals employed. To account for the potential selection bias, the model will consist of 3 equations: 1. a selection equation, and a type II Tobit containing 2. a latent wage equation, and 3. a reservation wage equation. In our case, the selection equation is going to model the probability of a student sorting into the proprietary sector. The latent wage equation will model the wage offer curve – what employers are willing to pay a student, conditional on the student's characteristics and economy and industry-specific characteristics. The third equation will estimate the reservation wage of a student, conditional on a set of opportunity costs of accepting a job, as well as on other contributing factors. The first selection equation will employ combined NPSAS data sets, while the Tobit II estimation will utilize BPS. With this framework, I can also formally test whether selection issues are statistically and economically significant.

d. *Dissemination Plan*

This research will make important contributions to the literature on students attending for-profit post-secondary institutions, and will continue the work I have already presented at the economics and education workshops and conferences. A submission will also be made to present the findings at the Association for Institutional Research (AIR) Annual Forum, the American Educational Research Association (AERA) annual meeting, the Association for the Study of Higher Education (ASHE) annual conference and select economics conferences. Upon project completion, the resulting papers will be submitted to relevant educational and economics journals.

e. *Policy Relevance*

The controversy is rekindling in the wake of reauthorization of the Higher Education Act. Having evolved into an effective competitor to the traditional non-profit education providers, the for-profit educational sector receives about 30 percent of all federal financial aid funds under Title IV. Infamous for high default rates on deferral loans, proprietary students have much at stake as legislators revise regulations pertaining to for-profit schools.

The issue of high default rates in relation to proprietary student outcomes has been poorly understood by the policymakers, as demonstrated by a GAO report on proprietary schools (1997). The report measured 3 outcomes for proprietary students: program completion, student placement and students loan default rates, and concluded that higher reliance of a proprietary school on federal aid produced poorer student outcomes. However, the students most likely to qualify for federal aid were also most likely from a disadvantaged background, more likely to possess the multiple risk factors associated with loan default, and more likely to drop out of college. The report identified the negative correlation of poorer proprietary student outcomes with reliance on federal aid, but failed to identify the real cause of these poor outcomes.

The factors affecting the quality of proprietary student outcomes remain unknown, as well as the impact of new policies on these outcomes. Interestingly, the same problem of high default rates in non-profit public schools (of which many were minority and community colleges) was overlooked. Yet, high default rates served as the reason for expulsion of many proprietary schools from the federal aid programs, potentially depriving many under-served students of their educational opportunities![6]

This project promises to have vital implications for policy and law makers. The finding of insignificant effect of federal aid on persistence outcomes, for example, could suggest that the current financial aid policies toward proprietary students might not be working. The interpretation of the resulting coefficients will also explicate the magnitudes of financial aid effects on students' success. In anticipation of reauthorization of the Higher Education Act, the need for such concrete quantitative analysis is acute.

The findings from this study will also help us evaluate whether the education or training marketed by for-profit schools indeed fulfils its role of placing a matriculated student effectively and gainfully in the labor market (as advertised by for-profit schools). Disadvantaged students (who abound among proprietary students) would benefit from such knowledge, as will federal and state legislatures.

f. Innovative Aspects of Project

The proposed project is unique in many ways. The proposed methodology supplies the study with suitable population sample, at the same time treating the ominous selection bias. The innovative resolution of these two persistent problems makes it possible to produce the analyses answering the immediate policy questions.

Since the last (and only) analysis of proprietary students persistence conducted by St. John, Starkey and Paulsen in 1995 and the labor-market outcomes analysis conducted by Grubb in 1993, the profile of the proprietary education has changed radically (Ruch 2001), (Sperling, and Tucker 1997), as did the students' profile, and the policies. This study uses the most recent surveys and utilizes variable groups never included in the existing literature. The models proposed here control for institutional characteristics, opportunity costs, state of economy, such as business cycles and various industry and state effects.

The study organizes the inquiry into the original over-arching sequential framework, which captures the complexities of students' decision-making process, makes it possible to use two-stage regression modeling, and yields more meaningful results to policymakers.

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[6] See JBL for this argument.

Finally, the project promises to inform not only researchers, policy makers and legislatures on economic benefits from for-profit training and education, but also ordinary consumers of post-secondary education – the public.

g. Intended Audience

The results will be of interest to higher education faculty and the institutional research community who study for-profit provision of post-secondary education, policymakers, federal and state education administrators and legislatures, and private individuals considering for-profit post-secondary institutions as educational alternative to traditional non-profit schools.

