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College Costs and Self-Help Expenses

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Abstracts: College attendance costs are a continuous concern for students, parents, educators, and policymakers. However, most of these costs are unrelated to actual college attendance and instead reflect living costs from not working. For prospective low and middle income students the major barrier to college attendance is living costs since instructional costs are near zero after subtraction of financial aid. By confusing instructional costs with living costs, students routinely attribute their education debts to "high tuition" when 75 percent or more of this debt simply reflects personal maintenance costs during a four or five year withdrawal from the labor force.

Key words: college costs, self-help expenses

1. Introduction

In a recent essay in the *Journal of Economic Literature* Avery (2019) reviewed current views "on the causes and consequences of student debt" by Akers and Chingos (2016), Baum (2016) and Goldrick-Rab (2016). While debt consequences are explored in detail, debt causes were largely ignored. Instead, the magnitude of debt and its ramifications related to issues involving "free tuition," completion rates, advising, college choice, and so on are reviewed under the implicit assumption that tuition represents college costs. While uitiont represents the costs for colleges to provide educational services, it only partially represents the costs incurred by students to utilize those services.

The fundamental question regarding college debt is its causes, after which borrowing and repayment consequences follow. Identification of these causes are easily determined. Examination of a stylized college attendance expense and income statement for a typical student at any level shows as expenses, instructional costs such as tuition, fees, and books and living costs such as room and board, transportation, and personal expenses, while income shows grants, personal savings and assets, family contributions, loans and employment earnings. A quick review of data from the College Board (2019) reveals that college education providers are fully covering their costs but that college education consumers (students) require borrowing or working to cover their costs. Additionally, data covering the past ten years shows that average instructional costs for two year community colleges have been negative and that average tuition at four year public institutions has been a relatively small fraction of total college attendance costs. Nonetheless, in both instances college living expenses have been increasing.

When considering attending a public two or four year institution the fundamental question facing prospective students of modest means has become "how can I live without an income?" As data from the College Board (2019)

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indicates, average net tuition and fees for two year schools shown in Table 1 has been negative since 2010–11 while living costs as room and board have been greater than $8300 annually or $920 monthly for a nine month term. Recent four-year living costs are $11,100 annually or $1230 monthly, excluding an additional $3700 instructional cost. Importantly, these costs are net costs to prospective students after all scholarships, grants and gifts. It is these costs, largely composed of living costs, which students must finance as earnings or borrowings after family support, savings, or asset liquidation, that constitute the basis of college debt to attend public institutions.

Table 1 Net Tuition and Fees, Room and Board, Public Institutions

	Public Two Year			Public Four Year		
Year	NET TF	RB	%RB	NET TF	RB	%RB
1998–99	20	7,460	100	1,870	6,980	79
2010–11	-970	8,530	113	2,230	9,880	82
2014–15	-520	8,310	107	3,400	10,340	75
2018–19*	-390	8,660	105	3,740	11,140	75

**Estimated Source*: Figures 8 and 9, Trends in College Pricing 2018.

Complications surrounding financing college attendance is not necessarily tuition, but the added costs a student must bear such as covering living expenses and other necessities. Similarly, Table 1 shows two year students are paid small amounts to attend college yet their actual attendance costs are over $8,300 annually. While "free tuition" finds political favor, it does not face the realities of the college attendance decision. For example, donors in Kalamazoo Michigan established a free four year college tuition program open to local high school graduates without regard to financial standing or academic performance beyond graduation. Of 1873 eligible students from the first four years of the program, "about half went on to earn a certificate or degree (Miller, 2019)", although 11 percent never participated. Reasons for non-participation or non-completion stem from limited financial resources and inability to fund living expenses to factors including self-perception, academic preparation or interest, racial perceptions, family demands, and indecision (Bartik et al., 2016; Mitchell & Hackman, 2019). Living costs are a fundamental issue. An article in the New York Times, "Hunger on Campus: Pay Tuition or Eat," claims that 'nearly half of students at public colleges can't afford food" and explores campus issues involving food insecurity and the nationwide food-pantry movement (Laterman, 2019). While the Center for American Progress proposes in "Beyond Tuition" a grant of up $10,000 for low income students *(Center for American Progress, 2019), a Hechinger Report finds that* "sometimes politicians' lofty promises of free college are too good to be true. Students are increasingly bumping up against the fine print in free-tuition programs (Zinshteyn, 2019)" such as full time attendance and campus residence requirements.

