Federal Student Aid Need Analysis:
Background and Selected Simplification Issues

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Summary

A federal “need analysis” system underlies the annual allocation of billions of dollars in student financial aid supported by Title IV of the Higher Education Act. Aid applicants provide detailed financial and other information on the Free Application for Federal Student Aid (FAFSA), used to determine the financial resources students and their families are expected to use to meet postsecondary education expenses — the Expected Family Contribution (EFC). At issue is the system’s complexity, and the barrier it may pose for aid-eligible students, particularly low-income students. Two key simplification questions addressed in this report are: How much of the data currently collected by the FAFSA is used to determine the EFC and eligibility for federal aid? Can the EFC be calculated using fewer data?

Nearly all of the financial information gathered by the FAFSA is used to calculate EFCs and determine federal aid eligibility, or to support administration of federal aid programs. The FAFSA can be filed electronically or in paper format. The paper version, used by a large number of filers, is the primary focus of this analysis because it requires many filers to respond to a broader array of questions. The 2004-2005 paper version has 135 questions. Over two-thirds are involved in calculating the EFC, determining federal student aid eligibility, and determining federal student aid packaging. About 4% are clearly unrelated to the federal need analysis process.

Three basic EFC estimation models, constructed for this report, examine the effects on the EFC calculation of the three major categories of financial information utilized in need analysis: base income information (adjusted gross income — AGI); additional income information to further adjust available income; and asset information. This model-based analysis shows that base income data play the lead role in determining EFCs. The contributions of the additional income and asset information vary by population. The analysis suggests that from a technical (i.e., mathematical) standpoint it is probably feasible to explore ways in which the financial information utilized for federal need analysis and aid eligibility determinations could be streamlined, without deviating dramatically from the EFC values generated under the current system.

Efforts to simplify the federal need analysis system are likely to be influenced significantly by several fundamental tensions: the ability of the system to gather sufficient information to make relatively fine financial distinctions among families may be adversely affected by some simplifying steps; the federal system is intended to support the awarding of federal, state, and institutional aid, meaning that simplifying changes will be assessed by their impact on the awarding of aid from each source; and, given the billions of dollars and millions of individuals involved, simplifying changes with even proportionately modest effects potentially involve hundreds of millions of dollars and thousands of individuals.

This is a background report and will not be updated. A separate report will be available shortly tracking legislative action on need analysis simplification.
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Federal Student Aid Need Analysis: Background and Selected Simplification Issues

Introduction

A federal “need analysis” system underlies the annual allocation of billions of dollars (nearly $69 billion in FY2004) in student financial aid supported by Title IV of the Higher Education Act (HEA, P.L. 89-329, as amended). Anually, this system involves millions of current and potential students who apply for federal student aid by providing detailed financial and other information on the Free Application for Federal Student Aid (FAFSA). FAFSA data are used in statutorily defined formulas to determine the amount of financial resources students and their families are expected to direct toward postsecondary education expenses — the Expected Family Contribution (EFC). Financial need for need-based federal student aid programs is determined by the EFC and its relationship to students’ cost of attendance; relying on the calculation of need, financial aid administrators (FAAs) in postsecondary institutions package federal, state, and institutional aid for aid applicants.

As the Congress deliberates over the reauthorization of the HEA, it is considering issues involving the federal need analysis system. A perennial issue has been the complexity of the system, and concern that it poses a barrier to aid for eligible students, particularly low-income students. This report begins with a brief discussion of the interest in need analysis simplification. It then provides a basic overview of the federal need analysis system, and analyses of two issues related to simplification — the data requirements of the FAFSA, and the contribution of key financial information to the EFC calculation for each applicant. The questions addressed respectively by these analyses are the following:

- For what purposes are data collected on the FAFSA? Are data collected that are unrelated to determining the EFC and eligibility for, and amount of, federal aid? Is there evidence that students may be submitting some data unnecessarily?

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1 Title IV of the HEA authorizes the sources of generally available federal student aid — Pell Grants, Stafford Loans, Federal Work-Study, Federal Supplemental Educational Opportunity Grants, and Federal Perkins Loans. These last three sources of aid are known collectively as the campus-based student aid programs because financial aid administrators at participating educational institutions have discretion in awarding their institutions’ shares of funding from these programs. Similar flexibility is not afforded financial aid administrators in the Pell Grant or Stafford Loan programs.
• To what extent do the various income and asset data used in calculating the EFC actually influence the size of the EFC? Can it be calculated using fewer data than at present?

This is a background report and will not be updated. A separate report will be available shortly tracking legislative action on need analysis simplification.

**Interest in Simplification**

Interest in simplifying the need analysis process through which students apply for, and secure, federal student aid springs particularly from the belief that the complexity of the process poses a barrier to college access, particularly for low-income students. As the National Dialogue on Student Financial Aid, convened by the College Board, recently reported:

Evidence suggests that the degree of complication in applying for aid leads to reduced access, especially for first-generation college students. Increased simplicity in our aid system would likely result in significant increases in enrollment rates for students from low-income backgrounds.2

The National Dialogue called on the federal government to simplify the federal student aid application process.