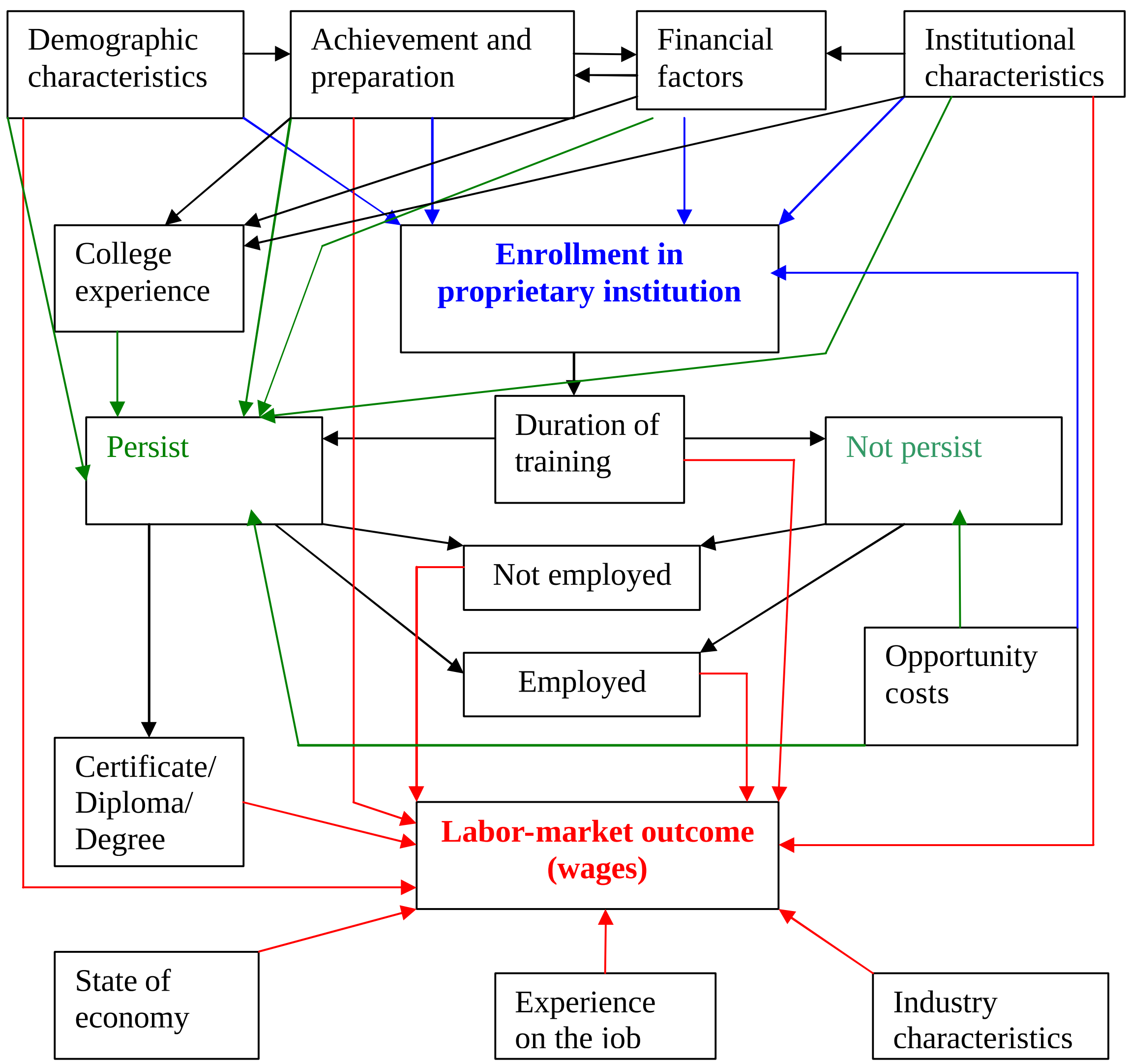
h. Appendices

i. Appendix 1: Over-arching conceptual framework for the proposed research.

Over-arching conceptual framework for the proposed research can be represented as a 3-stage hierarchical construct with[7]: Stage one – enrollment decision (blue arrows)[8]

Stage two – persistence decision (green arrows)

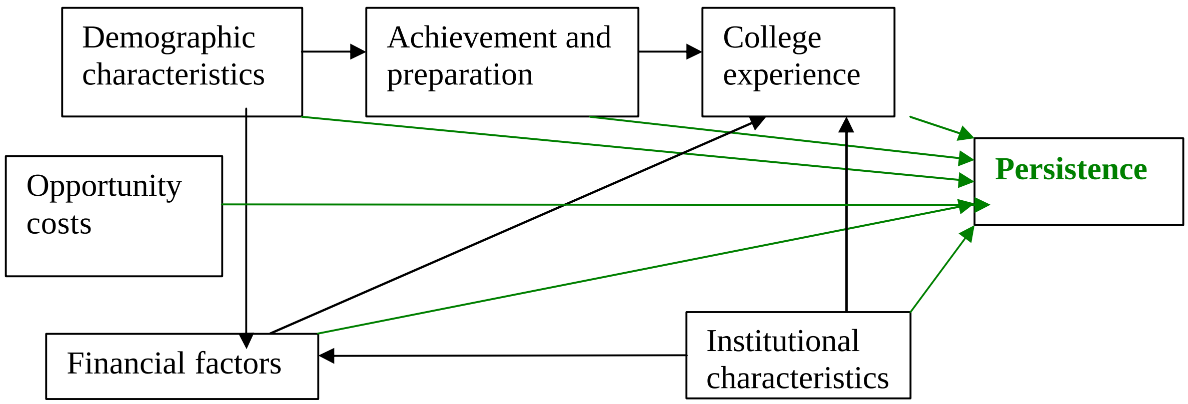
Stage three – labor-market decision (red arrows).



[7] In the diagrams that follow, black arrows represent assumed relationships, not tested explicitly in the model. Colored arrows represent the relationships tested in the model.
[8] Stage one of this framework has been performed in Chung (2004).

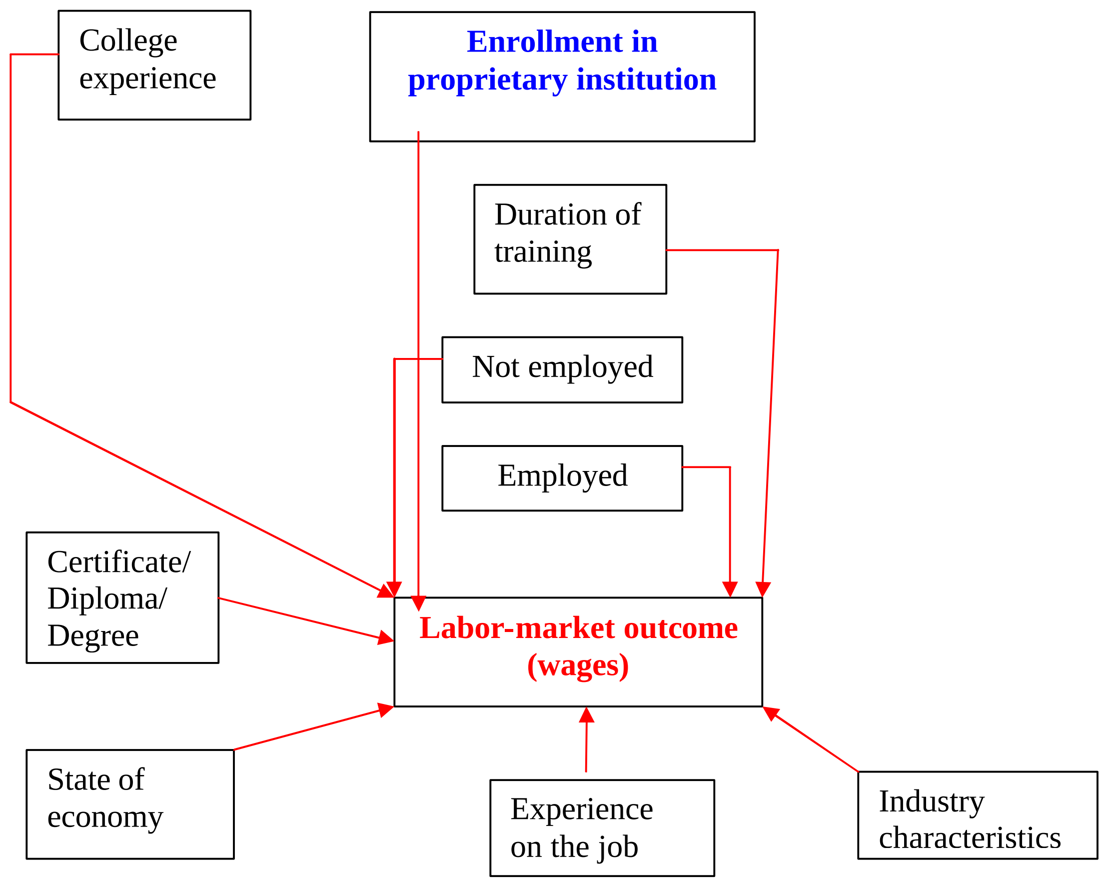
ii. *Appendix 2: Conceptual framework for the model of persistence.*

Conceptual framework for the model of persistence can be represented as the educational outcome (persistence) influenced by several major categories of interacting factors:



iii. Appendix 3: Conceptual framework for the model of labor-market returns to proprietary education.

Conceptual framework for the model of labor-market returns to proprietary education can be represented as the economic outcome (wages) influenced by several major categories of interacting factors[9]:



[9] "Enrollment in proprietary institution" will be defined by the selection equation using combined NPSAS (Chung 2004).

vi. *Appendix 4: Table 1: Student Response Rates for the NCES surveys used in the project.*

Table 1: Student Response Rates for the NCES surveys used in the project.