An obvious solution for unfunded college costs is "self-help", that is working to cover expenses. The problem with this is that undergraduate students typically work in low wage jobs. Noting the federal minimum hourly wage is $7.25 but following a $14 per hour rate based on a Glassdoor (2019) employer survey of part time compensation, a two year student must work about 66 hours per month or 17 hours per week in a four week month to cover living costs. Students at four year institutions face a first dollar tuition requirement which must be initially paid or financed, after which living expenses require working 90 hours monthly or 23 hours weekly. According to the Bureau of Labor Statistics (2018) of 12.3 million students between 16 and 24 enrolled in a two or four year college as of October 2018, 5.8 million or 48 percent were employed. However, these statistics ignore employment availability, travel requirements and time obligations as well as taxes and other wage subtractions. Undertaking debt is an

obvious alternative to these work requirements, especially for students who must meet tuition barriers or live in high unemployment or employer deficit areas.

2. Living Costs

Living costs are a necessary but not sufficient condition to attend college. To finance these costs many prospective students must choose some combination of borrowing and working. In many college application forms, the magnitude of these costs is not emphasized and commonly divided into “loan” and “self-help” as if the items refer to different expenses. In perhaps the most comprehensive study of living costs, Kelchen et al. (2014, 2017) compared the composition, accuracy and consistency of institutional estimates usually prepared by Financial Aid offices against county level estimates derived from public sources such as Bureau of Labor Statistics Consumer Expenditure Surveys and MIT Living Wage Calculator (Kelchen, 2017). The study focused on off campus expenses and did not consider summer maintenance costs. While significant variability between the institutional and county level estimates was identified, about a $4,500 difference between 25th and 75th percentiles, it did not directly consider the impact of living costs on attendance costs. The College Board (2018) also prepares annual moderate and low budget living expense estimates for 24 metropolitan statistical areas (MSA) also using BLS data. Figures are somewhat larger than Kelchen et. al. (2017), averages and by their nature are limited to relatively large urban areas and ignore attendance costs.

Living costs have an obvious impact on college attendance costs and could be the determinant of initial attendance. However, they are commonly lumped with instructional costs and ignored when evaluating the economics of acquiring a higher degree. To document the role of living costs in higher education attendance, data related to college costs will be reviewed with regard to trends in national average college attendance costs, variation in costs between public and private institutions, average costs by income group, and averages for various locations across the country. Also considered are cost obligations when not attending college, that is, the implicit costs of summer “vacation”.

3. Sample and Data

There are over 4,200 institutions of higher education in the United States of varying size, orientation, endowment and location. Finding commonality among these institutions is both difficult and largely arbitrary. Rather than incorporating a comprehensive but heterogeneous sample of all two and four year public, private, certificate and for-profit institutions as adopted by Kelchen et nal. (2017), a sample of more similar four year public and private institutions was formed based on membership in the NCAA Division I men’s basketball program during the 2015–16 season. The sample is justified on basis of the ability to meet NCAA academic requirements, institutional resources and interests. Ultimately a sample of 351 colleges and universities from 32 athletic conferences was selected, of which 229 were public and 117 were private. Five universities, including three military academies, were deleted because of omitted data.

The Integrated Postsecondary Education Data System, “IPEDS” (National Center for Education Statistics, 2018) provides extensive annual cost information for all colleges and universities across the country, most recently for the 2015–16 academic year. From this dataset the Costs of instruction (COI) are defined as in-state tuition, fees plus books and supplies minus grants defined as the reported average amount of federal, state, local or institutional grant aid awarded to undergraduate students. Undergraduate grant aid is also broken down by parent income level.