Economist Thomas Kane suggests that the multi-billion dollar federal Pell Grant program fails to play its intended role of increasing enrollment rates of low-income individuals, in part, because the need analysis process is difficult for students and families to navigate. He writes:

[T]he Pell Grant program requires remarkable foresight. One has to fill out a FAFSA, be assigned an expected family contribution and receive an award letter from a school simply to learn how much federal aid is on offer.3

If low-income families in particular find the need analysis system problematic, demographic trends offer little comfort to those concerned about access to postsecondary education. These trends suggest that, in the future, an increasing proportion of the potential college-going-population will be low-income.4

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4 For a discussion of the implications of these demographic trends on college access, see Advisory Committee on Student Financial Assistance, *Access Denied: Restoring the* (continued...)_
Overview of Need Analysis and Aid Packaging

The present federal need analysis system is the product of the 1992 reauthorization of the HEA, which combined two federal systems — one then in use for the Pell Grant program, the other used for campus-based aid and Stafford Loans — into a single need analysis system. The Congress intended this single, simplified system, using a common application form (the FAFSA), to be the sole basis to the greatest extent possible for the determination of need for federal, state, and institutional aid.

Any need analysis process, including the current federal one, will be the product of numerous compromises and, at times, arbitrary decisions about such issues as who is responsible for contributing financially toward a student’s college expenses, how much families need to meet living expenses or to meet retirement needs, and which income and asset resources can be tapped to pay college bills and to what extent.

Further, among the challenges is deciding where to strike the balance between a system that is simple for students and families to navigate and understand, and a system that accurately and fully measures the breadth and availability of aid applicants’ financial resources. This challenge is compounded for the federal need analysis system which, as noted, is intended to serve not only federal aid distribution, but also the allocation of state and institutional aid. To the extent that the federal EFC calculations are accepted by FAAs as a reasonable measure of financial contribution, the FAFSA and EFC can function as the basis for aid packaging at all levels. But, if states or higher education institutions feel that the process does not adequately gauge available resources or determine an appropriate contribution, they may supplement, or diverge from, the federal system in awarding their own state or institutional aid.

The following is a simplified view of the need analysis and aid packaging process that underlies the awarding of federal student aid. HEA, Title IV, Part F delineates much of the process which is described below and depicted in Figure 1. It begins with the FAFSA through which basic financial and non-financial
information is gathered from a student. Although considered in more detail below, the primary information reported on the FAFSA includes:

- data identifying the aid applicant;
- financial information for the student and his or her family (e.g., adjusted gross income — AGI);
- non-financial information describing attributes of the student and family (e.g., number of dependents in college);
- information that will be used to determine eligibility for federal, state, or institutional aid (e.g., whether or not the aid applicant has completed his or her first bachelor’s degree);
- information that will be used to package student aid (e.g., asking if aid applicants are willing to borrow or work, in addition to receiving grant aid); and
- dissemination-related information (e.g., names of schools to which FAFSA data and the EFC should be provided).

FAFSA data are submitted to the so-called Central Processor, an entity working under contract for the U.S. Department of Education (ED) that calculates the aid applicant’s EFC based on statutorily defined rules. From the Central Processor, the EFC and other summary data are reported to FAAs and to the FAFSA filer.

An FAA is responsible for calculating the aid applicant’s cost of attendance (COA) and then determining financial need:

- For HEA, Title IV programs, except the Pell Grant program, financial need generally equals: COA minus EFC.\(^6\)
- Under the Pell Grant program, need generally equals: maximum annual Pell Grant being awarded minus EFC.

At this juncture, the FAA’s role is to package financial aid for the aid applicant. This package starts with the Pell Grant, the federal foundation for student aid. Other aid, such as campus-based funds, state and institutional aid, and Stafford Loans, are added to create the student’s aid package. The aid applicant is then notified concerning the composition of the financial aid package.

Some of these calculations vary from FAA to FAA. Not only does the aid administrator have some discretion in the awarding of campus-based student aid, but Section 479A of the HEA explicitly gives FAAs discretion to adjust, on a case by case basis, the COA or the values of the items used to calculate the EFC to “allow for treatment of an individual eligible applicant with special circumstances.” The statute offers examples of these special circumstances (such as the recent unemployment of a family member) where the FAA might exercise this professional judgement if he or she chooses to do so.

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\(^6\)The actual calculation of need for these programs is more complicated than shown because the FAA is to take into account other estimated financial assistance received by the aid applicant.
Figure 1. Flow Chart of Need Analysis

Student and Family
Provide FAFSA
Information:

- Basic ID Data
- Federal Program Eligibility Data
- State and Institutional Aid Eligibility Data
- EFC Financial Data
- EFC Non-Financial Data
- Aid Packaging
- Dissemination Data

EFC Calculation by Central Processor Using Selected FAFSA Data:

- Income
- Assets
- Dependency Status
- Number in College

Financial Aid Administrator Determines:

- COA
- Financial Need
- Student Aid Package

Award Notification to Student

Source: CRS analysis.
Calculation of the EFC

Before considering the data actually collected on the FAFSA and its role in the determination of an aid applicant’s EFC, it is useful to have a general understanding of how the EFC is calculated.

