After Graduation:

How Student Loan Debt Relates to Income, Expenditures, Asset Accumulation, and Other Debt

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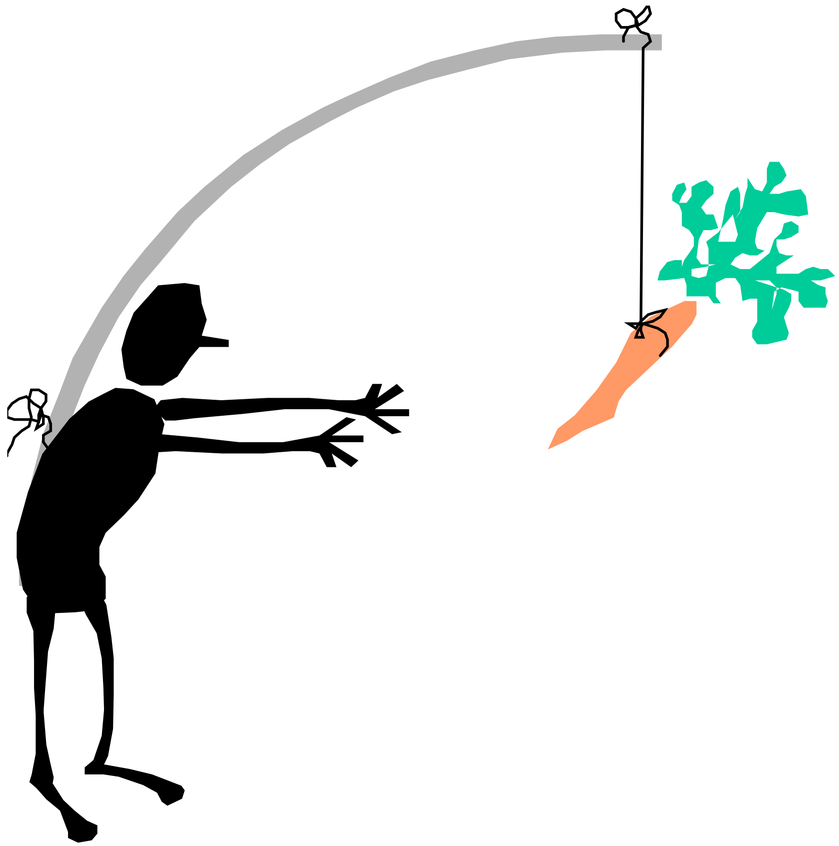
Motivations



The Consumer Expenditure Survey (CE) includes information on:

- Expenditures
- Income
- Taxes (income and other)
- Assets and Liabilities

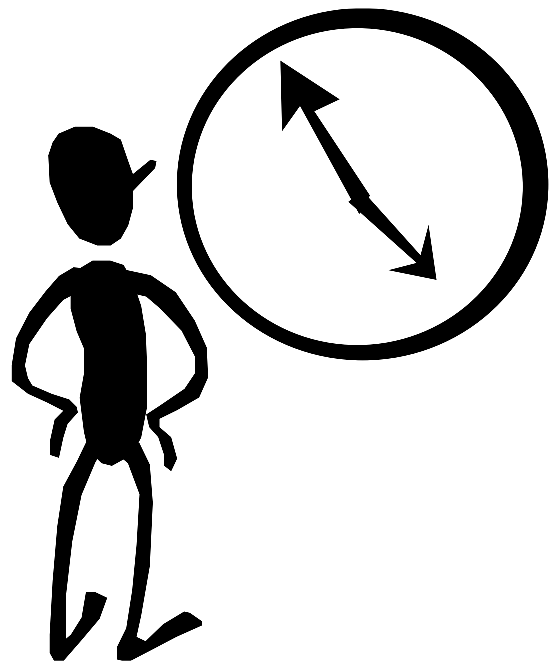
Nonresponse is a problem for each. However, corrections are in place for most of these items:

- Expenditures: Since the 1980s
- Income: Since 2004
- Taxes (income only): Since 2013

Assets and Liabilities are currently under investigation.

