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**A Case Study of the impact of the -NY-SUNY 2020 Challenge
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A Case Study of the impact of the -NY-SUNY 2020 Challenge Grant Program Act on Public
College enrollment

By

Mekaj Daniel

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of the requirements for the degree of
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Thesis Sponsors:

May 1, 2017

Randall Filer

Date

First Reader

May 1, 2017

Partha Deb

Date

Second Reader

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ABSTRACT

In 2011, Governor Andrew Cuomo of New York signed into law NY Senate Bill S5855 establishing the NY-SUNY 2020 Challenge Grant Program Act. This legislation limited year-over-year resident undergraduate tuition increases in the City University of New York (CUNY) and State University of New York (SUNY) systems to a maximum of three hundred dollars (\$300) per year from the 2011/2012 school year to 2015/2016. It also mandated that increases in nonresident undergraduate tuition not exceed 10 percent over the previous year. In addition to the tuition cap, a tuition credit is provided to students whose annual resident undergraduate rate of tuition exceeds five thousand dollars. In order to evaluate the impact of this State led policy on undergraduate enrollment in New York State, the IPUMS-CPS data set for New York, New Jersey, Connecticut and Massachusetts for the period of 2007 to 2014 was used. This study found that state imposed tuition cap and discount in New York State resulted in an increase in overall undergraduate enrollment, with a marked increase in enrollment in Private Colleges.

INTRODUCTION

All else equal, a rational prospective undergraduate student would be disposed to enroll in a SUNY or CUNY Public College under the 2020 Challenge Grant Program Act; which combined a tuition discount and a tuition cap, with a goal of mitigating unpredictable and sudden tuition hikes and providing rationality and predictability to the tuition system. This would allow for students and families to financially prepare for college with the benefit of reduced rates.

This study reveals that although there was an overall increase in undergraduate enrollment, there was a greater increase in undergraduate enrollment in Private Colleges than Public Colleges. This paper assesses the effect of the NY-SUNY 2020 Challenge Grant Program Act on undergraduate student enrollment from the Fall 2011 to the Fall 2014 semesters in public colleges in New York State. The importance of an assessment of this initial state driven policy is necessary to evaluate the true impact of the initiative, and provide an empirically grounded understanding that could assist in predicting the outcome of future policies of this nature.

LITERATURE REVIEW

This research paper analyzes the effect of the 2020 Challenge Grant Program Act, which is a unique combination of a tuition cap and a tuition discount. (NY State Senate Bill S5855 (2016, August 18)). College Board defines tuition discounting as the “average institutional aid per student divided by the published tuition and required fee rate. (Baum Tuition Discounting (September 2010)). Hubbell & Lapovsky further explain tuition discounting as institutional grants used to subsidize academic costs. (Hubbell, L. L. & Lapovsky, L NACUBO. (2004, September)). Based on this definition, a general tuition discounting policy discounts educational cost with the aim of increasing enrollment; especially, the recruitment of talented students and those who are financially constrained regardless of the type of educational institution (both public and private colleges).

Tuition discounting is a policy that maybe used strategically to attract students to enroll in school. However, Sandy Baum & Jennifer Ma (2010) reported that the ratio of institutional grant aids in the United States was higher at private institutions than at public institutions. (Baum, S., & Ma, J. (2010)). Therefore, although the tuition discounting policy is effective in both public and private colleges, it has been used mostly in private colleges. As reported by Nicholas W. Hillman, tuition discounting in private colleges dates back to the 19th century whilst tuition discounting in public colleges is a relatively new phenomenon. (Hillman, N. W. (2010, October 01)).

Hillman’s research also found that public colleges used tuition discounts strategically as an incentive for traditionally underrepresented students to enroll in college. However, he argues that although low-income students are more likely to receive tuition discounts, their discount rate

is equal to or less than their upper-income peers. He found that Public Colleges recruited a mixture of students based on race, ethnicity, residency status, academic and athletic talent and of course, need based aid. In other words, the proportion of tuition discounting received by students was not allocated fully based on financial need. One may therefore argue that a tuition policy reform like the one enacted in New York in 2011 was essential in order for all students to benefit from a quality education on a more equal basis.

Furthermore, State and Federal aid allocated to Public Colleges have failed to be on par with rising tuition costs and student enrollment levels. (Mitchell, M., Leachman, & Masterson, K. (2016, August 15)); (Weerts & Ronca, (2006)) which means that the purchasing power of institutional aid has decreased. Furthermore, colleges seemed to have no alternative but to further increase tuition to compensate for the lost state and Federal aid which may lock them into a perpetual cycle. Thus, this may have been another compelling reason for an over-haul of the tuition discounting policy by New York State since tuition fees and charges were becoming unsustainable. Therefore, this tuition policy was devised to maintain affordability especially for the lower and middle class which aims to help them better prepare financially for college. This tuition policy is unique as its implementation in 2011 at CUNY and SUNY was the first tuition policy at a State level in New York which mandated a tuition cap for all undergraduate students in addition to an annual residential tuition discount in excess of US\$ 5,000. The tuition cap is calculated based on a student's residency status whereas the tuition discount is only awarded to residents and given to individuals based on their Tuition Assistance Program (TAP) award.

Much like other tuition policy studies, this research analyzes the effect of institutional grants as a recruitment tool and its effect on enrollment. However, this research analyzes the 2020 Challenge Grant Program Act which is a unique combination of a tuition cap and discount based

on a student's residency status. Unlike other tuition policy studies, this research highlights the implications of this tuition policy in Public Colleges in terms of low acceptance rates, selection of freshmen based on high academic records, higher enrollment at Private Colleges and the marginalized middle class. This study will further analyze the enrollment of students in Public Colleges based on race, labor force, family income and sex.

SAMPLE DESIGN AND DATA

The Integrated Public Use Microdata Services (IPUMS) and the Current Population Survey (CPS) were utilized for this study. Microdata extracted from the IPUMS-CPS for the period 1962 – 2017 provided the study sample. (IPUMS-CPS. (n.d.). Retrieved (April 30, 2017)). The CPS is a monthly survey of U.S. households conducted by the United States Census Bureau for the Bureau of Labor Statistics (BLS). It provides information on a number of variables that define a society and the individuals living within it. The CPS provides data for a variety of demographic characteristics such as sex, age, marital status, educational attainment and race. It also provides estimates of employment and earnings, which include hours of work, occupation and class of work.