Dependency Status

One of the initial considerations in calculating the EFC is determining whether the financial resources of a student’s parents are to be considered. Parental financial resources are not considered in determining the EFC if the student meets the statutory definition of an independent student, that is, if he or she meets any of the following conditions:

- is 24 years of age or older;
- is married;
- is enrolled in a graduate or professional program;
- has a dependent other than a spouse;
- is an orphan or ward of the court (or was a ward until age 18); or
- is a military veteran.

Importantly, the EFC calculation process differs for two kinds of independent students: those independent students who have no legal dependents other than, perhaps, a spouse; and those independent students who have legal dependents other than a spouse (this group is described in this report as “independent students with children”).

Any applicant for federal need-based aid who does not meet one of the conditions listed above is automatically treated as a dependent student for Title IV aid purposes. For such a student, information on parental resources must be submitted on the FAFSA and will be used in calculating the EFC.

Steps in Calculating the EFC

The process for calculating the annual EFC is described in very general terms below. This description applies to the 2004-2005 award year.7

The EFC for a dependent student and his or her parents is determined by adding together an expected contribution from the parents and an expected contribution from the student.

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7 The description omits significant details. ED has posted descriptions of the EFC calculations for recent years at [http://www.ifap.ed.gov/IFAPWebApp/currentEFCInformationPag.jsp].
The **parental contribution** portion of the EFC is computed as follows:

**Step 1.** Parents’ *available income* is calculated by determining *total income* (AGI\(^8\) plus certain untaxed income, minus certain other income and financial benefits), and then subtracting various allowances for such things as basic living expenses (the so-called “income protection allowance”), federal taxes, and state and other taxes.

**Step 2.** Parent’s *discretionary net worth* is calculated by adding together cash, savings, net worth of investments, net worth of businesses and farms (but excluding the value of the family home or the family farm), and then subtracting an allowance to protect assets needed for retirement, future education, and emergencies.

**Step 3.** The contribution from available income and discretionary net worth is calculated by applying a progressive assessment schedule (with a minimum assessment rate of 22% and a maximum rate of 47%) to the combined total of parents’ available income and 12% of discretionary net worth,\(^9\) and then dividing the result by the number of college students in the family, excluding the parents.

Next, the **dependent student’s** portion of the EFC is determined as follows:

**Step 4.** A contribution from the dependent student’s income is calculated equal to 50% of his or her *available income* (a similar determination to that of parental available income, although the income protection allowance is appreciably smaller for the dependent student).

**Step 5.** A contribution from the dependent student’s assets is determined equal to 35% of his or her own *net worth* (unlike the parental calculation of discretionary net worth, no asset protection allowance is subtracted from the dependent’s net worth).

Finally, the total EFC for the dependent student is determined as follows:

**Step 6.** The parental contribution from available income and discretionary net worth (see step 3 above) is added to the dependent student’s contributions from income and from assets (see steps 4 and 5 above).

For an **independent student with children**, the calculation of the EFC is identical to that for determining the parental contribution for a dependent student (steps 1 through 3 above).

For an **independent student with no dependents other than a spouse**, if any, the calculation of the EFC is similar to that for determining the contributions from a dependent student’s own income and assets (steps 4 and 5 above). The assessment

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\(^8\) For aid filers who did not file a federal income tax return, income information included on their W-2 forms is used instead of AGI in the need analysis process.

\(^9\) Given the maximum rate of the assessment schedule, not more than 5.64% of the parental discretionary net worth can be expected in contribution (12% * 47% = 5.64%).
rates applied to income and assets are the same; the income protection allowances differ. Significantly, unlike for the dependent student, there is a protection allowance applied to this independent student’s net worth of assets.

Special EFC Conditions

There are two major circumstances under which the EFC calculation requires markedly less information from an aid applicant. Under the simplified needs test, no assets are considered in calculating the EFC for a dependent student if his or her parents’ AGI is less than $50,000 and the student and parents meet certain conditions applied to their tax returns. Similarly, assets are not considered in determining the EFC for an independent student if the AGI of the student (and spouse, if any) is less than $50,000.

Further, there is an automatic zero EFC. That is, the EFC is automatically set to zero in the event a dependent student’s parents, or an independent student with children, have AGI that is not greater than $15,000 (the current maximum amount of income rounded to the nearest $1,000 that one can earn and still be able to claim the maximum federal earned income tax credit). The automatic zero EFC is not provided to independent students without dependents.

FAFSA

This section analyzes the data collected on the FAFSA and addresses questions related to how these data are used, such as, how many questions are asked of aid filers, what the answers are used for, to what extent are questions related to federal aid allocation, and to what extent are they used solely for allocation of non-federal aid.

The FAFSA can be filed with the central processor electronically or in a paper form. The analysis below focuses primarily on the collection of data using the paper version of the 2004-2005 FAFSA filed by new aid applicants because it appears to require filers to answer a broader array of questions than the available electronic version. Despite significant growth in electronic filing of the FAFSA, a large portion and number of filers continue to use the paper application. According to ED data, with much of the processing cycle for 2003-2004 completed, about 18 million

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10 To be eligible for the simplified needs test, the student and his or her parents must not have to file an income return, or must file or be eligible to file a federal tax form 1040A or 1040EZ. This requirement is also met if the parents or student file a form 1040 if that form is filed only to claim the federal Hope or Lifetime Learning tax credit.