Assets and Liabilities

At the same time:



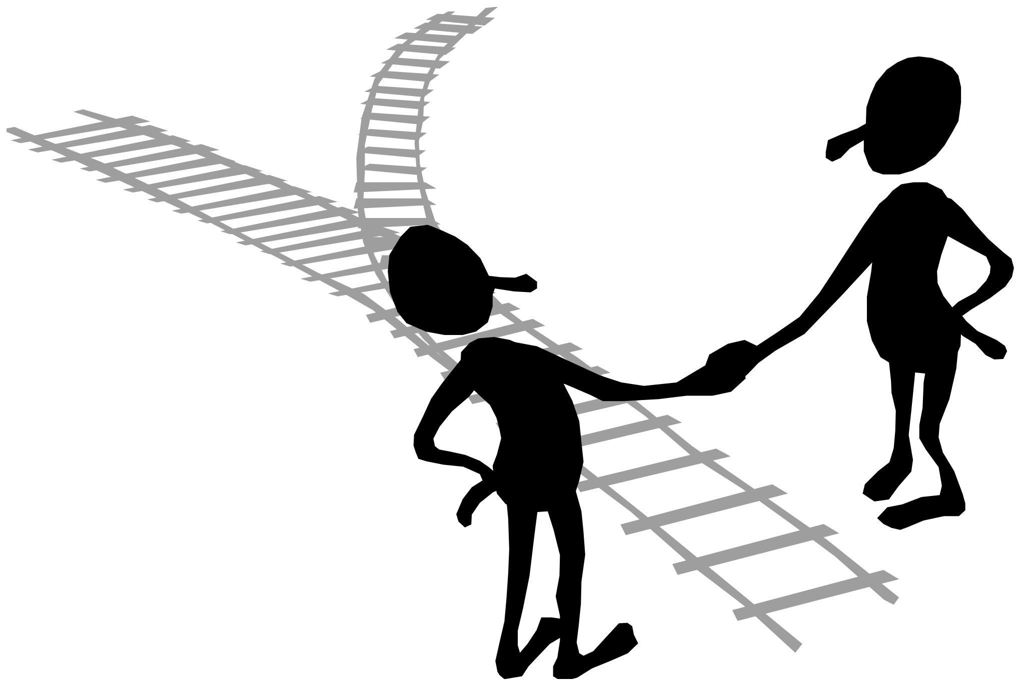
Accumulation of student debt is a topic constantly in the news.

- College tuition has risen more rapidly than other prices for several years. (Source: CPI)
- Student loans are one way to pay for the increasing costs.
- Is a college education "worth it?" (e.g., the Mincer Equation)

Other measures of “worth”

- Does student loan debt lead to delay in:
  - Homeownership?
  - Other investments (IRA, etc.)?
- Does it change expenditure patterns (unable to afford travel, other luxuries)?
- Does it relate to income?

These two tracks meet in the following way:



The Consumer Expenditure Survey (CE):

- Collects student loan data starting in April 2013.
- Allows the researcher to link these data to detailed information on:
  - Expenditures
  - Income
  - Other Asset/Liability values.

However, as noted, the CE is subject to nonresponse:

- How large is the problem for asset and liability data?
- How different will results be when the same research is conducted after imputation is enacted?
- Will differences be only quantitative, or qualitative as well?

Before answering, some background is in order.

Asset/Liability Data

Assets:

- Retirement accounts
- Stocks, bonds, mutual funds
- Checking, savings, money market, CDs
- Whole life insurance
- Other, including annuities, trusts, royalties

Liabilities:

- Credit cards
- Student loans
- Other loans, including medical and personal

Collection

- Questions are asked in the final survey
- Most are asked in two parts: Did you have _____? If yes, how much?
- For some items, only a total value is collected. In these cases, it is not clear whether $0 means:
  - No, I did not have such an account or
  - Yes, I had an account, but it is empty.

Collection, continued:

- For each asset/liability, the total value/balance/amount owed is collected:
  - As of today
  - As of one year ago today
- Bracket questions are asked when the respondent cannot provide a specific value.

How reliable are the data?