The CPS was initially designed to measure unemployment, however over time it has developed beyond a primary source of labor force statistics, to a collection of data for a variety of other studies. The introduction of supplemental questions to the survey allows for the production of estimates on a range of topic areas including education, income, fertility, immigration, previous work experience, health and employee benefits, for specific periods, thus significantly broadening the scope of the CPS. For example, the educational supplement was first introduced in October 1989 and has continued annually to produce education data every October. Another example is the Annual Social and Economic Supplement (ASEC) which is produced annually in March; the ASEC is the most popular data set used because of its rich information on employment, unions, health insurance and taxes.

In each U.S. State the CPS samples are divided into "primary sampling units" (PSUs), which represent in state geographical regions including metropolitan areas, large and small

counties and towns. These independent samples per state and the District of Columbia are then grouped into homogenous strata with respect to labor force and other social and economic characteristics that are highly correlated with unemployment. (Current Population Survey, CPS (October 2006)). One PSU is sampled per stratum, which initiates the first stage of sampling where the probability of selection for each PSU in the stratum is proportional to its population. The second stage involves a systematic sample of housing units drawn from each PSU; the addresses for these housing units are obtained through decennial censuses and building permits. Occasionally, a third stage of sampling is necessary when the actual "Ultimate sampling units" (USUs) size is extremely large. In those cases, the three-stage stratified sampling method divides the entire United States into USUs and selects a clustered sample of these USUs for interviewing.

The CPS employs two methods of data collection. First, members of the sample household are interviewed face-to-face or via telephone, and the information is collected by trained interviewers. Second, census questionnaires are mailed to members of the sample household to duly fill out and return. Enumerators will only contact households that do not send back completed census forms, in the event that the missing forms belong to a sample of the population that is underrepresented in the responses received. It should be noted that members of the armed forces are not included in the universe for many employment-related questions since they are not part of the civilian labor force.

The monthly CPS operates via a rotating panel design where households are interviewed for four consecutive months, then rotated out of the sample for the next eight months, then reintroduced to the sample and are interviewed for four more consecutive months. The rotating panel design allows for 50 percent of households each month to be included in the CPS during the same month one year earlier and the other 50 percent of households to be included in the CPS in

the same month one year later. The data collected from the CPS and CPS supplements are freely available to extract onto SAS, SPSS and STATA programs.

The IPUMS-CPS sample provides a scientifically sound representation of the U.S. civilian population, through a robust pool of cross sectional data that has informed the research for this paper.

MODEL: DIFFERENCE-IN-DIFFERENCE

This research seeks to answer the question, “What was the effect of the NY/SUNY 2020 Challenge Grant Program Act in Public Colleges on school enrollment for undergraduate students between the ages of 18 to 24 in New York State?” In previous studies, tuition discounts are referred to as institutional grants - financial aid that does not have to be repaid by students and consists of any grant or scholarship aid from the Federal Government such as Pell grants, State/local government grants such as the Tuition Assistance Program (TAP) and other grants or scholarships from private or nonprofit organizations and colleges. However, in this paper, tuition discounts refer to all financial aid mentioned above plus a mandatory credit for tuition fees in excess of an annual residential tuition in the amount of US\$ 5,000.00 which is calculated based on one’s TAP award. In this study, “tuition discounting” is not equivalent to or interchangeable with the standard financial aid categories explained above as “institutional grants” which was the term widely used in previous studies on the subject.

Although a tuition cap was introduced and mandated in New Jersey by bill number A552 in 2014 for public college residents, there have been no similar policies in Connecticut or Massachusetts. (Pinkin, N. J., & Webber, J. (n.d.). ASSEMBLY, No. 552). Bill number A552 mandated a 4 percent annual cap on in-state tuition and fee increases at public colleges which applies to both undergraduate and graduate tuition. It must be noted that the NY-SUNY 2020 Grant Program Act is unique since it is the first State implemented policy in New York State which comprises of both a tuition cap and tuition discount.

A significant factor that affects this policy in terms of the maximum cap applied and the amount of tuition discounting given to students is students' residency status. The IPUMS-CPS data set does not have an estimate for a student's residency status; therefore, an analysis of the percentage of residents attending SUNY and CUNY colleges was utilized and is attached in Appendix H. Also, the availability of the data for Fall 2015 for the education supplement was not available, hence, this study analyzed data for the period of Fall 2007 to Fall 2014. The study comprises of 6,009 observations (n=6, 009) between the ages 18 to 24 who are either undergraduate students enrolled in college or not in school.

A regression framework of a difference-in-difference (DID) model was used. The treated group is New York State, and it is represented by the dummy variable "*States_{it}*" which is equal to "1" if individual *i* is in this treated group. The control group comprises of Massachusetts, New Jersey and Connecticut. The variable "*Time_{it}*" is a dummy variable which is coded as "1" for the period of 2011 to 2014 which represents the implementation year of the tuition discounting policy to 2014. The period of 2007 to 2010 is coded as "0" since the policy was not implemented during these years. The difference-in-difference regression used in this study is:

$$\gamma_{it} = \beta_0 + \beta_1 States_{it} + \beta_2 Time_{it} + \beta_3 States_{it} * Time_{it} + Age_{it} + Sex_{it} + Race_{it} + Family\ Income_{it} + u_{it}$$

Based on the model above, $t = 0, 1$ (time). Treatment occurs for New York State at time 1 and the predicted change for the treated group between time $t = 1$ and $t = 0$ is as follows:

$$\gamma_{i1} - \gamma_{i0} = \beta_0 + \beta_1 + \beta_2 + \beta_3 - (\beta_0 + \beta_1) = \beta_2 + \beta_3$$

For the individuals in the control group in Massachusetts, New Jersey and Connecticut the effect is represented by:

$$\gamma_{it} - \gamma_{i2} = \beta_0 + \beta_2 - (\beta_0) = \beta_2$$

Thus, the difference between the two groups is $\beta_2 + \beta_3 - \beta_2 = \beta_3$ which is the estimate for the difference-in-difference model.