11 The tax form/filing requirements specified above must also be met by the independent student and spouse.

12 The tax form/filing requirements specified for the simplified needs test must also be met.

13 The paper and electronic versions of the 2004-2005 FAFSA can be filed at anytime between Jan. 1, 2004 and June 30, 2005.
new and renewal FAFSAs\textsuperscript{14} had been filed.\textsuperscript{15} Of the over 11.5 million new applications, nearly 29\% or over 3.3 million were submitted by aid applicants themselves on paper. In addition, of the remaining new applications submitted electronically, about 1.7 million were filed by financial aid administrators on behalf of aid applicants. For some of these applications, financial aid administrators may have had the applicants fill out and sign a paper FAFSA; the administrators then submit the FAFSA data electronically.\textsuperscript{16}

**Number of Questions and Primary Purposes**

The 2004-2005 paper FAFSA has 135 questions. This count differs from the numbered questions on the FAFSA which go up to 103. It includes unnumbered questions appearing on FAFSA worksheets A, B, and C. These worksheets, used to gather information on additional sources of income to be added or subtracted from taxable income in the EFC determination, ask filers to answer 20 specific questions about their income and, if they are dependent students, to also answer the same 20 questions separately about their parents' income. As a result, 40 questions are considered to be generated by the worksheets. Further, this count treats several clusters of questions as single questions — aid applicant’s name (i.e., last name, first name, middle initial), permanent mailing address (i.e., number and street, city state, and zip code), driver’s license (i.e., license number and issuing state), father/stepfather’s name (i.e., last name and first initial), and mother/stepmother’s name (i.e., last name and first initial).

In Table 1, the FAFSA questions are divided into 10 different categories according to their primary purpose, with an 11th category for the few questions whose use is unclear. The determination of how responses to specific FAFSA questions might be used was based on information contained in three publications from ED.\textsuperscript{17} This table provides examples of the kinds of data requested by category and the number of FAFSA questions falling into each category.

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\textsuperscript{14} Typically, students who have in a prior year submitted an original FAFSA are able to apply for aid in a subsequent year with a renewal FAFSA which requests significantly less information.

\textsuperscript{15} The latest data are available at [http://ifap.ed.gov/eannouncements/0527ApplicReceivSchbySource0405.html].


### Table 1. Distribution of 2004-2005 Paper FAFSA Questions by Primary Purpose

<table>
<thead>
<tr>
<th>Primary purpose</th>
<th>Examples of information requested</th>
<th>Number of questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of the aid applicant</td>
<td>Name; address; Social Security number</td>
<td>12</td>
</tr>
<tr>
<td>Determination of federal financial aid eligibility</td>
<td>U.S. citizenship status; whether applicant will have first bachelor’s degree before July 1, 2004 (with rare exceptions, Pell Grants are awarded only to students who have not yet earned their first bachelor’s degree); whether applicant was ever convicted of possessing or selling illegal drugs; whether an applicant is a male 18 to 25 years of age and registered with the Selective Service</td>
<td>6</td>
</tr>
<tr>
<td>Packaging of federal financial aid</td>
<td>Grade level at beginning of the 2004-2005 school year (among other uses, this information establishes which annual limits on the amount in Stafford Loans that can be borrowed apply to the aid applicant); applicant’s interest in securing loans or work-study assistance</td>
<td>6</td>
</tr>
<tr>
<td>Determination of the EFC — income-related financial data</td>
<td>AGI for 2003; untaxed Social Security benefits</td>
<td>54</td>
</tr>
<tr>
<td>Determination of the EFC — asset-related financial data</td>
<td>Net worth of current investments; savings account balance</td>
<td>6</td>
</tr>
<tr>
<td>Determination of the EFC — non-financial information</td>
<td>Whether applicant was born before January 1, 1981; whether applicant is currently married; whether applicant has children receiving more than half of their support from applicant (all of this information is part of the effort to establish whether the applicant is independent of his or her parents for aid purposes)</td>
<td>21</td>
</tr>
<tr>
<td>Determination of the COA</td>
<td>Whether applicant intends to live on-campus, off-campus, or with parents (this information reportedly is useful to FAAs in projecting applicants’ COA)</td>
<td>6</td>
</tr>
<tr>
<td>Primary purpose</td>
<td>Examples of information requested</td>
<td>Number of questions</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Dissemination of EFC and other FAFSA information</td>
<td>School codes of up to six schools that applicant wants to receive FAFSA and EFC information; applicant’s e-mail address</td>
<td>7</td>
</tr>
<tr>
<td>Validation and verification of FAFSA data</td>
<td>Applicant’s and parent’s signatures (the application states: “If you are the parent or the student, by signing this application you agree, if asked to provide information that will verify the accuracy of your completed form.”); month and year a dependent applicant’s parents were married, separated, divorced, or widowed</td>
<td>6</td>
</tr>
<tr>
<td>Determination of eligibility for, and aid from, state and institutional aid programs</td>
<td>Highest year of school aid applicant’s father and mother completed (reportedly, some state agencies use this information to award aid); when aid applicant became legal resident of his or her state</td>
<td>6</td>
</tr>
<tr>
<td>Purpose is unclear</td>
<td>Number of federal income tax exemptions claimed for 2003 (this information is not used in calculating the EFC and the sources consulted to determine the purposes of various questions are silent regarding the use of this particular information)</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: CRS analysis.
Findings