Unfortunately, data related to financial aid are only available for full time, first time degree/certificate-seeking undergraduate students. Hence, the analysis of the paper will focus on this type of student. Costs of living (COL) are defined as room and board, and other expenses for full time, first time undergraduates on campus or living off campus not with family or living off campus with family. Only on campus living costs will be considered except with reference to summer living expenses. While fewer students live on campus, their room, board and living conditions likely to be more similar, unlike off campus living costs which have potential for greater variability. Actual costs differences between the two situations are about eight percent. Together, these costs yield the total cost of attendance (COA = COI + COL).

4. Attendance Costs

Attendance costs, a function of living costs and instructional costs, are determined after all discounts, grants, forgiveness related to tuition, fees, books and supplies are considered. They reflect out of pocket expenses that must be financed through loans, earnings, savings or transfers. With all prices deflated to 2015 levels, between the 2009–12 and 2015–16 (the latest years data are available) academic years, attendance costs as shown in Table 1 increased by about 11 percent, from $13,408 to $14,927 at public institutions and by about 5 percent, from $27,851 to $29,316 at private institutions. Because of significant discounting, instructional costs at public schools were only about 10 percent of total attendance costs while a much higher private school tuition structure caused these costs to be about 50 percent of total costs. Nine month living costs between the two types of institutions increased less than 10 percent from 2009 to 2015 and varied by about $1300, averaging $13,100 at public schools and $14,400 at private ones.

Table 2 Average Costs ($) of Attendance (COA), Instruction (COI) and Living (COL), Four Year Universities and Colleges; 2009–2015; (2015 prices)

	Public Institutions				Private Institutions			
Year	COA	COI	COL	%COL	COA	COI	COL	%COL
2009	13,408	1,110	12,298	92	27,851	14,297	13,554	49
2010	13,880	1,344	12,536	90	28,639	14,887	13,752	48
2011	14,628	1,983	12,645	86	28,944	15,004	13,940	48
2012	14,970	2,208	12,763	85	29,359	15,269	14,090	48
2013	15,133	2,291	12,842	85	30,005	15,624	14,380	48
2014	16,708	1,573	15,135	91	30,121	14,164	15,958	53
2015	14,927	1,716	13,211	89	29,316	14,426	14,890	51

Source: IPEDS, Authors' calculations.

As Table 1 shows, complaints about the "high cost of college" are really about the high cost living without an income. These living costs exist regardless of college attendance and should not be considered a tuition cost; rather they are simply an average maintenance cost for college aged adults. Thus, the four-year college debt of about $25,000 should be divided into two components: 30 percent or $7,500 of the debt to attend college and 70 percent or $17,500 of the debt to finance living expenses while not working. To place these percentages in perspective, about $840 billion of the current $1.2 trillion in college debt simply represents personal maintenance costs while attending college. Since all students, regardless of the institution they are attending, must bear living costs, this implies that reduced or even free tuition will not significantly reduce their college attendance costs.

5. Distributional Effects

To ensure equal access to higher education opportunities, discounts to instructional costs are partly determined by the family income of potential attendees. The impact of these discounts on attendance costs are shown in Table 3 based on 2015–16 instructional and living costs by income level as compiled by IPEDS. Average instructional costs for public university students with families having incomes less than $30,000 is -$1,112 as compared to $7,962 for students with families earning $110,000 or more. Amounts are proportionally similar for private school students with those from the lowest income category paying $4,782 as compared to $21,906 for those in the highest income group. These discounts have significant distributional effects, reducing attendance costs for public university students from families with incomes less than $30,000 by 40 percent as compared to costs for those from families with incomes greater than $110,000. Distributional effects are also important for those attending private universities, reducing costs for students from the lowest income groups by 50 percent as compared to those from the highest income group.