Very

Not very

Consider all consumer units interviewed between April 2013 and March 2015:

CE Interview Surveys, Unweighted sample, 13,064 consumer units (5th interviews only)	% Holding (Current Year)	% of Holders Reporting a Value or Bracket (Current Year)
Assets:		
Checking, savings, etc.	81.1	68.7
Retirement account	58.8	61.1
Whole life insurance	11.8	68.5
Stock/bond/mutual fund	11.4	77.3
Other assets	2.6	66.8
Liabilities:		
Credit card balance	30.1	92.3
Student loans	14.2	92.5
Other loans	5.7	92.9

The table shows that student loans are prevalent among <u>*all*</u> consumer units (1 in 7 holds one)

- How prevalent are they among the <u>*most likely*</u> group to hold them (i.e., young adults)?
- How does their presence affect—or at least relate—to other aspects of life, such as income, expenditures, and asset (or debt) accumulation?

This study focuses on CE data from those who were:

- Young (25 to 34 year old) single adults
- Interviewed between April 2013 and March 2015 (beginning of data collection to most recent period available)
- College educated, with or without student loans at present

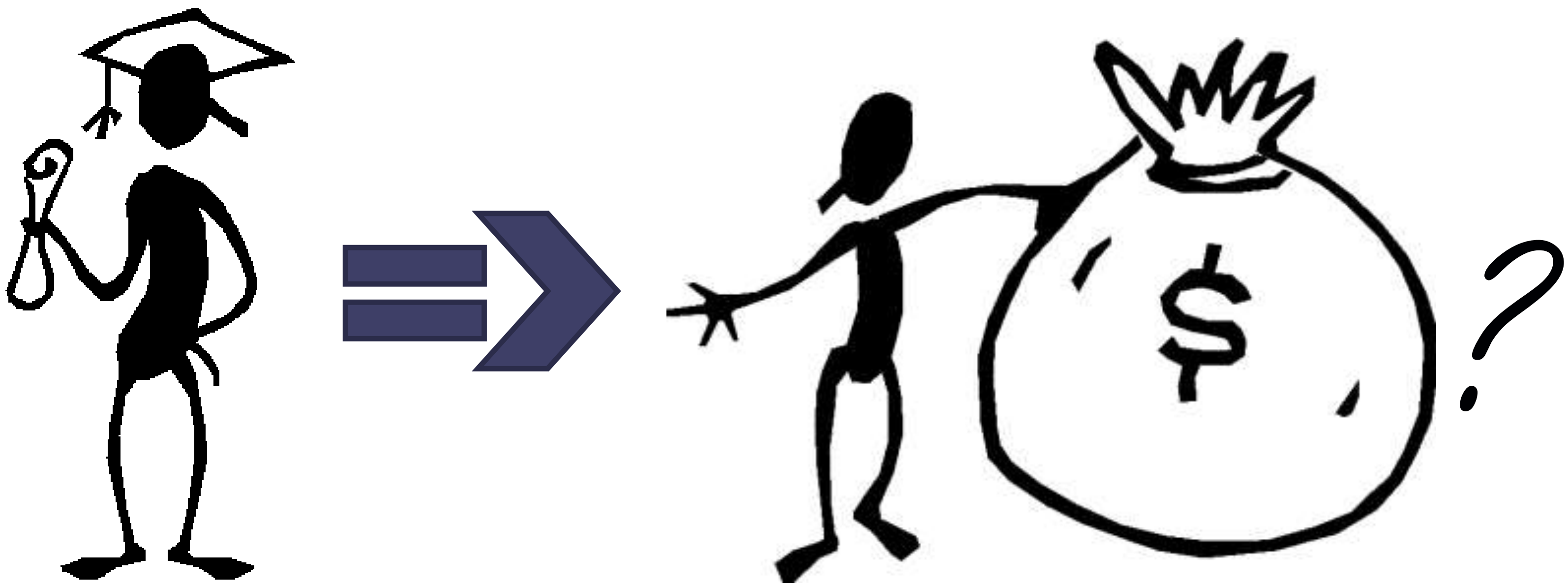
Why this group? Members are:

- Old enough to have graduated college;
- Young enough to still have substantial student loan balances;
- Starting to face major life decisions (e.g., to own or rent; save for retirement or not) that may be influenced by the presence of student loan debt.

