## WHAT STUDENT DIFFERENCES MATTER TO INSTITUTIONAL OUTCOMES? VARIABLES USED FOR INPUT ADJUSTMENTS

### INCOME

**Actual income figures (AGI or similar number)**

<table>
<thead>
<tr>
<th>Importance</th>
<th>Opportunity for “Gaming”:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high (at least one of these income indicators)</td>
<td>Low</td>
</tr>
</tbody>
</table>

**Availability:**
- Good, for students who fill out FAFSA

**Consistency:**
- High

**Transparency:**
- Good

**Notes:**
- At least one of these income indicators is very important to include in an input-adjusted model. Income variables are sometimes modeled in their logarithmic form (since the difference between $10K and $20K is more important than the difference between $80K and $90K).

**Pell eligibility / Pell receipt**

<table>
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<th>Importance</th>
<th>Opportunity for “Gaming”:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high (at least one of these income indicators)</td>
<td>Low. Comes from outside party and subject to audit.</td>
</tr>
</tbody>
</table>

**Availability:**
- Good, for students who qualify or who actually receive grants

**Consistency:**
- Mixed. Consistent from institution to institution, but not from year to year, since Pell criteria change. Even so, a good rough indicator of low-income status.

**Transparency:**
- Mixed. Higher education community is familiar with Pell thresholds, but general public is not.

**Notes:**
- At least one of these income indicators is very important to include in an input-adjusted model. Income variables are sometimes modeled in their logarithmic form (since the difference between $10K and $20K is more important than the difference between $80K and $90K).
### Free/reduced-price lunch

**Importance:**
Very high (at least one of these income indicators)

**Availability:**
Mixed, depending on cooperation and data quality of K-12 system

**Consistency:**
Mixed. Federal guidelines are standard, but qualified high school students do not always participate.

**Transparency:**
Mixed. Education researchers and qualified families will know what criteria mean, but general public may not.

**Opportunity for “Gaming”:**
Low

**Notes:**
At least one of these income indicators is very important to include in an input-adjusted model. Income variables are sometimes modeled in their logarithmic form (since the difference between $10K and $20K is more important than the difference between $80K and $90K).

### FAFSA filing

**Importance:**
High (worth exploring)

**Availability:**
High

**Consistency:**
High

**Transparency:**
Good

**Opportunity for “Gaming”:**
Low

**Notes:**
The fact that a student or parent did not fill out a FAFSA may be a significant predictor. Do not simply treat records as “missing”; use filer/non-filer as a predictor variable.

### ACADEMICS

### High school grades

**Importance:**
Very high. Much better predictors than standardized test scores.

**Availability:**
Mixed. Colleges with competitive admission will have the data. Community colleges often do not. K-20 data systems can help, but do not capture students who attended out of state or long ago.

**Consistency:**
Low. Grading standards and course curriculum vary widely.

**Transparency:**
High

**Opportunity for “Gaming”:**
Low

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Remediation need

Importance:
Very high, with cautions

Availability:
High. Colleges have these data internally.

Consistency:
Low. Standards for remediation vary widely.

Transparency:
Moderate

Opportunity for “Gaming”:
High. Remedial placement is often based on college policy or decisions.

Notes:
A direct measure of prior preparation—like high school grades—is better if available.

High school curriculum

Importance:
Moderate. Not as essential as grades, but can have additional predictive value.

Availability:
Mixed

Consistency:
Low.

Transparency:
Moderate

ACT/SAT test scores

Importance:
Moderate. Much weaker than high school grades.

Availability:
Mixed. Colleges with competitive admission will have the data. Community colleges often do not. One test or the other tends to predominate in different states.

Consistency:
High. Tests are standardized. Need to make sure same rules for repeat test-takers are used across the board (highest score, average score, etc.)

Transparency:
Moderate

Opportunity for “Gaming”:
Moderate

Notes:
The fact that a student took or did not take the ACT or the SAT may in itself be significant. Use test-taker/non-taker as predictor value, in addition to the actual scores for takers.
DEMOPGRAPHCICs

Gender

Importance: High

Availability: High

Consistency: High

Race/ethnicity

Importance: Moderate. When good data on HS grades, family education and income are available, this variable becomes less significant, and including it may send the wrong message if it doesn’t add much to the model.