The dependent, dummy variable (γ_{it}) “Public and Private College Enrollment” estimates undergraduate student enrollment in Public and Private Colleges. It was generated as an interaction variable using variables; “Enrollment in Public and Private School” coded as a dummy variable equaling 1 for the enrollment of students in public or private schools and “Undergraduate College Student”- a dummy variable for students who are enrolled in college as a freshman, sophomore, junior or senior pursuing an undergraduate degree. This dependent variable is used to run a logit regression to identify whether the undergraduate enrollment is likely to increase.

For further analysis, a multinomial logit regression was also calculated to identify which group of undergraduate college students were more likely to enroll in an undergraduate program. The dependent variable (γ_{it}) “College Enrollment” was used to estimate “undergraduate enrollment based on public colleges, private colleges and individuals not in school”. It was generated as an interaction variable using data for “Enrollment” -enrollment of students in public, private or not in school and “Undergraduate College Student” -a dummy variable for students who are enrolled an undergraduate program.

Other variables such as age, sex, race and family income were added to the regression to control for differences across the treatment and control groups. The variable age was squared to allow the effect of differing ages, rather than assuming the effect is linear for all ages. Sex is a dummy variable which equals 1 for females and race is a dummy variable for blacks. u_{it} are the idiosyncratic errors.

RESULTS AND REGRESSIONS

The study comprises of observations from the CPS for the period of 2007 to 2014. Approximately 70 percent of respondents reside in New York and the remaining thirty percent reside across New Jersey, Connecticut and Massachusetts (Appendix A). Of the total respondents, 49.14 percent were male and 50.86 were female (Appendix B) and they fell between the ages of 18 and 24 (Appendix C).

School enrollment is reflected in Appendix D, with 33 percent of the respondents enrolled in public colleges, whilst approximately 14 percent enrolled in private colleges and 53 percent were not enrolled in school. The labor force data showed that 58 percent of total respondents were in the labor force and 42 percent were (Appendix E). More than one third (36 percent) of total respondents had a family income that fell within the \$75,000 or above range (Appendix F). As Appendix G illustrates, the most common race found in this study were whites.

The linear regression in Appendix N, shows that “Public College Enrollment” increased; the logit regression confirms that “Public and Private College Enrollment” increased. The multinomial logistic regression depicted in Appendix O clarifies that although “College Enrollment” increased, students were more likely to enroll in Private Colleges as opposed to enrolling in Public Colleges. The multinomial logistic regression also controlled for age, sex, race, labor force participation and family income.

By controlling for respondents’ age, the study found that compared to younger respondents, older respondents were less likely to enroll in Public Colleges over private colleges; and older respondents are more likely to not enroll in college over enrolling in private colleges. When

controlling for sex, female respondents are less likely to enroll in public colleges than private colleges. They are also less likely to not enroll in college than enroll in private colleges. By controlling for race, black respondents are more likely to not enroll in colleges than enroll in private colleges. However, they are more likely to enroll in public colleges than private college. By controlling for the labor force, respondents who are part of the labor force are more likely to not be enrolled in college than enrolled in private colleges. However, they are more likely to be enrolled in public colleges than private colleges. When controlling for family income, the outcome was not statistically significant; this study reveals that family income has no effect on whether a student attends a public or a private college. However, the data showed that as one's family income increases, they are less likely to not be enrolled in college than attend private college.

ANALYSIS

The study of the NY/SUNY 2020 Challenge Grant Program Act reveals that college school enrollment increased after the implementation of this policy. However, the increased enrollment was greater in Private Colleges than in Public Colleges. The results of the calculation illustrated in (Appendix I) shows a more than proportionate increase in undergraduate student enrollment in Private Colleges than Public Colleges which is consistent with the regression results reported in this study.

Further analysis reveals that Public Colleges had a low acceptance rate for prospective undergraduate students. The acceptance rate for prospective undergraduate students at CUNY has been low during the period 2011-2014 according to reports by CUNY Office of Institutional Research (2014-2015– The City University of New York) and currently at 40 percent as of Fall 2015 (How Does City College Rank Retrieved (April 30, 2017)). Also, Appendix J shows that the acceptance rates for SUNY undergraduate enrollment were also low and remained stagnant from 2011 (40 percent to 63 percent) to 2015 (39 percent to 63 percent) excepting for their Technology Colleges which ranged from 47 percent – 100 percent. The effect of capacity constraints in Public Colleges manifests in the enforcement of stricter admission requirements in

an effort to filter the high-volume of admission applications. For instance, Appendix K shows that the mean New York State SAT score was significantly lower than the mean SAT score for freshman students enrolled in SUNY. Similarly, Appendix L shows that the mean SAT and GPA scores of freshman students enrolled in CUNY increased from the period of Fall 2011 to Fall 2014.

Appendix M shows that enrollment rates in Public Colleges increased over the period of this policy. During the implementation of the NY/SUNY 2020 Challenge Grant Program Act, acceptance rates were low despite the marked increase in undergraduate Public College admission applications. One can therefore deduce that due to capacity constraints in Public Colleges, the excess demand for a Public College education was not absorbed by Public Colleges and thus colleges selected students based on high academic scores.

Prospective students who were denied admission to CUNY or SUNY public colleges, had the option to seek admission to a Private College rather than not pursuing a college education. Undergraduate in-State tuition cost at SUNY and CUNY public colleges are among the lowest in the country and range from \$4,076 to \$6,170 and \$4,500 to \$6,030 respectively per semester as of Fall 2014. (2014-2015– The City University of New York.) (SUNY FAST FACTS 2014. (n.d.). Retrieved April 30, 2017)). Students who belong to lower income families have access to Federal Pell grants or State Aid which would cover the full cost of tuition. Therefore, the likelihood of

lower income students enrolling in more expensive private colleges that they cannot afford is extremely low. This leads to the plausible conclusion that although the NY/SUNY 2020 Challenge Grant Program Act eliminated tuition hikes which made it more affordable to enroll in Public Colleges, prospective students from lower and lower-middle income families did not sufficiently benefit from the policy.