In general, most questions fall uniquely into one of these 11 categories, with the first nine constituting those directly related to federal student aid need analysis. For Table 1, each question on the FAFSA is counted only once, even if it might have fallen into multiple categories. Any question that could be included not only in one of the first nine categories but also the 10th — determination of eligibility for, and aid from, state and institutional aid programs — is counted only in one of the initial nine categories. As a result, the count of questions in the 10th category includes only those questions that do not also contribute to federal student aid need analysis.

Based on Table 1, it appears that 60% (81 questions) of the 135 questions are primarily involved in calculating applicants’ EFCs, either providing financial information or non-financial information. Over two-thirds (93 questions) are part of the cluster of questions involved in calculating the EFC, determining federal student aid eligibility, and determining federal student aid packaging. In contrast, only about 4% (six questions) are clearly unrelated to the federal need analysis process, falling into the 10th category.

Questions of Complexity. Relevant to the issue of simplification is whether the format and layout of the FAFSA is unduly complex or whether the data sought by specific FAFSA questions might be difficult for applicants to generate. In general, the former is beyond the scope of the present report. With regard to the latter, some comments are in order. Generally, it would appear that most of the non-financial data requested would be relatively easy for applicants to provide (e.g., name, address, and grade level at beginning of 2004-2005 school year). Of course, issues may arise with wording of specific questions even if the information sought is straightforward. Many of the financial questions related to income are linked by the FAFSA to specific lines in an aid applicant’s or parents’ federal income tax returns. This presumably makes the provision of this information easier if the applicant has followed the advice in the FAFSA instructions that he or she have completed federal income tax returns prior to filling out the FAFSA.

Two kinds of financial information requested on the FAFSA may be difficult for some aid filers to generate — asset information and the supplementary income information requested on the FAFSA worksheets A, B, or C. A potential difficulty with assets, such as businesses, investment farms, or real estate other than a home lived in by the aid filer, is determining their net worth as requested by the FAFSA. Although some of the supplementary income information sought on the worksheets is linked to specific lines on federal income tax forms (e.g., earned income credit), some is not (e.g., welfare benefits and untaxed Social Security benefits). The latter may not be easily generated by filers. Further, several of the worksheet questions are open-ended — for example, on worksheet B, filers are asked to delineate “any other untaxed income or benefits not reported elsewhere on worksheets A and B, such as workers’ compensation, untaxed portions of railroad retirement benefits, Black Lung Benefits, disability, etc.” Due to their broad open-ended nature, such questions may be particularly troubling for some FAFSA filers.
Not Every Question Must Be Answered. Not every new FAFSA filer is required to answer each of the 135 questions identified in this analysis.\(^\text{18}\) Regardless of whether they file paper or electronic versions of the FAFSA, independent students do not respond to the 47 questions concerning parental financial and non-financial information — 27 of them are numbered questions on the FAFSA and 20 are questions on worksheets A, B, and C.

Technically, for federal aid allocations, all questions concerning assets can be skipped by applicants eligible for the simplified needs tests (under which assets are not considered in calculating the EFC), as can asset and some income questions by applicants eligible for the automatic zero EFC. But this option is available only to those who file on the Web. Those filers are advised that they may ignore certain income or asset questions depending upon whether they meet the criteria for either of these special conditions for EFC calculation, although they are also informed that the separate determination of eligibility for state or institutional aid may require such data.\(^\text{19}\)

In contrast, students who submit the paper FAFSA are to answer all income and asset related questions, regardless of whether they are eligible for the simplified needs test or the automatic zero EFC. The instructions for the paper FAFSA do note that some applicants might be able to skip asset questions if they apply over the Internet. As a result, students who are unwilling or unable to file electronically (e.g., they prefer not to transmit family financial information over the Internet, or they do not have access to the Internet) will be required to answer several questions that are unnecessary for determination of their EFC and federal student aid. Some of these questions call for relatively complex financial information, such as net worth of assets or information on various kinds of untaxed income.\(^\text{20}\)

How Does the Income and Asset Information Collected on the FAFSA Contribute to the Determination of the EFC?

This section of the report considers the roles varied income and asset data collected by the FAFSA play in determining the EFCs of federal financial aid applicants. The analysis presented in this section examines how the major categories of financial information used in need analysis influence EFC calculations. The

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\(^{18}\) As noted earlier, students submitting renewal FAFSAs are required to submit significantly less information.


\(^{20}\) As noted, the FAFSA and EFC calculations are intended to serve federal, state, and institutional aid programs. As a result, for some FAFSA filers, this income and asset information may be necessary for determining eligibility for state and institutional aid, although unnecessary for determining the EFC.
findings from the analysis are discussed in light of questions that have arisen about whether the EFC could be calculated using fewer data than at present.