Students from	**NPSAS:93**		**NPSAS:96**		**NPSAS:2000**		**BPS:96/2001**	
	Students Interviewed	Weighted Response Rate	Students Interviewed	Weighted Response Rate	Students Interviewed	Weighted Response Rate	Students Interviewed	Weighted Response Rate
Private for-profit less-than-2-year institutions	3,690	57.9	1,641	69.1	2,350	59.0	740	71.6
Public less-than-2-year institutions	1,039	69.0	610	75.1	740	57.0	205	83.0
Private for-profit 2-year-or-more institutions	1,103	63.9	1,887	74.9	1,550	66.0	521	79.1
Public 2-year institutions	5,680	69.8	3,954	74.1	5,950	66.0	1,399	84.6

Sources: U.S. Department of Education, NCES. Beginning Postsecondary Students Longitudinal Study 1996-2001 (BPS:1996/2001) Methodology Report, NCES 2002-171. Washington, DC: 2002.

U.S. Department of Education, NCES. Postsecondary Student Aid Study, 1992-93 (NPSAS:93), Methodology Report, NCES 95-211. Washington, DC: 1995.

U.S. Department of Education, NCES. National Postsecondary Student Aid Study, 1995-96 (NPSAS:96), Methodology Report, NCES 98-073. Washington, DC: 1997.

U.S. Department of Education, NCES. National Postsecondary Student Aid Study, 1999–2000 (NPSAS:2000), Methodology Report, NCES 2002-152. Washington, DC: 2001.

vii. Appendix 5: Table 2: Selected Variables to Be Used in the Project.

Table 2:Selected Variables to Be Used in the Project.

Variables	NPSAS:93	NPSAS:96	NPSAS:2000	BPS:96/2001
enrollment sector	SECTOR_A	SECTOR1	SECTOR	SECTOR
persistence/attendance intensity/degree attainment	ATTEND, ATTNST3, ATTNSTAT*	ATTEND, ATTNST3, ATTNSTAT*	BTMST01-12*	DGDTAAB1 and 2 DGDTAA2B, DGDTBAB1and 2, PROUTYX1-6*
student't wage after graduation/drop-out	n/a	n/a	n/a	QEINCEC
Demographic Characteristics				
gender	GENDER	GENDER	GENDER	SBGENDER
race	RACE	RACE	RACE1	SBRACE
income level	INCOME	INCOME	INCOME	SFHHINB1, QFSAL00
parents education	PAREDUC	PAREDUC	NPARED	PBEDHI2
delayed college entry status	PSTSECYR - HSGRADYY	DELAYENR	DELAYENR	ENDELAY
student has dependents	RDEPENDS	NDEPEND	NDEPEND	SBDPNB1
age	AGE	AGE	AGE	AGE
Achievement and Preparation				
high school GPA	--	--	ACT126	HSCGPADER
high school diploma or GED	HSDEG	HSDEG	HSDEG	HSDEG
SAT or ACT score	SATTOTAL, ACT	SATTOTAL, ACT	TEACTCRE, TESATCRE	TEACTCRE, TESATCRE
highest level of math completed	--	--	--	HCMATHHI
College Experience				
college GPA	GPA	GPA, GPA2	GPA2	GPA
college major	MAJORS3	MAJORS4	MAJORS5	QCMJCOD
attendance part-time or full-time	ATTNSTAT	ATTNST3	ATTNSTAT	PRATY1-6
Financial Factors				
financial dependence status	DEPEND	DEPEND	DEPEND	SBDEP1Y1
hours worked by student	EMWKHR3	HRSWORK	NDHOURS	QEHRSC
student's budget	BUDGETADJ	BUDGETA2	BUDGET2	SNEED1
total Title IV aid	TITIVAMT	TITIVAMT	TITIVAMT	TITIVAMT
amount of Pell and SEOG grants	TFEDGRT	TFEDGRT	TFEDGRT	TFEDGRT
amount of Title IV loans	TFEDLN	TFEDLN	TFEDLN	TFEDLN
Institutional Characteristics				
percentage of minority students	--	PCTMIN6	PCTMIN1-4	PCTMIN6

Table 2:Selected Variables to Be Used in the Project (cont'd).

level of offering	LEVEL6A	HLOFFER	HLOFFER	LEVEL, ITSCHL2
enrollment size	ENROLL2	ENRLSIZE	ENRLSIZE	INENROLL
institution's locale	--	LOCALE	LOCALE	INURBAN
graduation rate	--	--	GRADRATE	GRADRATE
calendar system	CALSYS	MCALSYS	CALSYS	MCALSYS
carnegie classification	CARNEGIE	CARNEGIE	CARNEGIE	INCARNEG
distance from student's home to the institution attended	--	SIMILES	NXDSTSCH	HTDISTB1
Opportunity Costs				
state minimum wage	n/a**	n/a**	n/a**	n/a**
duration of the program	LENGTHCL	SATMGDR1-4	BECLKHRS	LENGTHCL
Employment Status	n/a	n/a	n/a	JFCUREB1
Training and Credentials				
dimploma/certificate/license	n/a	n/a	n/a	DGDTAAB1 and 2 DGDTAA2B, DGDTBAB1and 2
duration of training	n/a	n/a	n/a	ELFMFAB1 and 2
Working Experience				
for how long current job is held	n/a	n/a	n/a	QESAMFST
previous experience in current insdustry	n/a	n/a	n/a	QETRHRC
Industry Characteristics				
type of industry	n/a	n/a	n/a	JFINDU2B
Economy Effects				
lagged state unemployment rate	n/a**	n/a**	n/a**	n/a**
lagged state minimum wage	n/a**	n/a**	n/a**	n/a**

Sources: U.S. Department of Education, NCES. Beginning Postsecondary Students Longitudinal Study 1996-2001 (BPS:1996/2001). Restricted Data File.
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U.S. Department of Education, NCES. National Postsecondary Student Aid Study, 1995-96 (NPSAS:96). Restricted Data File.
U.S. Department of Education, NCES. National Postsecondary Student Aid Study, 1999–2000 (NPSAS:2000). Restricted Data File.

Notes:

-- indicates missing variables.

* indicates a select set of variables, which (along with the other variables not listed) will be manipulated to obtain the variable in interest.

n/a a variable is used from another database

n/a** indicates the variables obtained from the other sources, such as Bureau of Economic Analysis (BEA), Census Bureau, Bureau of Labor Statistics, etc.

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St. John, Edward P., S. Hu and J. Weber. 2000. "Keeping Public Colleges Affordable: A Study of Persistence in Indiana's Public Colleges and Universities." *Journal of Student Financial Aid* 30 (1): 21-32.

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U.S. Department of Education, National Center for Education Statistics. National Postsecondary Student Aid Study, 1992-93 (NPSAS:93), Methodology Report, NCES 95-211, by John D. Loft, Abt Associates, Inc.; John A. Riccobono, and Roy W. Whitmore, Research Triangle Institute; Robert A. Fitzgerald, and Lutz K. Berkner, MPR Associates, Inc.; Andrew G. Malizio, project officer. Washington, DC: 1995.

U.S. Department of Education, National Center for Education Statistics. National Postsecondary Student Aid Study, 1995-96 (NPSAS:96), Methodology Report, NCES 98-073, by John A. Riccobono, Roy W. Whitmore, Timothy J. Gabel, Mark A. Traccarella, and Daniel J. Pratt, Research Triangle Institute; Lutz K. Berkner, MPR Associates, Inc.; Andrew G. Malizio, project officer. Washington, DC: 1997.