Prospective students from lower income families had the option to have their tuition covered by the traditional state and institutional grants that existed before this NY State policy was instituted, which means these prospective students derived no real benefit from NY/SUNY 2020 Challenge Grant Program Act. Tuition cost for prospective students from middle and upper income families may be similar due to discounts based on one's TAP eligibility. These discounts available to middle income families also limited the beneficial effect of the NY/SUNY 2020 Challenge Grant Program Act on this economic bracket of prospective students. Therefore, the NY/SUNY 2020 Challenge Grant Program Act was successful in stabilizing tuition costs for all prospective students in public colleges; however, that success only benefited a limited number of prospective students - those who did not already benefit from state and institutional grants, like Pell and Tap and the few who made it through the strict admissions requirements to the limited available spaces in NY public colleges.

According to a study titled “The 2016 College Affordability Diagnosis,” by researchers at Vanderbilt University, the University of Pennsylvania, and the Institute for Research in Higher Education “In 45 states, overall college affordability has declined since 2008.” (College Affordability Diagnosis. (n.d.). Retrieved (April 30, 2017.)) This statement points to the clear erosion of advantages by the lower class and mostly the middle-class when it comes to being able to afford higher education. The study states that “families earning \$50,000 to about \$69,999 per year spend, on average, 87 percent of their pretax income on living expenses.” While the preferred prerequisites of better paying job become more challenging, the burden is left to the already laden middle class to battle increasing tuition cost and fees. As the study shows, the NY/SUNY 2020 Challenge Grant Program Act was effective in reducing college cost for all students enrolled in public colleges, however consideration should be given to a policy that addresses the deficiencies brought to light in this research in order to adequately provide a benefit to prospective students from the middle class. It is important to note that the financial hardship of the middle class may further increase the inequality gap between the middle class and the upper class. It may even result in a situation where the lower class may expand to absorb the debt ridden middle class which has detrimental implications for Economic growth and development.

Through the Excelsior Scholarship announced in April 2017, New York State has now embarked on the nation's first accessible college program. According to the New York government website “more than 940,000 middle-class families and individuals making up to \$125,000 per year will qualify to attend college tuition-free at all CUNY and SUNY two- and four-year colleges in New York State.” (Tuition-Free Degree Program: The Excelsior Scholarship. (2017, April 13)).

This means that, all things being equal, even if capacity continues to be restricted, the number of students eligible for tuition discounts will increase since a fraction of the middle class who are less fortunate will now qualify for a tuition-free college.

CONCLUSION

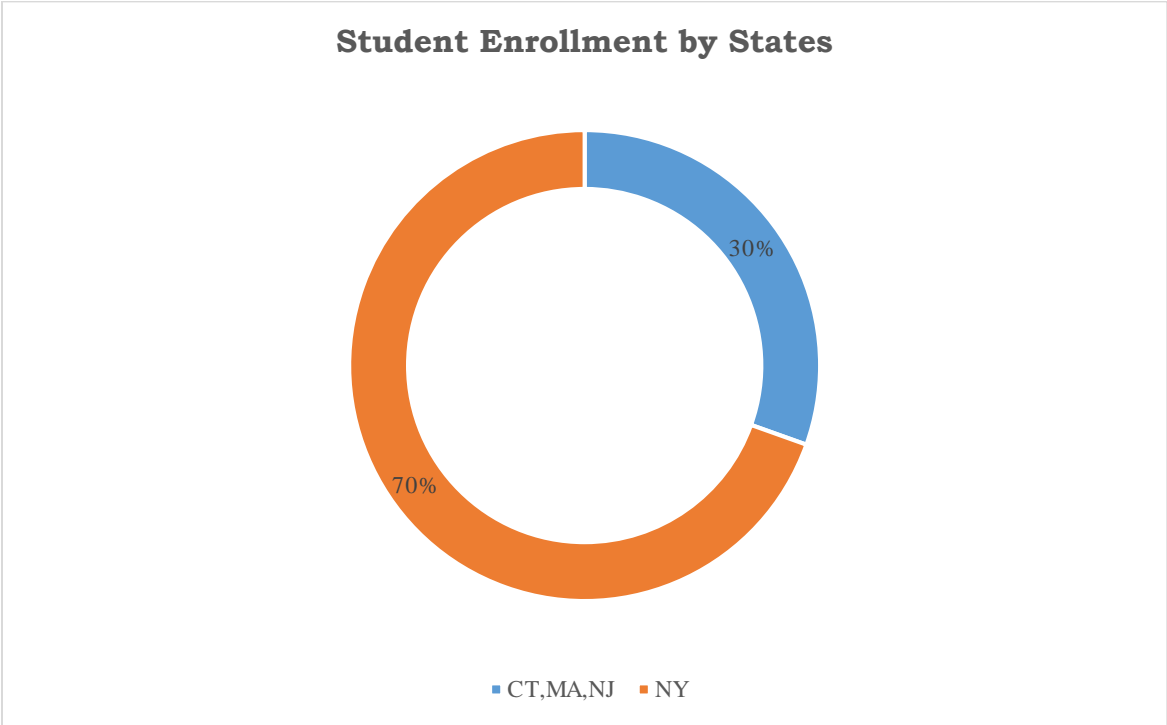
Based on this research, it can be argued that the limited enrollment capacity in Public Colleges may have contributed to the increase in the enrollment in Private Colleges over Public Colleges during the period of this study. This can be attributed to prospective students who are unable to gain admission to public college and who can afford the higher tuition costs at private colleges, choosing the more expensive option over not pursuing a college education. Also, these results are also consistent with a hypothesis that restriction of resources in the public system due to enforced low tuition made these schools less attractive alternatives to students. However, private colleges are more expensive than public colleges, students who did not gain admission to a public college and are sensitive to increases in tuition costs may be more inclined to not pursue a college education.

It is clear that the NY/SUNY 2020 Challenge Grant Program Act was effective in eliminating tuition hikes by its cap and credit approach, thereby making public college education more affordable to all prospective students on the same basis. More specifically, tuition cost for the middle and upper class may be similar, especial those students who were not eligible for TAP. In other words, this policy may have benefited the upper class more. This is because the tuition

costs of students who belonged to lower income families were already fully covered and the middle income who did not qualify for TAP regardless of their financial burden were given similar tuition credits as the upper class. The implementation of the Excelsior Scholarship will be instrumental in providing a more equal opportunity for middle class students in terms of affordability. This is because, the lower and middle class (individuals making up to \$125, 000) will be entitled to attend college tuition free.