The analysis upon which this section of the report is based utilizes data on federal financial aid applicants from the National Postsecondary Student Aid Study (NPSAS). The analysis relies on a series of NPSAS-based EFC estimation models. These models utilize FAFSA data (available through NPSAS) to estimate the EFCs that would be produced when certain broad categories of information are excluded from the need analysis process.

Three basic estimation models have been constructed to produce three alternate estimates of EFCs. Each model uses less information than is currently used in need analysis. The modeled EFCs produced through these estimation models are compared to actual EFCs to shed light on the influence of the excluded information.

The analysis measures the extent to which EFCs would change from those currently calculated. It should be stressed that a change in a student’s EFC might affect his or her eligibility for student aid, but need not. For example, a student may have such a large EFC that even with a significant decline he or she would still be ineligible for need-based aid. Nevertheless, for many students a decline in the EFC will spell greater need for need-based aid and potentially more awarded aid, while an increase in the EFC will reduce need and possibly reduce the amount of aid they will be awarded.

As has been noted, three basic EFC estimation models have been constructed. They are designed to produce estimated EFCs that can be used to examine the influence of the three major categories of financial information utilized in need analysis: base income information (AGI); additional income information (extra income information gathered through FAFSA worksheets which is used to further adjust one’s available income); and asset information. Each estimation model is described below.

- **Model 1:** This model substitutes AGI for Total Income in the EFC calculation. It calculates EFCs based solely on AGI and asset contributions — excluding the additional income information (i.e., the information gathered through FAFSA worksheets) from consideration in need analysis.
- **Model 2:** This model excludes asset contributions from need analysis calculations. It calculates EFCs based solely on available income (utilizing all income information).
- **Model 3:** This model substitutes AGI for Total Income and excludes asset contributions in the calculation of the EFC. It essentially calculates an EFC based exclusively on AGI.

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21 The latest available NPSAS provides FAFSA data for the 1999-2000 award year. The FAFSA for that year does not differ significantly from the 2004-2005 FAFSA analyzed in the preceding section of this report.
Regression analysis is a method of explaining or predicting the variability of a “dependent variable” using information about one or more “independent variables.” It attempts to answer the question “what values in the dependent variable can we expect given certain values in the independent variable(s)?” In the regression analyses presented in this report, students’ actual EFCs were used as the dependent variables. The independent variables are the modeled EFCs generated through estimation models 1, 2, and 3 for each student. Students’ actual EFCs are “regressed” against the modeled EFCs (which reflect the EFCs students would receive if less information were used in need analysis calculations). The figure reported on is the “R-squared” which shows how much of the variability of the actual EFC is accounted for or “explained” by the modeled EFC.

Each of the three models excludes certain information. However, in each of the models, all other aspects of need analysis calculations (i.e., the adjustments and allowances described earlier) are unaltered.

The analyses presented in the pages that follow examine the modeled EFCs in relation to the actual EFCs to illuminate the effects of the excluded information. The information in the tables below presents the findings of these analyses. Findings are reported for each of the aid populations treated separately in need analysis: dependent students, independent students without dependents, and independent students with children.

Table 2 presents results from regression analyses which illuminate the extent to which various types of income and asset information contribute to the EFC calculation. Not surprisingly, when all of the major categories of financial information are used as independent variables in a regression model, virtually all variance in EFCs is explained. Explanatory percentages go down when financial information is eliminated (i.e., when modeled EFCs from estimation models 1, 2, and 3 are used as independent variables). The results from regression analysis presented below provide a relative sense of the importance of categories of financial information, which varies across need analysis populations.

The data presented in Table 2 reflect the amount of variation explained when EFCs produced by the estimation models using reduced information are examined in relation to actual EFCs. These data suggest that the “additional” worksheet income information used in need analysis accounts for roughly 8% of the variation in dependent students’ EFCs (i.e., 92.35% of the variation in EFCs is captured when the worksheet income information is excluded from need analysis under model 1). The worksheet income information accounts for roughly 7% and 11% of the variation in the EFCs of independents without dependents and independents with children respectively.

The data presented in Table 2 also suggest the asset information used in need analysis accounts for roughly 14% of the variation in dependent students’ EFCs and 10% and 3% of the variation in the EFCs of independents without dependents and independents with children respectively. Additionally, Table 2 suggests that taken together, the asset information and the “additional” income information account for roughly 15%-19% of the variation in EFCs across the populations.