U.S. Department of Education, National Center for Education Statistics. National Postsecondary Student Aid Study, 1999–2000 (NPSAS:2000), Methodology Report, NCES 2002-152, by John A. Riccobono, Melissa B. Cominole, Peter H. Siegel, Timothy J. Gabel, Michael W. Link, and Lutz K. Berkner. Project officer, Andrew G. Malizio. Washington, DC: 2001.

Wilms, Wellford W., Richard W. Moore, and Roger E. Bolus. 1987. "Whose fault is default? A study of the impact of student characteristics and institutional practices on guaranteed student loan default rates in California." *Educational Evaluation & Policy Analysis* 9:41-54.

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6. Biographical Sketches

a. Anna Chung

Anna Chung is a doctoral candidate in Economics at Indiana University, Bloomington, and a Research Associate at the Indiana Project on Academic Success. Her research interests lie in the economics of education, private provision of public goods and labor economics, in particular: for-profit post-secondary education, financial aid policy and access to higher education. She is also interested in (and currently engaged in work involving) formulating and utilizing economic indicators in assessment of education policies.

Ms. Chung has developed her analytical and quantitative skills through training at the Indiana University Economics graduate program, from which she received her Master's degree in Economics in 1999. Her training involved a rigorous core of theoretical and applied courses in micro- and macro-economics, econometrics, development, and mathematical economics. She has also excelled in coursework in Higher Education Finance and Higher Education Policy, taken at the department of Educational Leadership and Policy Studies.

Anna Chung has gained extensive experience in working with large-scale data sets when working with Dr. Edward St. John at Indiana Project on Academic Success (IPAS). She has performed numerous data management and data analysis tasks by merging longitudinal databases, sampling, coding variables, and implementing logistic and multinomial regressions. In the course of her work (as well as a result of her training in economics and mathematics), Anna has mastered various statistical software applications, such as SPSS, STATA, SAS and MATLAB. In addition to data handling, Ms. Chung has produced reports interpreting the resulting analyses, thereby developing further her writing abilities. Currently, besides her involvement on a study on high school Indiana students, Anna Chung is assisting Dr. St. John in creating a systematic quantitative framework for assessing state and federal educational policies across the United States.

Her economics background, rigorous quantitative skills and awareness in both fields of Economics and Higher Education enabled her to develop unique cross-disciplinary expertise. With her ability to consider quantitatively under-researched issues in Higher Education, she took interest in private for-profit provision of post-secondary education. Single-handedly, she has located and familiarized herself with the available NCES databases, and through her research affiliation with the Center for Evaluation and Education Policy (CEEP), she was able to procure the needed data sets and produce her first analysis on the topic of interest. Ms. Chung's paper *Who are the proprietary students: An Analysis of NPSAS 1996 and NPSAS 2000.* was presented at the annual 2004 Association for the Study of Higher Education (ASHE) conference. Her paper may be found at ASHE Paper Depot Archives at http://www.ashe.ws/paperdepot/2004kansascity.htm .

The proposed project contributes the major portion of Ms. Chung's dissertation, continuing the already accomplished research. For a more detailed account of Anna Chung's education and working experience, please consult her Curriculum Vita, which follows.

ANNA S. CHUNG CV

EDUCATION

Ph.D. program in Economics

1998–present Indiana University Bloomington, IN

M.A. in Economics

1999 Indiana University Bloomington, IN

B.Sc. in Mathematics / Economics / Language Arts

1998 Eastern Michigan University Ypsilanti, MI

B.A. program in Economics

1994-1996 University of Michigan Ann Arbor, MI

Major in English and German Language & Literature

1992-1994 Vologda State Pedagogical University Vologda, Russia

RESEARCH INTEREST AREAS

Economics of education. Proprietary post-secondary education. Financial aid policy. Access to higher education. Private provision of public goods. Labor economics.

PRESENTED PAPERS AND PUBLICATIONS

2004 – presented at Association for the Study of Higher Education Conference Kansas City, MO

Who are the proprietary students: An Analysis of NPSAS 1996 and NPSAS 2000.

co-authored

Introduction to Statistics for Economics and Business: Laboratory Manual.

EXPERIENCE

2004 - present Indiana University Bloomington, IN

Indiana Project on Academic Success

Research-Based Inquiry for Enhancing Student Success

Research Analyst

worked with large databases on Indiana college students, performing statistical analyses, assisted in writing and presenting reports of findings. Among our studies are analyses of factors influencing students' college persistence, as well as analysis of the Twenty-first Century Scholars program.

worked with NCES databases NPSAS and NELS, performing statistical and economic analyses for doctoral dissertation. The focus of the conducted research is proprietary education and related government policies. The analysis targets under-served students in proprietary schools, identifying factors influencing students' persistence, their financial and career decisions, as well as their labor outcomes. The effects of government policies are investigated.

1998-1999 Indiana University Bloomington, IN

Department of Economics

Graduate Assistant

assisted the faculty members with research: worked with Russian housing and tax data, helped compile a bibliography for a mathematical economics textbook.

1995 -1997 University of Michigan Ann Arbor, MI

Radiation Oncology Laboratory

Research Technician

performed routine and specialized laboratory experimental duties: made solutions, extracted and purified DNA, was in charge of ordering laboratory supplies.

1997 Eastern Michigan University Ypsilanti, MI

Goddard - Jones Community of Scholars

Resident Advisor

programmed for students and supervised 70 residents

1996 The Southwestern Company Eugene, OR

Sales Person

managed a retail book business; relocated to Oregon

1995 Investment Foundation "Doverie" Cherepovets, Russia

Assistant Economist

entered and analyzed economic data

TEACHING EXPERIENCE

2003 – 2004 Bloomington Learning Center Bloomington, IN

Senior Tutor

tutored Economics and Statistics privately to undergraduate students.

2004 Indiana University Bloomington, IN

Department of Mathematics

Groups Student Support services

Associate Instructor

taught a full semester course in College Algebra for undergraduate students from the Groups program -- a federally funded TRIO program designed to help first-generation, low-income, and physically challenged students at Indiana University. Conducted lectures, assigned and graded homework, graded tests, helped determined final grades. Class size ranged from 15 to 20 students.

2003 Indiana University Bloomington, IN

Kelley School of Business

Instructor

planned and taught a full semester course for upper-undergraduate students. Composed a course pack and a syllabus, conducted lectures, created and graded tests, determined final grades. Class size approximately 110 students.

G302 Business and Economics Strategy in Public Arena (2 hrs)

This course provides managers and leaders with strategies that win against the economic, political, social, legal, cultural, and technological forces that make up our global business landscape.

1999-2003 Indiana University Bloomington, IN

Department of Economics

Associate Instructor

planned and taught full semester courses for undergraduate students. Selected textbooks, composed syllabus, conducted lectures, assigned and graded homework and papers, wrote and graded tests, determined final grades. Class size ranged from 50 to 60 students. Emphasized student development of analytical and problem-solving skills by assigning extra-credit tasks requiring students to apply theory to real-world situations and practicing to distinguish between normative and positive analysis. Fostered an active student course involvement with the use of a course-specific Web site. Held exam review sessions for over 200 students in E202

Collaborative Learning Coordinator

helped coordinate over 10 collaborative learning sections of E201. Oversaw 2 undergraduate interns and a graduate assistant. Taught a collaborative learning section. Helped maintain the collective grade book for over 300 students. Handled students' questions and requests regarding their section enrollment and grades.