CAVEAT:

There is no way in the CE to distinguish those who never took loans from those who did but have now paid them off. Only those who report holding loans currently are identifiable.

So is a degree “worth it?”

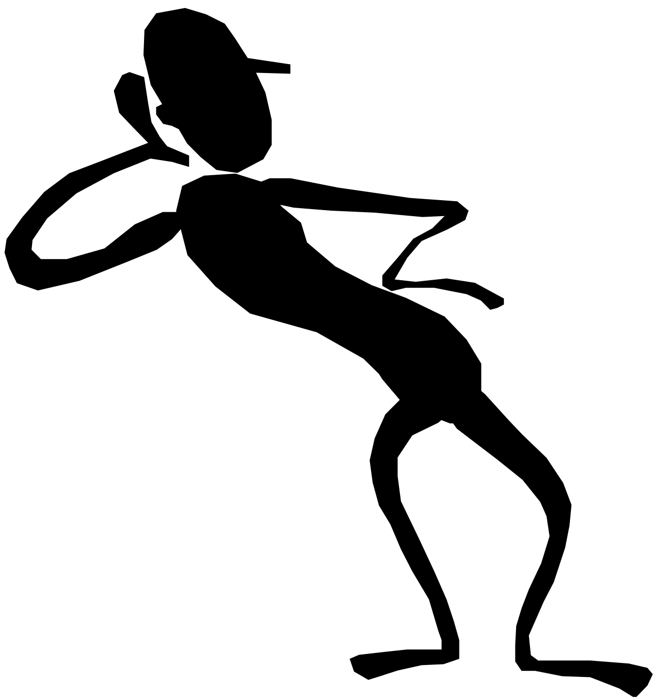


First, some background on this group....

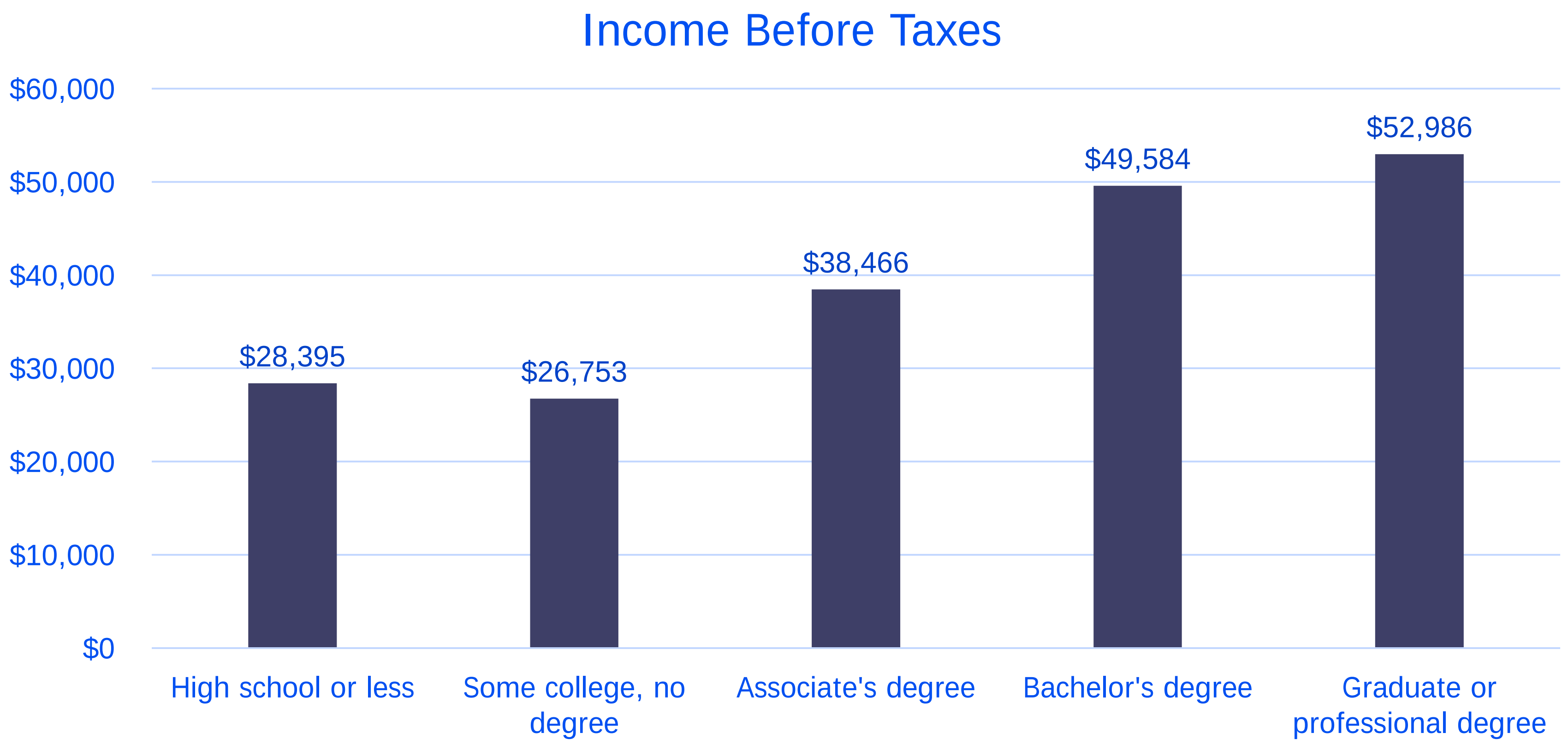
Consider young, college-educated singles interviewed between April 2013 and March 2015:

CE Interview Surveys, Unweighted sample, 434 consumer units (5th interviews only)	% Holding (Current Year)	% of Holders Reporting a Value or Bracket (Current Year)
Assets:		
Checking, savings, etc.	88.9	78.0
Retirement account	57.1	72.6
Whole life insurance	6.2	66.7
Stock/bond/mutual fund	12.9	85.7
Other assets	1.2	60.0
Liabilities:		
Credit card balance	37.1	94.4
Student loans	35.0	95.4
Other loans	3.7	93.8

Regarding income…



Not surprisingly, income increases with education…



…and the increases are generally significant statistically…

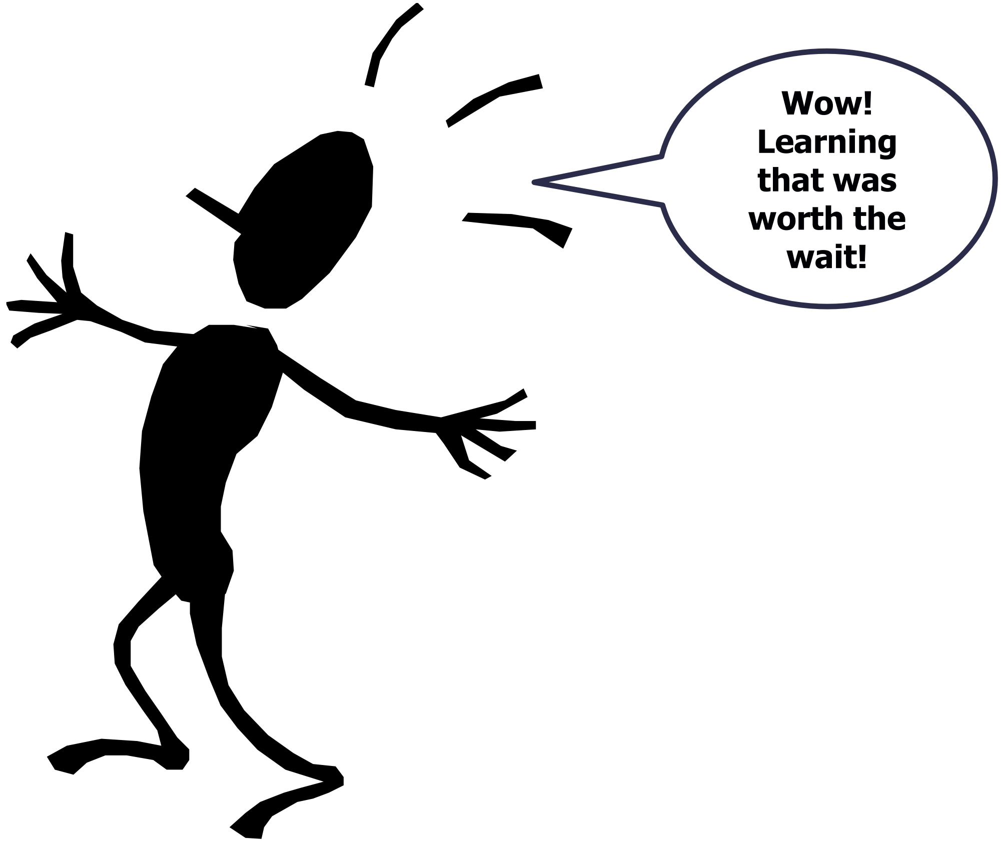
Education	Sample Size (n)	Income Before Taxes	Differs significantly from:
High school or less (1)	95	$28,395	4, 5
Some college, no degree (2)	97	$26,753	3, 4, 5
Associate's degree (3)	41	$38,466	2, 4, 5
Bachelor's degree (4)	203	$49,584	1, 2, 5
Graduate or professional degree (5)	93	$52,986	1, 2, 3, 4