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22 Regression analysis is a method of explaining or predicting the variability of a “dependent variable” using information about one or more “independent variables.” It attempts to answer the question “what values in the dependent variable can we expect given certain values in the independent variable(s)?” In the regression analyses presented in this report, students’ actual EFCs were used as the dependent variables. The independent variables are the modeled EFCs generated through estimation models 1, 2, and 3 for each student. Students’ actual EFCs are “regressed” against the modeled EFCs (which reflect the EFCs students would receive if less information were used in need analysis calculations). The figure reported on is the “R-squared” which shows how much of the variability of the actual EFC is accounted for or “explained” by the modeled EFC.
Table 2. Amount of Variation in EFCs For Different Types of Students Explained by Selected Income and Asset Information

<table>
<thead>
<tr>
<th>Models</th>
<th>Dependents</th>
<th>Independents without dependents</th>
<th>Independents with children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substitutes AGI for total income</td>
<td>.9235</td>
<td>.9270</td>
<td>.8903</td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eliminates asset contributions</td>
<td>.8616</td>
<td>.8954</td>
<td>.9680</td>
</tr>
<tr>
<td>Model 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substitutes AGI for total income and eliminates asset contributions</td>
<td>.8085</td>
<td>.8210</td>
<td>.8519</td>
</tr>
</tbody>
</table>

Source: CRS analysis of 1999-2000 National Postsecondary Student Aid Study (NPSAS 2000) data.

Table 3 presents data on the estimated EFCs produced for each need analysis population under each of the models. This table provides information showing the direction in which EFCs move when need analysis calculations rely on reduced information. This information is provided to further delineate how the broad categories of EFC financial data affect EFCs. For purposes of the analyses presented in Tables 3 and 4, modeled EFCs with values within $100 of actual EFCs were considered to be the same.

The data presented in Table 3 indicate that for the great majority of aid applicants’ EFCs are reduced or remain the same when the additional FAFSA worksheet income information is eliminated from need analysis. Nonetheless, a notable subset of students (ranging from 5%-11%) in each need analysis population is adversely affected — having their EFCs rise when additional income information is excluded from calculations (i.e., they will have less need for aid).23 The same general pattern is evident when the additional income information and asset contributions are collectively eliminated from need analysis. When asset information is eliminated from need analysis, and need analysis calculations are based exclusively on income information (including worksheet data), EFCs either remain the same or are lowered, no students would be adversely affected.24

23 This outcome — some applicants being unaffected or benefitting (EFC falling), while others are adversely affected (EFC rising) — is not unexpected given that the additional income information from FAFSA worksheets is comprised of untaxed income which is added to aid applicants’ AGI, and protected income which is subtracted.

24 This outcome is also not surprising. EFCs cannot actually increase when asset information is excluded from need analysis. This is because asset information is added to income information and can only serve to elevate an EFC or leave it unaltered.
Table 3. Estimated Change in EFC for Different Types of Students Upon Elimination of Selected Income and Asset Information

<table>
<thead>
<tr>
<th></th>
<th>Model 1: Substitutes AGI for total income</th>
<th>Model 2: Eliminates asset contributions</th>
<th>Model 3: Substitutes AGI for total income and eliminates asset contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent of students in category</td>
<td>Median change in EFC in category</td>
<td>Percent of students in category</td>
</tr>
<tr>
<td><strong>Dependent students</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower EFC</td>
<td>40%</td>
<td>-$1,065</td>
<td>34%</td>
</tr>
<tr>
<td>Same EFC</td>
<td>49%</td>
<td>$0</td>
<td>66%</td>
</tr>
<tr>
<td>Higher EFC</td>
<td>11%</td>
<td>$364</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Independent students without dependents</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower EFC</td>
<td>19%</td>
<td>-$951</td>
<td>6%</td>
</tr>
<tr>
<td>Same EFC</td>
<td>71%</td>
<td>$0</td>
<td>94%</td>
</tr>
<tr>
<td>Higher EFC</td>
<td>10%</td>
<td>$400</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Independent students with children</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower EFC</td>
<td>23%</td>
<td>-$509</td>
<td>2%</td>
</tr>
<tr>
<td>Same EFC</td>
<td>72%</td>
<td>$0</td>
<td>98%</td>
</tr>
<tr>
<td>Higher EFC</td>
<td>5%</td>
<td>$353</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: CRS analysis of 1999-2000 National Postsecondary Student Aid Study (NPSAS 2000) data.
Another noteworthy trend evident in the data displayed in Table 3 pertains to the change in EFC amounts. As has been discussed, consistently, across each of the need analysis populations, much larger percentages of aid applicants have EFCs lowered as opposed to increased under each of the modeled scenarios. The median shift in EFC amounts also is consistently larger for those whose EFCs are reduced as opposed to those facing larger EFCs.\(^{25}\) This suggests that broad reductions in the additional worksheet income information and asset information would likely have the net effect of increasing the receipt and cost of need-based aid.

Table 4 presents information on aid applicants with incomes under $50,000. This sub-population is already treated as a group whose need can be assessed using a simplified formula. It is also a population for whom some suggest need analysis should be further simplified. Table 4 illustrates shifts in the directionality of EFCs for this population when need analysis calculations rely on reduced information.

Table 4 presents data on the estimated EFCs produced for each need analysis population within this income category, under each of the models. Table 4 reveals that across the need analysis populations within this income category EFCs are lowered or remain the same for the great majority of students when the additional worksheet income information is removed from consideration. Nonetheless, a subset of students (ranging from 4%-9%) in each need analysis population is adversely affected — having their EFCs rise when additional income information is excluded from calculations. The same pattern is evident when the additional income information and asset contributions are collectively eliminated from need analysis. When asset information is eliminated, EFCs remain the same or are lowered.