E201 Introduction to Microeconomics (3 cr.)

Scarcity, opportunity cost, competitive and non-competitive market pricing, and interdependence are featured as an analytical core. This core is applied to a variety of current economic policy problems, such as poverty, pollution, excise taxes, rent controls, and farm subsidies.

E202 Introduction to Macroeconomics (3 cr.)

Measuring and explaining aggregate economic performance, money, monetary policy, and fiscal policy are featured as an analytical core. This core is applied to a variety of current economic policy problems, such as inflation, unemployment, and economic growth.

Lab Instructor

coached 4 sections (up to 30 students each) of E370 in a computer lab setting. Prepared lab activities for the sections, answer keys for the homework, questions for the exams. Held study table available to students from all sections of E370. Served as an exam coordinator: determined the exam format and composed multiple versions of the exam along with the answer keys. Held the norming sessions for 8 course graders

E370 Statistical Analysis for Business and Economics (3 cr.)

Lectures emphasize the use of basic probability concepts and statistical theory in the estimation and testing of single parameter and multivariate relationships. In computer labs, using Microsoft Excel, each student calculates descriptive statistics, probabilities, and least squares regression coefficients in situations based on current business and economic events.

2001 Indiana University Bloomington, IN

Kelley School of Business

Teaching Assistant

assisted a professor in grading assignments for the online course C561. Prepared weekly written feedback for students based on their submitted work. Mediated and evaluated students' participation and responses in an online forum. Answered students' e-mails about grading and course contents.

C561 Global Business (1-6 hrs)

Understanding the contemporary challenges and opportunities associated with developing global strategies.

LANGUAGES

Bilingual: Russian (native fluency) and English (fluent in speaking and writing).

REFERENCES

Edward St. John Professor of Higher Education Center for the Study of Higher and Postsecondary Education Room 2002 University of Michigan Ann Arbor, MI 48109-1259 Phone: 734.764.9472 Fax: 734.764.2510 edstjohn@umich.edu	William E. Becker Professor of Economics Department of Economics Wylie Hall 341 Indiana University Bloomington IN 47405 (812) 855-3577 beckerw@indiana.edu	Lawrence S. Davidson Professor of Business Economics and Public Policy Kelley School of Business Room 436 Bloomington IN 47405 (812) 855-2773 davidso@indiana.edu

b. Edward St. John

Edward P. St. John, Ed.D., is a professor in the Center for Higher and Postsecondary Education at the University of Michigan. Formerly a professor in the Department of Educational Leadership and Policy Studies at Indiana University, he has published numerous studies on the impact of public finance and educational policies on education opportunity in both K-12 and higher education. Dr. St. John's recent books include *Refinancing the College Dream: Access, Equal Opportunity and Justice for Taxpayers* (John Hopkins University Press, 2003) and (co-edited with Michael Parsons) *Public Funding of Higher Education: Changing Contexts and New Rationales* (JHUP, 2004). Dr. St. John has also co-edited *Incentive-Based Budgeting in Public Universities* (Edward Elgar, 2002) and *Reinterpreting Urban School Reform: Have Urban Schools Failed or Has Reform Failed Urban Schools?* (SUNY Press, March 2003). In 2004, Dr. St. John was named series editor for *Readings of Equal Education* and edited a volume of this annual, *Public Policy and College Access: Investigating the Federal and State Roles in Equalizing Postsecondary Opportunity* (AMS Press, 004). He has received the Robert P. Huff Golden Quill Award from the National Association of Student Financial Aid Administrators and the Leadership Award from the Association for the Study of Higher Education. Previously, St. John served as a faculty member at the University of Dayton, the University of New Orleans, and the University of New England (Australia). He also held policy analyst positions with the U. S. Department of Education and the Missouri Department of Higher Education and served as a senior manager in two consulting firms. He holds an Ed. D. from Harvard and M. Ed. and B. S. degrees from the University of California, Davis.

CURRICULUM VITA: EDWARD P. ST. JOHN

I. EDUCATION

Ed. D. Harvard University, Graduate School of Education, Administration, Planning and Social Policy, 1978.

M. Ed. University of California, Davis, Agricultural Education, 1974.

B. S. University of California, Davis, Applied Behavioral Sciences, 1973 (Honors).

II. CURRENT PROFESSIONAL EXPERIENCE

University of Michigan, School of Education, Ann Arbor (Effective January 2005)

2005 Professor, Center for Study of Higher and Postsecondary Education

2005 Collegiate Chair, School of Education

Indiana University, School of Education, Bloomington, Indiana

1998-2004	Professor, Department of Educational Leadership and Policy Studies
Spring 2003	Sabbatical Leave
1999-2002	Program Chair, Higher Education and Student Affairs Program
1998-2002	Director, Indiana Education Policy Center
Fall 1997	Consultant, Acting Director, Indiana Education Policy Center

III. RECENT PUBLICATIONS

A. Books and International Monographs

1. Books

In Preparation

St. John, E. P. and Associates. Education and the Public Interest: School Reform, Public Finance, and Access to College. (Under contract agreement with Kluwer Press).

Priest, D. & St. John, E. P. (Eds.) Privatization and Public Institutions of Higher Education: Implications for the Public Trust. (Under contract with Indiana University Press).

St. John, E. P. Diverse Pathways: The Roles of Financial Aid and Student Involvement in Expanding Educational Opportunity. (Approved by Bill & Melinda Gates Foundation; Book manuscript under review by Johns Hopkins University Press.)

St. John, E. P. (Ed.) Improving Diversity on Campus: Research on the Gate Millennial Scholarship Program, Reading on Equal Education, vol. 20. New York: AMS Press.

In Press

St. John, E. P. & Parsons, M. D. (Eds.) (in press) Public Funding of Higher Education: New Contexts, New Rationales. Baltimore: Johns Hopkins University Press.

St. John, E. P. (Ed.) (in press) Public Policy and College Access: Investigating the Federal and State Roles in Equalizing Postsecondary Opportunity. Volume 19, Readings on Equal Education. New York: AMS Press.

Published

Stage, F. K., Carter, D. F., Hossler, D. & St. John, E P. (Eds.) (2003) Theoretical Perspectives on College Students. ASHE Reader Series. Boston: Pearson.

St. John, E. P., Loescher, S. A., & Bardzell, J. S. (2003). Improving Reading and Literacy in Grades 1-5: A Resource Guide for Programs that Work. Thousand Oaks, CA: Corwin.

Miron, L F. & St. John, E. P. (Eds.). (2003) Reinterpreting Urban School Reform: Have Urban Schools Failed, or Has the Reform Movement Failed Urban Schools? Albany, NY: SUNY Press.

St. John, E. P. (2003). Refinancing the College Dream: Access, Equal Opportunity, and Justice for Taxpayers. Baltimore: Johns Hopkins University Press.

Priest, D. M., Becker, W. E., Hossler, D., & St. John, E. P. (Eds.) (2002). Incentive-Based Budgeting Systems in Public Universities. Northampton, MA: Edward Elgar.