…and economically:

- **Earning at least an "AA" appears to increase income;**
- **Earning a Bachelor's degree or higher nearly doubles income from earning no degree.**

Note also the evidence of a “degree effect:”

Attending college does not correlate with higher income; earning at least an “AA” does.



Once again, the cost of education is offset by the payment it yields, at least to some degree.

But there is more to the story…

- Income increases with education, but does the increase outweigh the debt?
- Are incomes equal (on average) for those with and without debt? If so, does the presence of debt:
  - Limit certain expenditures?
  - Forestall asset accumulation (housing or financial)?
  - Perhaps encourage other debt accumulation to “keep up” with peers?

First, consider the magnitude of student loans.

- The average value reported by young singles holding balances was $34,131 (n=140);
- For those reporting brackets:
  - 3 reported loan values between $10,000 and $34,999;
  - 2 reported loans were $35,000 or higher.

Now, the focus shifts to college graduates:

Education	With Student Loans (n)	No Student Loans (n)
Some college, no degree	25	72
Associate's degree	12	29
Bachelor's degree	79	124
Graduate or professional degree	36	57

- In part, this is due to sample size. (See table at left.)
- In addition, those who have graduated college invested the most, and presumably benefit the most from loans.

Income does not vary by debt status…

Education	Income (debt holder)	Income (no debt)	Statistically Significant? (Y/N)
Bachelor's degree	$46,004	$51,865	N
Graduate or professional degree	$49,122	$55,427	N

…Nor does it differ by degree earned….

Education	Bachelor's degree	Graduate or professional degree	Statistically Significant? (Y/N)
Income (debt holder)	$46,004	$49,122	N
Income (no debt)	$51,865	$55,427	N

But debt is substantial compared to earnings…

Education	Debt (holders only)*	Income (debt holder)	Debt-to-Income Ratio
Bachelor's degree	$27,194	$46,004	0.59
Graduate or professional degree	$69,580	$49,122	1.42

…especially for those with advanced degrees.

*Average for those reporting values, excluding bracket reporters.

So the result is inconclusive:

While a bachelor's degree may "pay off" more in the short-run, these data do not show whether the "Mincer slope" is steeper in the long-run, which would make an advanced degree "pay off."

Considering Outlays:

I SAID OUTLAYS, NOT "LAY-OUTS!"

Outlays are identical to expenditures, EXCEPT:

- Outlays include mortgage principal payments; expenditures include interest only.
- Expenditures include total purchase price of new vehicles; outlays include the monthly amount that the purchaser actually paid out of pocket.

Comparing quarterly outlays for college graduates with and without student loans:

Debt and Outlays	With Student Loan	No Student Loan	Statistically significant?
Student loan value	$40,112	N/A	N/A
Total outlays	$10,439	$9,827	N
Total outlays less education	$9,593	$9,632	N
Education	$846	$195	Y
Food at home	$703	$786	N
Transportation on trips (airfares, etc.)	$134	$150	N

Only outlays for education itself differ significantly!