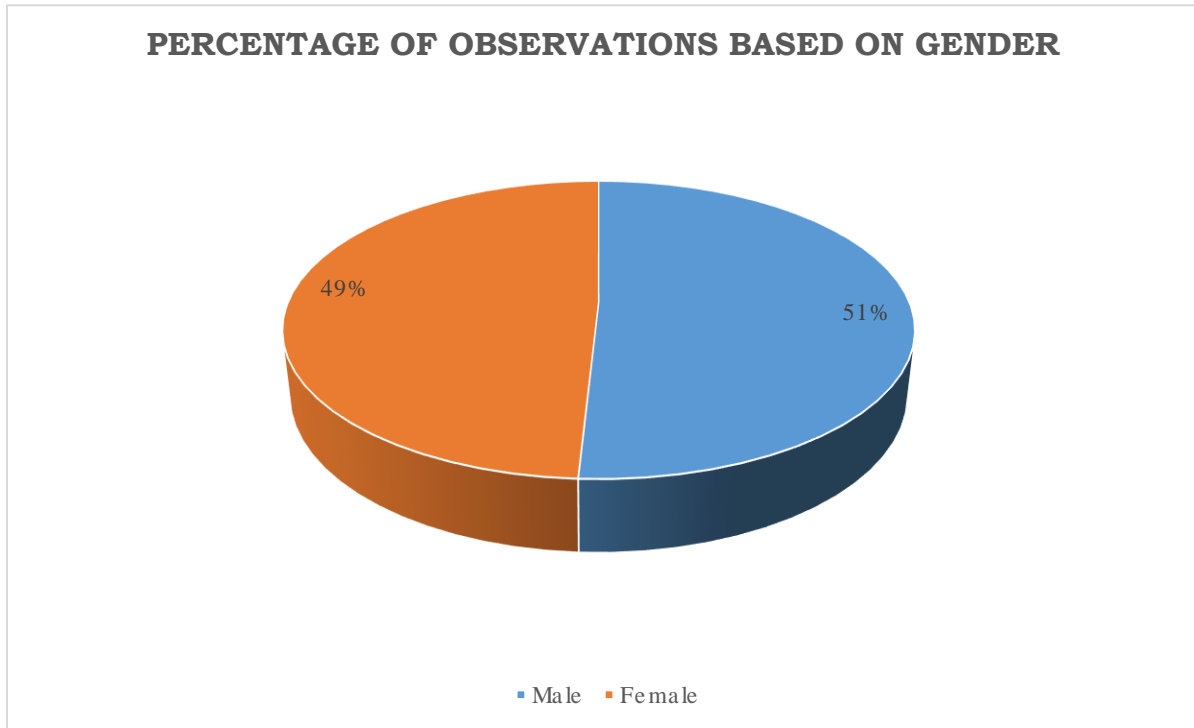
APPENDIX A

Figure 1



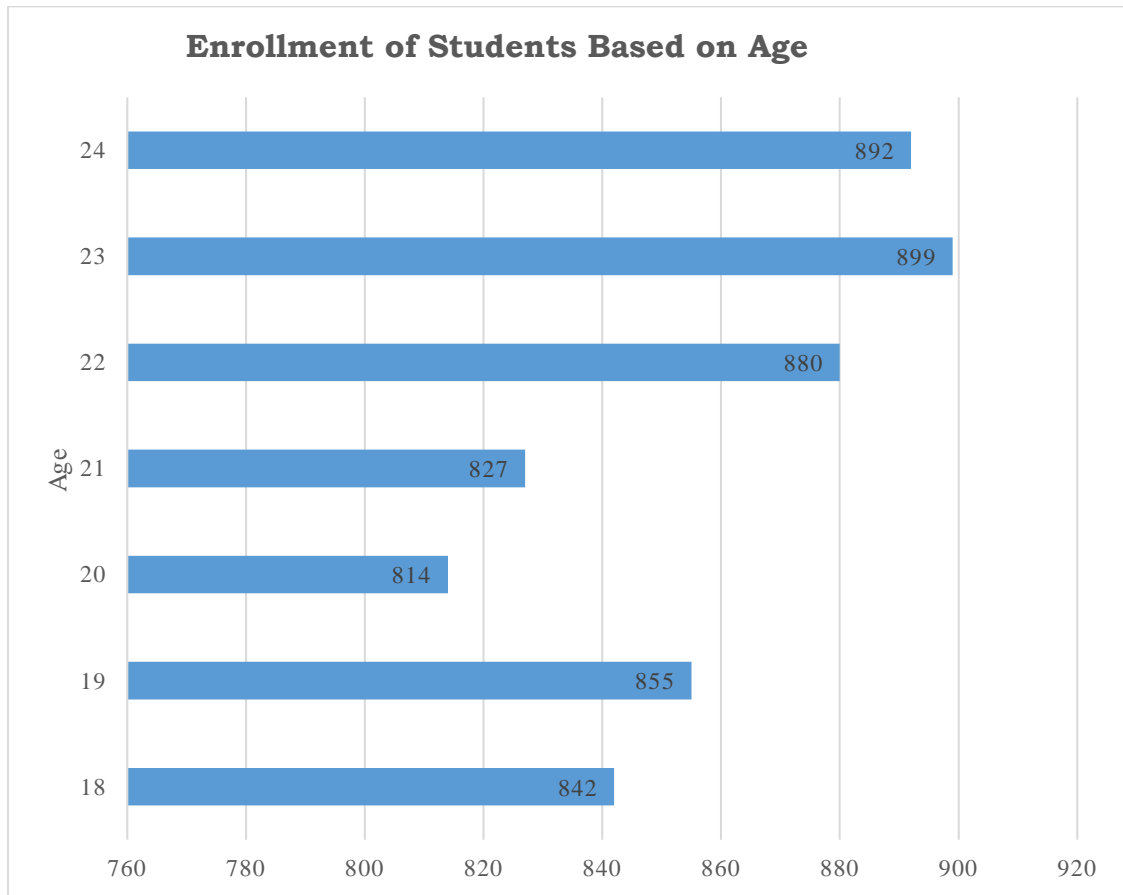
APPENDIX B

Figure 2



APPENDIX C

Figure 3



APPENDIX D

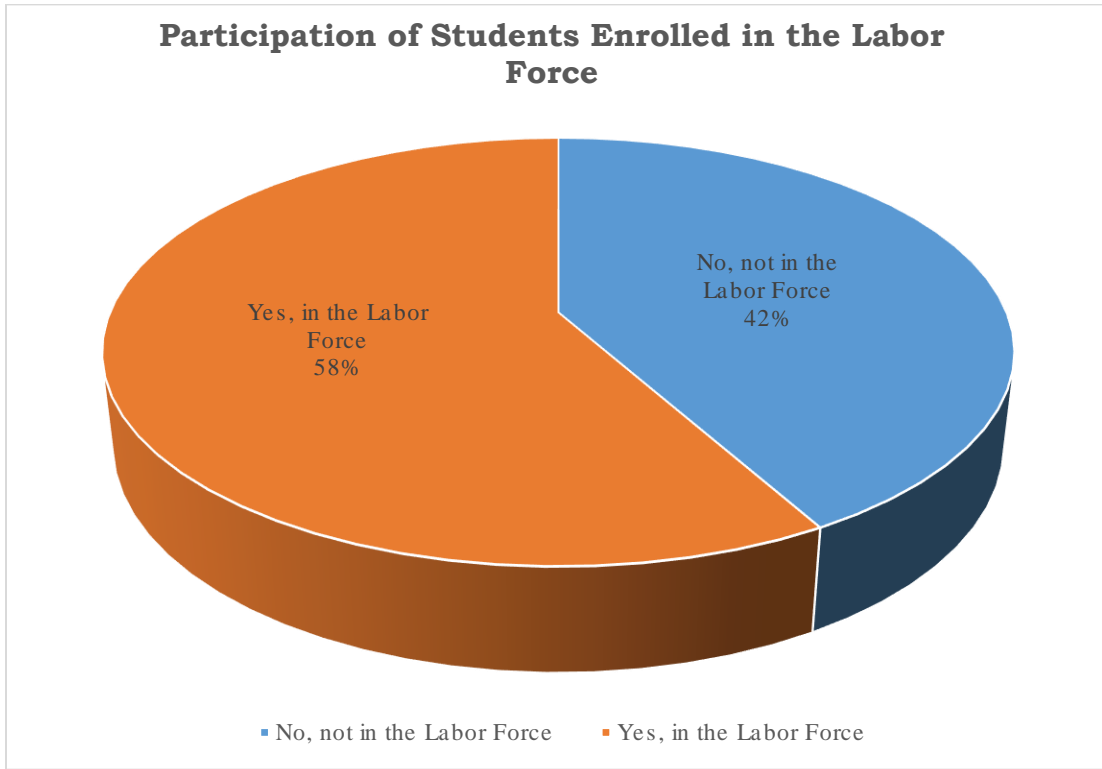
Table 1

Summary of College attendance based on categories: Public, Private and Not in college.

<u>PUBLIC</u>	2007	2008	2009	2010	2011	2012	2013	2014	TOTAL	MEAN/ YR
NY	163	148	158	160	174	169	163	172	1307	163.38
NJ/MA/CT	54	84	91	89	80	68	87	101	654	81.75
<u>PRIVATE</u>										
NY	85	69	66	62	75	93	74	67	591	73.88
NJ/MA/CT	39	30	46	39	32	20	33	20	259	32.38
<u>NOT IN COLLEGE</u>										
NY	264	286	286	332	294	305	279	235	2281	285.13
NJ/MA/CT	125	109	108	110	118	128	110	109	917	114.63
TOTAL	730	726	755	792	773	783	746	704	6009	751.13