Table 3 Average Attendance (COA), Instruction (COI) and Living (COL) Costs ($) By Family Income ($000), Four Year Universities and Colleges; 2015–16.

Income	Public Institutions				Private Institutions			
Level	COA	COI	COL	%COL	COA	COI	COL	%COL
< 30	12,099	-1,112	13,211	109	19,671	4,782	14,890	76
30–48	13,505	295	13,211	98	20,824	5,934	14,890	72
48–75	16,728	3,517	13,211	79	24,244	9,354	14,890	61
75–110	19,845	6,635	13,211	67	28,760	13,871	14,890	52
110+	21,172	7,962	13,211	62	36,796	21,906	14,890	40

Source: IPEDS, Authors' calculations.

However, while significant these tuition reductions do not reduce living costs which are the major component of college attendance costs at nearly every income level. Tuition for public school students from families with incomes less than $48,000 is effectively zero, yet these students face living costs over $13,000. Both public and private school students from modest income families have relatively low tuition costs and significantly higher, unfunded living costs. Overall, the figures in Table 3 indicates that despite significant discounts, securing a higher education is much more burdensome for students from low income backgrounds as compared to those from higher income circumstances.

6. Regional Differences

In addition to family income, regional variance in living costs (Power, 2014) could be an important determinate of the cost of attending college. Table 4 presents living and instructional costs by family income level for groups of combined regions as defined by the Standard Federal Regions (Staats, 1977). Living costs across the nation do not significantly vary, differing from low to high by 13 percent for public universities and 10 percent for private ones. Costs in the interior regions of the South, Midwest and Southwest are lower than those in the coastal regions of the East and West.

While instructional costs for public university students from families in different income groups showed significant regional variation, varying by a factor of two or more in each group, living costs were relatively stable,

nearly unchanged for interior regions and 7 percent higher for Eastern schools and 13 percent greater for Western schools. Probably reflecting a more national clientele, regional instructional differences for private universities were 50 percent or less while living costs varies 10 percent or less nationally.

Table 4 Living and Instructional Costs ($) by Family Income ($000), U.S. Regions

Region	COL	< 30	30–48	48–75	75–110	> 110	Num
				COI Pubic Institutions			
East	13,509	-379	1,353	4,936	8,831	11,038	38
South	12,916	-1,307	316	3,554	5,930	6,648	57
Midwest	12,715	-425	891	4,310	7,606	9,093	48
Southwest	12,663	-1,198	168	2,957	5,326	5,470	42
West	14,398	-2,161	-1,177	1,914	5,841	8,150	44
				COI Private Institutions			
East	15,311	4,360	5,739	9,306	13,829	23,067	57
South	14,258	4,317	4,852	7,862	12,022	18,784	20
Midwest	13,955	6,513	7,117	10,320	14,055	19,540	15
Southwest	14,445	4,978	5,957	9,661	14,135	20,456	10
West	15,362	5,141	6,921	10,355	16,132	24,989	15

Source: IPEDS, Authors' calculations.

Table 4 shows the impact of instructional and living costs on the cost of attending college. Regardless of income level, regional living costs were always greater than instructional costs at public universities and nearly always greater at private universities except for the highest income group. However, while living costs were unchanging, instructional costs sharply increased as family income rose implying that instructional, not living costs is the major cause of variability in attendance costs.

7. Summer Costs

Although IPEDS data reports college instructional and living costs, it does not indicate expenses when students are not regularly enrolled and attending classes, usually as a summer "break" from the end of spring term to the beginning of fall term. While many students return home and their maintenance costs are borne by their families, these costs nonetheless are real and should be considered as a cost of college attendance. Students living independently also must consider how to finance their summer expenses. Unfortunately, few statistics directly describing the summer activities or employment of college students are available

According to the Bureau of Labor Statistics (2018) about half of twelve million enrolled college students under 24 years old are employed but without indication if this employment is for summer jobs only. In addition, it is important to determine when these employed students started college because those who started after employment are not comparable to those who are employed during a summer interruption in their education. Finding temporary summer employment could be difficult since it is influenced by a myriad of occupational, locational and economic factors. Leading summer jobs for 16 to 19 years old are accommodation and food services, retail trade and arts, entertainment and recreation (BLS, 2006). Inner city or rural residence could hinder accessibility to occupations with significant increases in summer employment such as golf courses, amusement parks and nurseries (BLS, 2017) which usually have suburban locations. Local economic conditions also could limit employment opportunities.