Availability: High

Consistency: Mixed. Federal reporting categories are very broad; big regional differences exist in composition of different race/ethnic groups. New definitions make year-to-year comparisons challenging.

Transparency: High

Opportunity for “Gaming”: Moderate

Parental education

Importance: High

Availability: Low. Most freshman/college entrance surveys include it, but colleges may not have it for all students.

Consistency: Mixed

Transparency: High, though different forms of the question exist (father/mother/both parents; attend/complete; any degree/bachelor’s or higher)

Opportunity for “Gaming”: Moderate
PLANS

Plan to work full time

Importance:
High

Availability:
Low. Most freshman/college entrance surveys include this type of information, but colleges may not have it for all students.

Consistency:
Depends on whether common survey is used

Transparency:
High

Opportunity for “Gaming”:
High. Colleges can influence students’ choices, in which case these would not be strictly “input” variables. Most helpful if required as part of college application process, or as 12th grade survey of college plans.

Notes:
More states, systems and voluntary peer groups should establish a small list of common questions (with consistent data coding) to ask all students when they graduate from high school or first apply to college.

Plan to transfer

Importance:
High, especially if outcome is same-institution graduation rate

Availability:
Low. Most freshman/college entrance surveys include this type of information, but colleges may not have it for all students.

Consistency:
Depends on whether common survey is used

Transparency:
High

Opportunity for “Gaming”:
High. Colleges can influence students’ choices, in which case these would not be strictly “input” variables. Most helpful if required as part of college application process, or as 12th grade survey of college plans.

Notes:
More states, systems and voluntary peer groups should establish a small list of common questions (with consistent data coding) to ask all students when they graduate from high school or first apply to college.
Degree expected

Importance:
High, esp. for community colleges where students transfer prior to associate degree

Availability:
Low. Most freshman/college entrance surveys include this type of information, but colleges may not have it for all students.

Consistency:
Depends on whether common survey is used

Transparency:
High

Opportunity for “Gaming”:
High. Colleges can influence students’ choices, in which case these would not be strictly “input” variables. Most helpful if required as part of college application process, or as 12th grade survey of college plans.

Notes:
More states, systems and voluntary peer groups should establish a small list of common questions (with consistent data coding) to ask all students when they graduate from high school or first apply to college.

Plan to live on campus

Importance:
High

Availability:
Low. Most freshman/college entrance surveys include this type of information, but colleges may not have it for all students.

Consistency:
Depends on whether common survey is used

Transparency:
High

Opportunity for “Gaming”:
High. Colleges can influence students’ choices, in which case these would not be strictly “input” variables. Most helpful if required as part of college application process, or as 12th grade survey of college plans.

Notes:
More states, systems and voluntary peer groups should establish a small list of common questions (with consistent data coding) to ask all students when they graduate from high school or first apply to college.

OTHER VARIABLES

Other survey variables about students’ pre-college characteristics

Importance:
Mixed. Try them out, if available in consistent form.

Availability:
Low

Consistency:
Depends on whether common survey is used

Transparency:
High

Opportunity for “Gaming”:
High, unless surveys are administered by a third party

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### Census / address data

**Importance:**  
Low-Moderate  
**Opportunity for “Gaming”:**  
Moderate  
**Notes:**  
Income and education data about students’ neighborhoods can be obtained based on students’ home addresses. It can be helpful if no direct information about students’ or families’ income is available. It is less important, but still sometimes significant, when more direct information is available.

**Availability:**  
High  
**Consistency:**  
High  
**Transparency:**  
Moderate

### Common application data (where and whether students applied and were admitted elsewhere)

**Importance:**  
Moderate  
**Opportunity for “Gaming”:**  
Low  
**Notes:**  
It is worth trying this data if easily available, but some effort will be required to get them in a usable format.

**Availability:**  
Variable. Depends on state databases. Not relevant for half of all students, who only apply to one school.  
**Transparency:**  
Low  
**Consistency:**  
Variable. Depends on state data.