There is some evidence of an effect on asset accumulation…

Asset type	With Student Loan	No Student Loan	Statistically significant?
Homeownership rate (%)	20.9	28.7	N(!)
Financial Assets:			
Checking, savings, etc.	$6,209	$15,653	Y
Retirement account	$12,629	$21,842	N
Whole life insurance	Not tested; n=6	Not tested; n=4	-
Stock/bond/ mutual fund	Not tested; n=11	Not tested; n=27	-
Other assets	Not tested; n=2	Not tested; n=1	-

…But none on debt.

Liability type	With Student Loan	No Student Loan	Statistically significant?
Credit card balance	$2,595	$2,270	N
Other (non-student) loans	Not tested; n=5	Not tested; n=3	-

Summary (Qualitative)

- Asset and liability data in the CE are subject to nonresponse.
- However, the levels are not extreme, especially for liabilities.

Summary (Quantitative)

- Income increases with education, and there appears to be a degree effect.
- While graduate school may not raise income immediately, the data in this study cannot predict future earnings, a la Mincer.
- Student loan debt does not appear to affect income or total outlays.
- Student loan debt may inhibit asset accumulation, but does not appear to affect credit card debt.

Summary (Qualitative)

- Nonresponse is:
  - Always a concern;
  - Much more prevalent among assets than liabilities.
- However, most respondents provide at least some information (actual value or bracket) about the assets/liabilities they report holding.

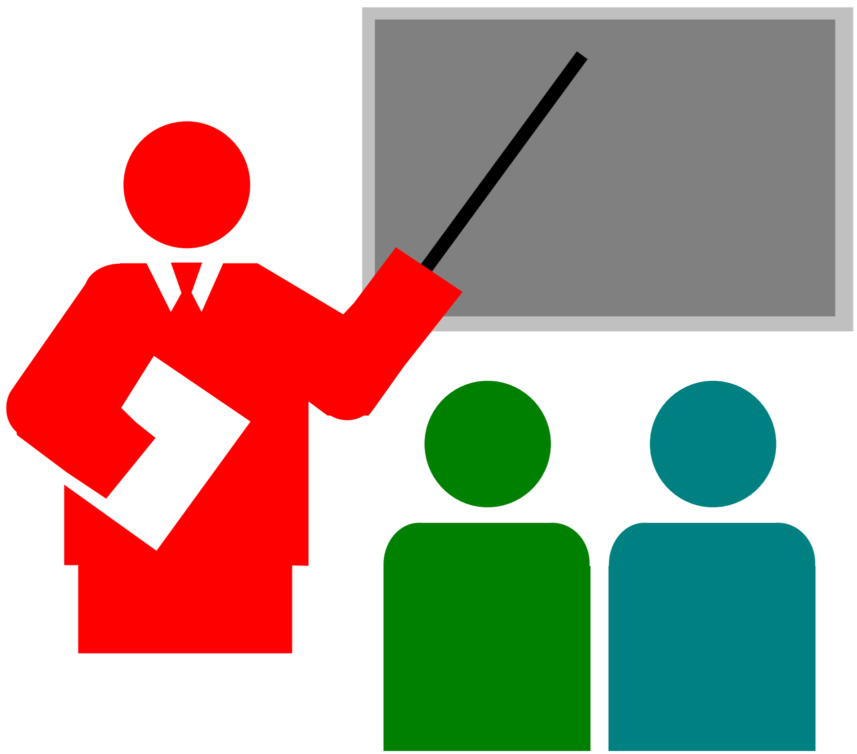
Conclusions (General)

- Overall, education appears to be a “good thing.”
  - Student loan debt may inhibit asset accumulation;
  - However, those who do not pursue a degree are probably even worse off
    - lower income;
    - and even lower asset levels/accumulation.

Conclusions (Imputation)

- Imputation is likely to:
  - Make a difference quantitatively, by definition:
    - Unless missingness is completely random, filling in blanks will change means and other statistics, perhaps significantly.
  - Make little difference qualitatively:
    - That is, the general findings (income increases with education, etc.) are likely to hold afterward.

This concludes the overview of the CE program and data.



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