3. Monographs

St. John, E. P., Chung, C. G., Musoba, G. D., Simmons, A. D., Wooden, O. S., & Mendez, J. (2004). Expanding College Access: The Impact of State Finance Strategies. Indianapolis: Lumina Foundation for Education.

St. John, E. P., Musoba, G. D., Simmons, A. B., & Chung, C. G. (2002). Meeting the Access Challenge: Indiana's Twenty-first Century Scholars Program. New Agenda Series, vol. 4, no. 4. Indianapolis: Lumina Foundation for Education.

1. Book chapters

In press

St. John, E. P., Chung, C. G., Musoba, G. D., & Simmons, A. D., C. G. (in press) Financial access: The impact of state finance strategies. In St. John, E. P. (Ed.) Public Policy and College Access: Investigating the Federal and State Roles in Equalizing Postsecondary Opportunity. Volume 19, Readings on Equal Education. New York: AMS Press.

S. John, E. P., Musoba, G. D., & Chung, C. G. Academic access: The impact of state education policies. In St. John, E. P. (Ed.) Public Policy and College Access: Investigating the Federal and State Roles in Equalizing Postsecondary Opportunity. Volume 19, Readings on Equal Education. New York: AMS Press.

St. John, E. P. & Parsons, M. D. (in press). Introduction. In E. P. St. John and M D. Parsons (Eds.) *Public Funding for Higher Education: Changing Contexts and New Rationales.* Baltimore: Johns Hopkins University Press.

St. John, E. P. & Chung, C. G. (in press). Merit and equity: Rethinking award criteria for the Michigan Scholarship Program. In E. P. St. John and M D. Parsons (Eds.) *Public Funding for Higher Education: Changing Contexts and New Rationales.* Baltimore: Johns Hopkins University Press.

St. John, E. P. (in press). Policy research and political decisions. . In E. P. St. John and M D. Parsons (Eds.) *Public Funding for Higher Education: Changing Contexts and New Rationales*. Baltimore: Johns Hopkins University Press.

St. John, E. P. & Cadray, J. P. (In press). Justice and care in post-desegregation urban schools: Rethinking the role of teacher education programs. In V. Siddle Walker & J. Snarey (Eds.) Racing moral formation: African American Voices on Care, Justice, and Moral Education. New York: Teachers College Press.

2. Journals: Articles

In Press

St. John, E. P., Paulsen, M. B., & Carter, D. F. (in press). Diversity, college costs, and postsecondary opportunity: An examination of the College Choice-Persistence Nexus for African Americans and Whites. *Journal of Higher Education.*

St. John, E. P., Musoba, G. D., Simmons, A. Chung, C-G., Schmit, J., Peng, C-Y. J. (in press). Meeting the Access Challenge: An Examination of Indiana's Twenty-first Century Scholars Program. *Research in Higher Education*, 45(8). (Dec, 2004)

IV. RECENT GRANTS AND CONTRACTS

Principal Investigator: Indiana University

2003 Indiana Project on Academic Success, Funded by Lumina Foundation for Education, December 2003, $1.2 million.

2002 Postsecondary Pathways Project: Analyses of College Board Data on Student Achievement and Related Indiana and National Databases, Funded by the Indiana Commission for Higher Education with a grant from the Lumina Foundation for Education, July 2002, $130,000.

2002 Studies of State Financial Indictors for Higher Education, Lumina Foundation, January 2002 through December 2004, $313,000.

2002 Study of Research-Based Reading Reform, Indiana Department of Education (Co-Principal Investigator with Jonathan Plucker), $135, 000.

2002 Comprehensive School Reform Demonstration, Evaluation for State of Michigan (Co-Principal Investigator with Jonathan Plucker), February 2002 through September 2002, $80,000.

2002 Evaluation of Kentucky's Family Literacy Program, National Center for Family Literacy, March 2002 through December 2002, (Co-Principal Investigator with Ada B. Simmons), $55,000.

2002 Multi-State Study of Comprehensive School Reform, North Central Regional Educational Laboratory, March 2002 through December 2002, $80,000.

2001 Support for Studies of Higher Education Finance, Indiana University Chancellor's Fund, August 2001 through July 2002, $50,000.

2001 Study of Indiana's Twenty-first Century Scholar's Program. Funded by the Lumina Foundation. September 2001 through June 2002. $41,500.

2001 Multiple Award Task Order Contract (Subcontract with AQUAS, Inc.). U. S. Department of Education (agency wide contracting agreement). (Value to be determined.)

2001 Post-Masters Scholarship Program for Institutional Researchers. Planning Grant ($15,000) for the Association of Institutional Research and the National Center for Statistics. (Co-PI with George Kuh and Vic Bordon).

2001 Early Literacy Grant Program Evaluation Study. Indiana Department of Education, $130,000.

2001 Evaluation of Kentucky Family Literacy Initiative. National Center for Family Literacy. $55,000 (Co-PI with Ada Simmons)

2001 Michigan Comprehensive School Reform Evaluation. (Subcontract with North Center Regional Educational Laboratory). $80,000. (Co-PI with Glenda Musoba)

2000 Michigan and Wisconsin Studies of Comprehensive School Reform. (Subcontract with the North Central Regional Educational Laboratory) $120,000. (Co-PI with G. Manset)

2000 Analytic Support for the Indiana Legislature. $200,000 appropriation. (Co-PI with N. Theobald)

2000 Review of Comprehensive School Reform Models. Minnesota Department of Children, Families, and Learning and North Central Regional Educational Laboratory. $30,000.

1998-2000 Studies of Early Literacy Intervention Grant Program, Indiana Department of Education. Three grants totaling about $450,000 in the first three years. (PI, 1998. Co-PI with G. Manset, 1999 and 2000)

1998-2000 Follow-up Study of Alternative and Residential Services, Indiana Department of Education. Two grants totaling over $300,000. (Co-PI with Russ Skiba.)

1997-2000 Improving Indiana's Capacity in Education Finance, Indiana University Strategic Directions Initiative. $187,000. (Co-PI with Barry Bull)

1997-2001 Indiana Education Policy Center Transition Grant, Lilly Endowment. $375,000. (Co-PI with Barry Bull) *c.* *Robert K. Toutkoushian*

Dr. Robert K. Toutkoushian is an Associate Professor in the Department of Educational Leadership and Policy Studies at Indiana University, where he teaches courses in education finance and the economics of education. .He received his Ph.D. in economics with a specialization in econometrics from Indiana University in 1991. Prior to his current academic position, Dr. Toutkoushian worked in the field of institutional research for thirteen years. From 1990 to 1996, he served as a Research Associate in the Office of Planning and Analysis at the University of Minnesota. In this capacity, Dr. Toutkoushian conducted a number of studies relating to faculty compensation and was responsible for the analytical work at the campus to examine pay policies and gender equity at the institution. From 1996 to June 2003, he served as the Executive Director for the Office of Policy Analysis at the University System of New Hampshire. Dr. Toutkoushian continued to conduct research into the compensation and employment practices of faculty, with a particular focus on inequities by gender, race/ethnicity, family status, and age. He has also conducted research on student choice and the demand for higher education.