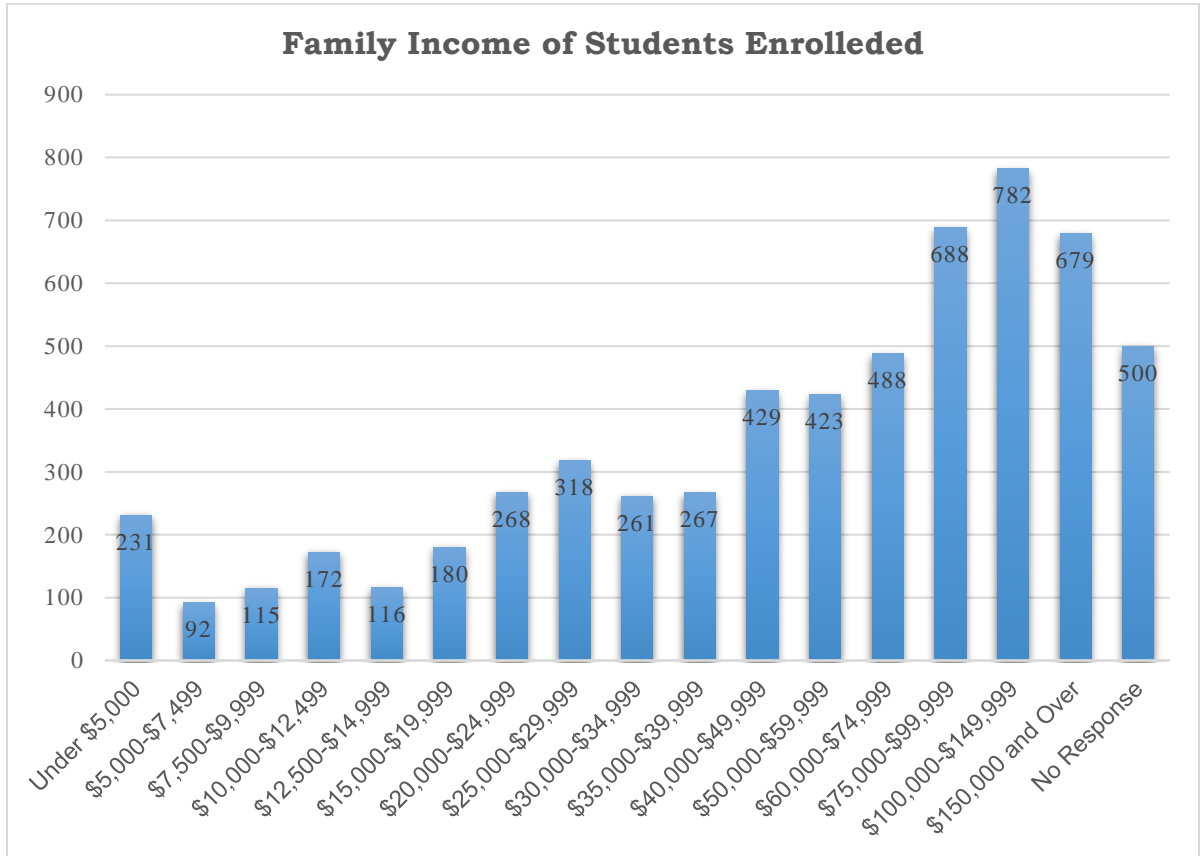
APPENDIX E

Figure 4



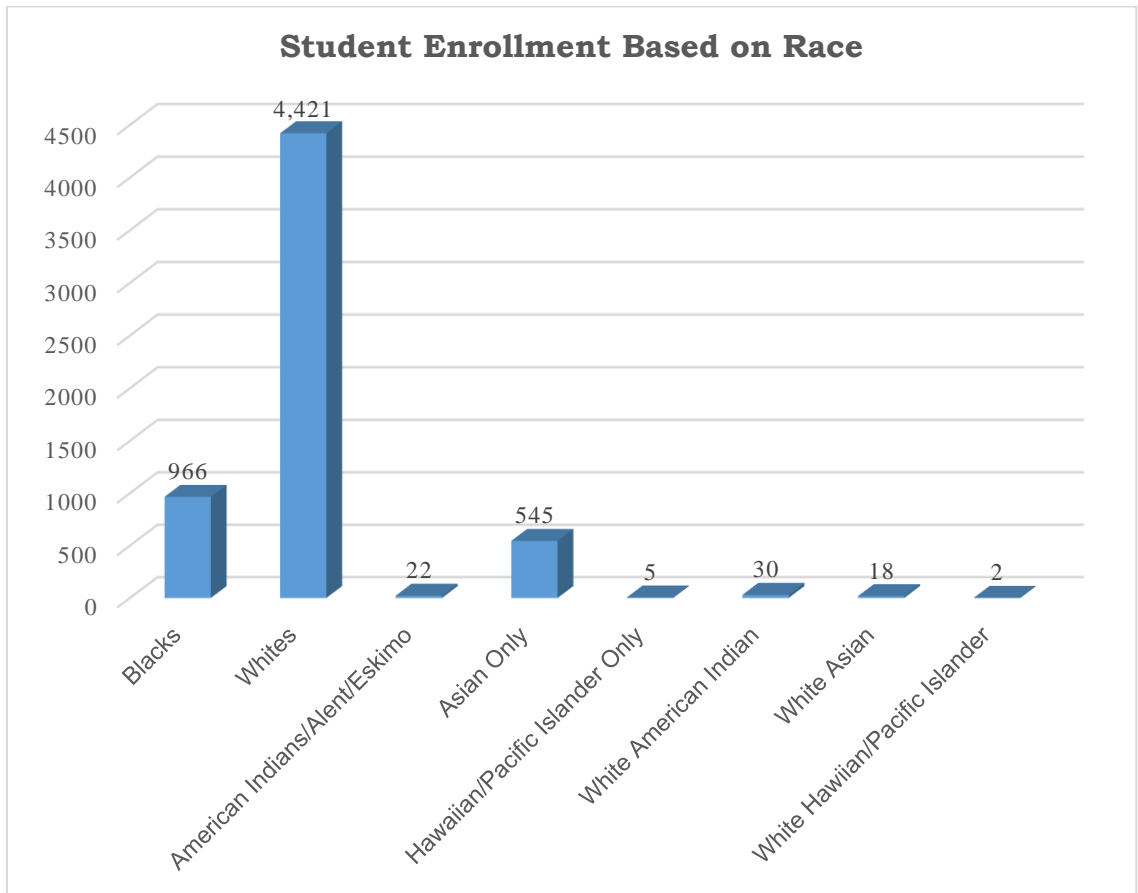
APPENDIX F

Figure 5



APPENDIX G

Figure 6



APPENDIX H

Table 2

PERCENTAGE OF RESIDENTS ENROLLED IN PUBLIC COLLEGES (2007-2014)										
YEAR		2007	2008	2009	2010	2011	2012	2013	2014	AVG
CUNY	% OF RESIDENTS		81.5	82.2	82.8	82.5	82.2	78.8	78.8	81.26
SUNY	RESIDENTS	363,468	377,388	387,583	401,053	408,186	411,027	407,540	403,306	
	TOT. ENROLLMENT	427,398	439,523	461,447	471,184	468,006	461,816	459,550	454,839	
	% OF RESIDENTS	85.04	85.86	83.99	85.12	87.22	89.00	88.68	88.67	86.70
% OF RESIDENTS ATTENDING PUBLIC COLLEGES FOR THE PERIOD 2007 TO 2014										83.98

Source: <https://data.ny.gov/Education/State-University-of-New-York-SUNY-Trends-in-Enroll/ms8i-dzsk/data>

<http://www2.cuny.edu/about/administration/offices/oira/institutional/data/student-data-book-archive/> (2011-2014)

APPENDIX

Table 3

Fall Enrollment in Public Colleges (2007-2014)

YEAR	2007	2008	2009	2010	2011	2012	2013	2014
CUNY	232,960	244,273	259,515	262,321	272,128	269,114	269,897	275,132
% Change/yr	0.00	4.86	6.24	1.08	3.74	-1.11	0.29	1.94
SUNY	427,398	439,523	461,447	471,184	468,006	461,816	459,550	454,839
% Change/yr	0.00	2.84	4.99	2.11	-0.67	-1.32	-0.49	-1.03
TOTAL	660,358	683,796	720,962	733,505	740,134	730,930	729,447	729,971
Percentage Change/yr	0.00	3.55	5.44	1.74	0.90	-1.24	-0.20	0.07

Fall Enrollment in Private Colleges (2007-2014)