Students may find internships, but many are unpaid, or they can attend summer sessions, costs and expenses of which are not reported by IPEDS. Finally, college students are competing for jobs that can be filled by recent high school or college graduates who can offer permanent employment commitments. The temporary status of these students also makes it unlikely they will be employed in positions involving significant responsibilities or training.

While the absence of reliable information makes determining summer expenses problematic, previously living costs during the nine-month school year were derived from room and board and other expenses figures reported for on campus living. These figures can be extrapolated to estimate summer expenses and to provide a better estimate of the true cost of attending college. However, summer costs could be larger because about thirty percent of the schools report on campus living costs are lower than off campus ones while campus residence is not usually available when not enrolled. Some schools require first year students to live on campus, and therefore they did not report off campus expenses. Once again, students at these schools will need to find summer housing, which may be higher than living on campus.

As Table 5 shows, based on IPEDS data, during the 2015-16 nine month academic year average monthly room and board and other expenses were $1,531 and $1,524, respectively, for on campus and off campus living costs. Average expenses for those living at home were $432. If the on campus average is ignored, estimated three summer month living costs are $4,573 and $1,296, respectively indicating summer expenses that should be added to cost of living estimates to attend college. In effect, these estimates increase annual living costs by 25 percent. The estimated off campus summer living cost is similar to low and moderate twelve and nine month student expense budget differences of $5,800 and $3,890 for 2015–16 estimated by the College Board (2018) using Bureau of Labor Statistics for 24 metropolitan statistical areas (MSAs).

Table 5 Living Costs ($): Average Nine Month and Total Three Month Summer, 2015–16

	Academic Year		Summer	
Residence	Public	Private	Public	Private
On campus	1,468	1,654	4,404	4,963
Off campus	1,493	1,591	4,480	4,773
Home	460	373	1,379	1,118

Source: IPEDS, Authors' calculations.

8. Conclusions

The true costs of college attendance have four basic components. Costs of Instruction as tuition, fees, books and supplies. Costs of Living as expenses while attending college. Costs of Summer Living as expenses while not attending college, that is, summer break expenses. Opportunity Costs as lost income beyond college and summer living expenses; that is, income minus college living expenses, that could have been earned if not a college student. However, opportunity costs are ignored because determining potential earnings from employment alternatives to college attendance is a topic beyond the scope of this paper. Of the remaining three items, instructional costs for public university students are negligible for those from relatively low income families and less than about 30 percent of attendance costs for those from higher income ones. At private universities living costs for students are higher than instructional costs in all situations except for students from the highest income families.

Attributing supposedly high or excessive college costs to high or excessive tuition simply ignores the major cause of attendance costs. While tuition could very well be exorbitant, the more important point is that supporting

twelve million or so not employed students is also costly. Although average instructional costs of low to middle income students at four year public institutions are now approximately zero, these students still face significant living cost barriers to attend college. If efforts are undertaken to encourage college attendance because of clear individual and social benefits, they should be directed towards reducing living costs.

Future examination of the sources of attendance costs should focus on more detailed analysis in terms of individual student circumstances. Primarily students should be made aware that their largest attendance cost will be living expenses rather than tuition costs. Although low-income students receive more financial support, the amount is relatively low when compared to their parent's income. Thus, students coming from low-income families may need more financial aid support to be comparable to students coming from higher income homes. Efforts should be considered to structure grants and financial aid to encourage year-around college attendance. Finally, programs offering an annual stipend to subsidize living costs should be considered.

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