Dr. Toutkoushian has conducted a significant amount of research on the topic of pay equity for faculty by gender, race, and family status. Since 1994, has published nearly thirty studies in peer-reviewed journals and edited volumes, with most of these publications relying on quantitative analyses of education data. These studies have used a wide range of statistical techniques to look at education problems at the K-12 through postsecondary levels. Dr. Toutkoushian has taught courses in statistics at both the undergraduate and graduate levels at Indiana University, the University of Minnesota, and the University of New Hampshire. In addition, he has written ancillary materials for statistics textbooks including a study guide. Currently, Dr. Toutkoushian serves as the Associate Editor for the journal New Directions for Institutional Research, and is routinely asked to evaluate quantitative-based articles submitted for publication consideration in leading education journals including the Journal of Higher Education, Research in Higher Education, and Economics of Education.

CURRICULUM VITAE: ROBERT K. TOUTKOUSHIAN

EDUCATION:

Ph.D., Economics, Indiana University, 1991 (fields of specialization: statistics, finance)
M.A., Economics, Indiana University, 1986
B.A., Economics, Indiana University of Pennsylvania, 1984

RECENT WORK HISTORY:

2003 – present:
Associate Professor, Department of Educational Leadership and Policy Studies, School of Education, Indiana University.
Conduct research on a wide range of issues pertaining to K-12 and higher education. Teach courses on educational finance and the economics of education. Work with representatives at the state level to examine funding for K-12 education in Indiana.

1996 – 2003:
Executive Director, Office of Policy Analysis, University System of New Hampshire
Responsible for planning, conducting, and reporting studies related to all aspects of the University System of New Hampshire, providing leadership in identifying relevant higher education issues to study, and participating in the planning and policy-related agenda for the Board of Trustees.

1997 - 2003:
Adjunct Faculty Member, Department of Economics, University of New Hampshire
Taught courses in Labor Economics to bachelor-level students and Econometrics II to doctoral-level students during this period.

2000 - 2003:
Lecturer, College for Lifelong Learning, University System of New Hampshire
Taught courses in Introduction to Statistics and Principles of Economics to bachelor-level adult students during this period.

1990 - 1996:
Research Associate, Office of Planning and Analysis, University of Minnesota
Responsibilities included developing research projects, maintaining large databases on faculty and staff, supervising staff in the completion of studies, performing statistical analyses, and writing and presenting reports based on the findings from these studies. Specific studies of note include analyses of pay equity for faculty and staff at the University of Minnesota, identifying key determinants of faculty citation behavior, examining the effects of higher education financing formulas, and the determinants of student success and graduate program reputations.

RECENT PUBLICATIONS IN PEER-REVIEWED JOURNALS:

Toutkoushian, R. K., & Curtis, T. (in press). The effects of socioeconomic factors on public high school outcomes and rankings: Evidence from New Hampshire. Forthcoming, Journal of Educational Research.

Toutkoushian, R. K., & Conley, V. C. (in press). Progress for women in academe, but inequities persist: Evidence from NSOPF:99. Forthcoming, Research in Higher Education.

Toutkoushian, R. K., Porter, S., Danielson, C., & Hollis, P. (2003). Using publication counts to measure an institution's research productivity. Research in Higher Education, 44, 121-148.

Toutkoushian, R. K., & Bellas, M. L. (2003). The effects of part-time employment and gender on faculty earnings and satisfaction: Evidence from the NSOPF:93. The Journal of Higher Education, 74, 172-195.

Toutkoushian, R. K., & Smart, J. C. (2001). Do institutional characteristics affect student gains from college? The Review of Higher Education, 25, 39-61.

Toutkoushian, R. K. (2001). Changes in the demand for public land-grant universities: The use of panel datasets. Research in Higher Education, 42, 679-709.

Toutkoushian, R. K. (2001). Do parental income and educational attainment affect the initial choices of New Hampshire's college-bound students? Economics of Education Review, 20, 245-262.

Toutkoushian, R. K. (2000). Addressing gender equity in nonfaculty salaries. Research in Higher Education, 41, 417-442.

Bellas, M. L., & Toutkoushian, R. K. (1999). Faculty time allocations and research productivity: Gender, race and family effects. The Review of Higher Education, 22, 367-390.

Toutkoushian, R. K. (1999). The status of academic women in the 1990s: No longer outsiders, but not yet equals. The Quarterly Review of Economics and Finance, 39 (Special Issue), 679-698.

Toutkoushian, R. K. (1999). The value of cost functions for policymaking and institutional research. Research in Higher Education, 40, 1-16.

Toutkoushian, R. K. (1998). Racial and marital status differences in faculty pay. The Journal of Higher Education, 69, 513-541.

Toutkoushian, R. K., & Hollis, P. (1998). Using panel data to examine legislative demand for higher education. Education Economics, 6, 141-157.

RECENT PUBLICATIONS IN EDITED VOLUMES:

Toutkoushian, R. K. (in press). Economics, theories of, impact on education. Forthcoming, in F. W. English (Ed.), Encyclopedia of Educational Leadership and Administration. Thousand Oaks, CA: Sage Publications.

Toutkoushian, R. K. (in press). Regression analysis for institutional research. Forthcoming, in M. Coughlin (Ed.), Intermediate/Advanced Statistics for Institutional Research. Tallahassee, FL: Association for Institutional Research.

DesJardins, S., & Toutkoushian, R. (in press). Are students really rational? The development of rational thought and its application to student choice. In J. Smart (Ed.), Higher Education: Handbook of Theory and Research, Volume XX. The Netherlands: Kluwer Academic Publishers.

Toutkoushian, R. K. (2003). Weathering the storm: Generating revenues for higher education during a recession. In F. K. Alexander and R. Ehrenberg (Eds.), Maximizing Revenue for Higher Education. (pp. 27-40). New Directions for Institutional Research, no. 119. San Francisco: Jossey-Bass.

Toutkoushian, R. K. (2003). Editor's notes. In R. K. Toutkoushian (Ed.), Unresolved Issues in Conducting Salary-Equity Studies (pp. 1-3). New Directions for Institutional Research, no. 117. San Francisco: Jossey-Bass.

Becker, W. E., & Toutkoushian, R. K. (2003). Measuring gender bias in the salaries of tenured faculty members. In R. K. Toutkoushian (Ed.), Unresolved Issues in Conducting Salary-Equity Studies (pp. 5-20). New Directions for Institutional Research, no. 117. San Francisco: Jossey-Bass.

Toutkoushian, R. K. (2003). What can labor economics tell us about the earnings and employment prospects for faculty? In J. C. Smart (Ed.), Higher Education: Handbook of Theory and Research, Volume XVIII (pp. 263-321). The Netherlands: Kluwer Academic Publishers.

EDITED BOOKS:

Toutkoushian, R. K. (Ed.). (2003). Unresolved Issues in Conducting Salary-Equity Studies. New Directions for Institutional Research, no. 117. San Francisco: Jossey-Bass.

Toutkoushian, R. K. (Ed.). (2002). Conducting Salary-Equity Studies: Alternative Approaches to Research. New Directions for Institutional Research, no. 115. San Francisco: Jossey-Bass.