	2007	2008	2009	2010	2011	2012	2013	2014
New York University	41783	42189	43404	43797	43911	44516	44599	49274
% Change/yr	0.00	0.97	2.88	0.91	0.26	1.38	0.19	10.48
Columbia University	24923	25459	26399	27606	28221	28824	29250	29870
% Change/yr	0.00	2.15	3.69	4.57	2.23	2.14	1.48	2.12
Cornell University	19800	20273	20628	20939	21131	21424	21593	21850
% Change/yr	0.00	2.39	1.75	1.51	0.92	1.39	0.79	1.19
Fordham University	8352	8456	8479	8737	9000	9015	9093	9362
% Change/yr	0.00	1.25	0.27	3.04	3.01	0.17	0.87	2.96
Ithaca College	6660	6448	6894	6949	6760	6759	6723	6587
% Change/yr	0.00	-3.18	6.92	0.80	-2.72	-0.01	-0.53	-2.02
TOTAL	101518	102825	105804	108028	109023	110538	111258	116943
% Change/yr	0.00	1.29	2.90	2.10	0.92	1.39	0.65	5.11

Source: <https://data.ny.gov/Education/State-University-of-New-York-SUNY-Trends-in-Enroll/ms8i-dzsk/data>

<http://www2.cuny.edu/about/administration/offices/oira/institutional/data/student-data-book-archive/>

http://www.columbia.edu/cu/opir/abstract/opir_enrollment_history_1.htm

<http://www.nyu.edu/employees/resources-and-services/administrative-services/institutional-research/factbook.html>

http://irp.dpb.cornell.edu/tableau_visual/factbook-enrollment

https://www.fordham.edu/download/downloads/id/7393/enrl_longitudinal_fact_book_f2016.pdf

OpeningEnrollment

APPENDIX

Table 4

Acceptance rate of Undergraduate Students - SUNY

Colleges		YEAR
Comprehensive	Technology	
40%-63%	38%-75%	2011
30%-62%	35%-83%	2012
39%-68%	47%-100%	2013
39%-63%	47%-100%	2014

Source: SUNY fast facts 2014 & 2013, SUNY & RF Fact Book 2010/2011
Financial Fact book 2015 & 2012

APPENDIX K

Table 5

Scores of Accepted freshmen - SUNY

SUNY Mean SAT Score (2011-2014)		
YEAR	Mean Score (SUNY)	Mean Score (NY State)
2011	1024-1098	
2012	1094-1220	983
2013	1089-1222	978
2014	1030-1085	861

Source: SUNY fast facts 2014 & 2013, SUNY & RF Fact Book 2010/2011
Financial Fact book 2015 & 2012, <https://data.cityofnewyork.us/Education/SAT-Results/f9bf-2cp4/data>

APPENDIX L

Table 6

Scores of Accepted freshmen - CUNY

CUNY Mean SAT & GPA Score (2011-2014)		
Colleges		YEAR
Senior	Community	
1064	74.5	2011
1076	75.3	2012
1104	75.3	2013
1105	75.5	2014

Source: CUNY Freshman Admission Profile- Fall 2011 to Fall 2014

APPENDIX M

Table 7

FALL ENROLLMENT BY CATEGORIES FOR CUNY								
	2007	2008	2009	2010	2011	2012	2013	2014
CUNY								
Other	126,65	13175	137,50	137,22	141,39	141,23	141,74	145,68
Undergraduates	1	5	2	0	1	7	6	8
Community								
Colleges	76,864	81538	88,770	91,264	97,712	96,500	97,751	99,958
Graduates	29,445	30980	33,243	33,837	33,025	31,377	30,400	29,486
TOTAL	232,960	244273	259,515	262,321	272,128	269,114	269,897	275,132
FALL ENROLLMENT BY CATEGORIES FOR SUNY								
	2007	2008	2009	2010	2011	2012	2013	2014
SUNY								
Doctoral Degree								
Granting	96945	99162	100402	100457	99156	99828	101805	105408
Comprehensive								
Colleges	90894	92825	94024	93204	92783	90908	89701	89442
Technology Colleges	25430	26541	27778	28180	28400	28073	28253	26177
Community								
Colleges	214129	220995	239243	249343	247667	243007	239791	233812
TOTAL	427398	439523	461447	471184	468006	461816	459550	454839

Source: <https://data.ny.gov/Education/State-University-of-New-York-SUNY-Trends-in-Enroll/ms8i-dzsk/data>

<http://www2.cuny.edu/about/administration/offices/oira/institutional/data/student-data-book-archive/> (2011-2014)

APPENDIX

Table 8

Linear and Logit Regressions

VARIABLES	LINEAR	LOGIT		
Public College Enrollment	0.344 ***			
Time	0.267	-0.096	-0.019	-0.04
States	-0.042 *	-0.292 ***	-0.2 *	-0.254 **
Difference-in-Difference	-0.006	0.224 *	0.249 *	0.232
Public and Private College Enrollment		0.043	2.486 ***	3.705 ***
Age			-0.007 ***	-0.005 ***
Sex			0.273 ***	0.265 ***
Race			-0.476 ***	-0.607 ***
Family Income			0.001 ***	0.001 ***
Labor Force Participation				-1.303 ***
Citizen				-0.571 ***

APPENDIX O

Table 9

Mlogit Regressions

MLOGIT (Base outcome: PRIVATE SCHOOL)					
	College Enrollment	1.077 ***	-0.77 **	-2.15 ***	
	Time	0.411 **	0.341 *	0.368 **	
	States	0.344 **	0.248 *	0.31 **	
	Difference-in-Difference	-0.551 **	-0.555 **	-0.54 **	
NOT	Age		0.005 ***	0.003 ***	
IN	Sex		-0.296 ***	-0.289 ***	
SCHOOL	Race		0.798 ***	0.959 ***	
	Family Income		-0.001 **	-0.001 ***	
	Labor Force Participation			1.567 ***	
	Citizen			0.619 ***	
	College Enrollment	0.725 ***	1.58 ***	1.329 ***	
	Time	0.438 **	0.455 **	0.455 **	
	States	0.077	0.07	0.081	
	Difference-in-Difference	-0.454 **	-0.431 *	-0.426 *	
PUBLIC SCHOOL	Age		-0.003 ***	-0.003 ***	
	Sex		-0.034	-0.034	
	Race		0.447 **	0.486 ***	
	Family Income		0.000	0.000	
	Labor Force Participation			0.38 ***	
	Citizen			0.065	

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