RECENT PRESENTATIONS AT ACADEMIC CONFERENCES AND MEETINGS:

Toutkoushian, R., and Theobald, N. (2004, November). The theory and practice of setting nonresident and resident undergraduate tuition and enrollments at public institutions. Paper presented at the meeting of the Association for the Study of Higher Education, Kansas City, MO.

Toutkoushian, R. K. (2004, October). The Economics of Higher Education's Role in Meeting the Workforce Needs of States and Nations. Paper presented at the Workshop for Institutional Research and Contemporary University Administration, Wuhan, China, October 2004.

Toutkoushian, R., and Theobald, N. (2004, June). The theory and practice of setting nonresident and resident undergraduate tuition and enrollments at public institutions. Paper presented at the meeting of the Association for Institutional Research, Boston, MA.

Toutkoushian, R. K., & Curtis, T. (2004, March). Do schools make a difference? The effects of socioeconomic factors on student outcomes in New Hampshire's public high schools. Paper presented at the meeting of the American Education Finance Association, Salt Lake City, UT.

Toutkoushian, R., and Theobald, N. (2004, March). Theoretical perspectives on setting nonresident and resident undergraduate tuition and enrollments at public institutions. Paper presented at the meeting of the American Educational Finance Association, Salt Lake City, UT.

Toutkoushian, R. K., & Conley, V. C. (2003, November). Progress for women in academe, but inequities persist: Evidence from NSOPF:99. Paper presented at the meeting of the Association for the Study of Higher Education, Portland, OR.

Toutkoushian, R. K., & Conley, V. C. (2003, May). Progress for women in academe, but inequities persist: Evidence from NSOPF:99. Paper presented at the meeting of the Association for Institutional Research, Tampa, FL.

Toutkoushian, R. K. (2003, May). Alternatives for measuring the unexplained wage gap. Paper presented at the meeting of the Association for Institutional Research, Tampa, FL.

Toutkoushian, R. K. (2002, November). Alternatives for measuring the unexplained wage gap. Paper presented at the meeting of the Association for the Study of Higher Education, Sacramento, CA.

Toutkoushian, R. K. (2002, July). Institutional research productivity and the connection to student quality and overall reputation. Paper presented at the meeting of the Western Economics Association, Seattle, WA.

Toutkoushian, R. K., & Curtis, T. (2002, June). Do schools make a difference? The effects of socioeconomic factors on student outcomes in New Hampshire's public high schools. Paper presented at the meeting of the Association for Institutional Research, Toronto, Canada.

Toutkoushian, R. K., & Porter, S. (2002, June). Using publication counts to measure an institution's research productivity. Paper presented at the meeting of the Association for Institutional Research, Toronto, Canada.

PROFESSIONAL ACTIVITIES:

Editorial Appointments:
Editor-in-Chief, *New Directions for Institutional Research*, 2005-2010
Associate Editor, *New Directions for Institutional Research*, 2003-2005
Consulting Editor, *Research in Higher Education*, 1998-

Reviewed Articles for:
Research in Higher Education
The Journal of Higher Education
The Review of Higher Education
Economics of Education Review
Journal of the American Statistical Association

Elected Positions for Professional Organizations:
Chairperson, AIR Publications Committee, 2000-2003
Member, AIR Board of Directors, 2000-2003

Committee Memberships for Professional Organizations:
Member, AIR Professional Development Services Committee, 1998-2000
Member, AIR Forum Publications Editorial Advisory Committee, 1999-2000
Member, NEAIR Steering Committee, 1999-2001
Chairperson, NEAIR Grants Committee, 1999-2001
Member, National Postsecondary Education Cooperative Council, 1999-2001
Member, NSOPF:04 Technical Review Panel, 2002-
Member, AIR Grants Review Committee, 2002-2003
Member, ASHE Technology Committee, 2003

Other Activities for Professional Organizations:
Faculty Member, AIR Statistics Institute, 1998, 1999, 2001
Director, AIR Foundations Institute, 1998, 1999

7. Budget

GRANT PROJECT TITLE:

For-Profit Colleges – an Opportunity for Under-Served? Analysis of educational and economic outcomes for proprietary students.

Stipend and Health Insurance

Principal Investigator	10 0.5-FTE academic year months @ 1,268/mo	$12,683
	Health Insurance	$967
Total salary expenditures		*$13,650*

Travel Expenses

AIR 2006 Annual Forum		
Total AIR meeting expenses		$1,350
Total conference expenses		*$2,500*
Total amount requested		**$15,000**

8. Current and Pending Support

The proposed project has not been previously, and is not currently funded. This proposal will also be submitted to the American Educational Research Association (AERA) and to the National Association of Student Financial Aid Administrators Association (NASFAA) in order to defray direct costs of the project, not accounted for in the proposed budget.

9. Facilities, Equipment, and Other Resources

As a Research Associate at Indiana Project on Academic Success (IPAS), the investigator has access to a personal computer, software and statistical support and a laser printer. Research Fellow affiliation with the Center for Evaluation and Education Policy (CEEP) provides the right of use of NCES restricted databases. The Indiana University libraries offer a wide range of printed and on-line research resources.

10. Special Information and Supplementary Documentation

Letter of Recommendation from the Faculty Dissertation Director

GRANT PROGRAM
Association for Institutional Research
P.O. Box 2314
Tallahassee, FL 32316-2314

It is a pleasure to recommend Anna Chung for the 2005 AIR/NPEC Focused Dissertation Fellowship. I have worked with Ms. Chung for the past 10 months and serve as her Dissertation Director.

Ms. Chung has chosen to address a set of questions about the role of financial aid in promoting student academic success for students who chose to enroll in postsecondary proprietary schools. Her research focuses primarily on the economic benefits of this public investment, but she also considers issues related to academic preparation and student success in college. She proposes to use a careful econometric approach to testing the NCES databases chosen for the study.

Ms. Chung's research makes several important new contributions to the field. There have been too few studies of the proprietary sector of postsecondary education, and Ms. Chung has completed a careful review of this research. Her work will investigate the role of grants and loans in enrollment and persistence in the for-profit sector. Also, almost nothing is known about labor-market outcomes for the students in proprietary sector. Ms. Chung's research will provide much needed analysis in this field.

For her dissertation, Ms. Chung has adopted an effective three-tier structural approach, which results in: investigating the characteristics of the for-profit student population (thereby defining the selection equation for the two regression models that follow); analyzing the impact of federal financial aid on proprietary students' persistence and graduation success; and identifying labor outcomes for these students. Ms Chung has successfully presented her preliminary findings on the first stage of her research at the annual 2004 Association for the Study of Higher Education conference. Her paper may be found at ASHE Paper Depot Archives at http://www.ashe.ws/paperdepot/2004kansascity.htm .

During the past several months Ms. Chung has also worked as a research associate on a study I have directed on high school students in the class of 2000 who enrolled in colleges in Indiana. Her work with this longitudinal large-scale database has been of exceptional quality. Ms. Chung has completed logistic and multinomial regressions, as well as data management tasks, such as merging, sampling and variable recoding. She has produced well-written reports for colleges regarding the analyses and will be a co-author on several project papers. Ms. Chung is very well qualified to complete the research outlined in her grant proposal.

Please contact me if I can provide any further information in support of this proposal or answer any questions about Ms. Chung's preparation. My phone number is 734-647-2013.

Sincerely,

Edward P. St. John

Professor