\(^{25}\) The median is that value where 50% of applicants in a category had a higher change in value and 50% had a lower change.
Table 4. Estimated Change in EFC With Elimination of Selected Income and Asset Information for Students with Incomes Under $50,000

<table>
<thead>
<tr>
<th></th>
<th>Model 1: Substitutes AGI for total income</th>
<th>Model 2: Eliminates asset contributions</th>
<th>Model 3: Substitutes AGI for total income and eliminates asset contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent of students in category</td>
<td>Median change in EFC in category</td>
<td>Percent of students in category</td>
</tr>
<tr>
<td><strong>Dependent students</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower EFC</td>
<td>31%</td>
<td>-$621</td>
<td>20%</td>
</tr>
<tr>
<td>Same EFC</td>
<td>60%</td>
<td>$0</td>
<td>80%</td>
</tr>
<tr>
<td>Higher EFC</td>
<td>9%</td>
<td>$330</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Independent students without dependents</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower EFC</td>
<td>18%</td>
<td>-$940</td>
<td>5%</td>
</tr>
<tr>
<td>Same EFC</td>
<td>72%</td>
<td>$0</td>
<td>95%</td>
</tr>
<tr>
<td>Higher EFC</td>
<td>10%</td>
<td>$400</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Independent students with children</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower EFC</td>
<td>20%</td>
<td>-$421</td>
<td>1%</td>
</tr>
<tr>
<td>Same EFC</td>
<td>76%</td>
<td>$0</td>
<td>99%</td>
</tr>
<tr>
<td>Higher EFC</td>
<td>4%</td>
<td>$351</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Source**: CRS analysis of 1999-2000 National Postsecondary Student Aid Study (NPSAS 2000) data.

Table 4 also shows that across the need analysis populations within this income category changes in EFC amounts are consistently larger for those whose EFCs are lowered than for those whose EFCs increase. For this sub-population (similar to the full population of aid applicants) the net effect of the broad reductions in EFC financial data considered here would be increases in the receipt and cost of need-based aid.
It is important to note that examining the effects of excluding this information from need analysis, at relatively broad levels of aggregation, potentially masks how its exclusion affects smaller sub-populations (some of whom see their EFCs rise when supplemental income information is excluded). This is an important point because parties interested in considering simplification of need analysis are generally concerned about the effects simplification proposals will have on aid recipients. To fully analyze this, it is necessary to study the changes in EFC values for all sub-populations of interest — particularly those who may end up adversely affected by simplifications. This point is illustrated in Table 5 which examines in greater detail changes in EFCs of dependent students with incomes under $50,000 whose EFCs would increase by $500 or more under models 1 and 3.

### Table 5. Dependent Students With Incomes Under $50,000 Whose Estimated EFCs Increase by $500 or More When Selected Income and Asset Information is Eliminated from Need Analysis

<table>
<thead>
<tr>
<th></th>
<th>Percent of dependent students with incomes under $50,000 whose EFCs increase by $500 or more</th>
<th>Median increase in EFC for those whose EFC increases by $500 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substitutes AGI for</td>
<td>3%</td>
<td>$809</td>
</tr>
<tr>
<td>total income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substitutes AGI for</td>
<td>2%</td>
<td>$905</td>
</tr>
<tr>
<td>total income and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>eliminates asset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>contributions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** CRS analysis of 1999-2000 National Postsecondary Student Aid Study (NPSAS 2000) data.

As Table 5 shows, roughly 3% of dependent students with incomes under $50,000 fare considerably worse under the simplifications embodied in model 1, and 2% do so under model 3. Put in different terms, approximately 63,000 dependent applicants in this income category would have their EFCs increase by $500 or more under model 1, and roughly 50,000 would under model 3. This adverse effect would be unacceptable to some, while others might feel the benefits yielded by those whose EFCs are reduced under these scenarios outweigh the costs associated with these simplifications. Under model 1, one-third of the students in this income category (roughly 735,000) have their EFCs reduced and approximately 40% (roughly 973,000) have their EFCs reduced under model 3.

This is just one illustration — many could have been considered — but it shows the value of examining in some detail the effects of categories of information collected by the FAFSA — particularly if one is contemplating changes in need analysis. Of particular importance, this example reveals the contribution of categories of information used in need analysis differs within sub-populations. This also shows the type of tradeoffs likely to face decision-makers.
Summary Comments

In general, the analyses presented in this section of the report show that the base income data (i.e., AGI) play the lead role in determining EFCs. The contributions of the additional income information and asset information vary by population. Categorical reductions in information (i.e., simplifications) considered here primarily result in reduced or unaltered EFCs, which suggests that such changes could increase program costs. But, some changes could increase EFCs, meaning that some stakeholders could fare worse (especially if income protections are eliminated).

The analysis presented here establishes basic parameters — illuminating what broad categories of information collected by the FAFSA contribute to need analysis calculations. Simplification proposals often suggest smaller scale reductions in information (e.g., the elimination of a few items as opposed to whole categories of information). To understand the effects of such proposals, other analyses would be required.

Conclusion

Roughly 12 years ago, the Congress revamped the federal need analysis system by creating a single “simplified” system, featuring a common application form and a single methodology for determining the EFC. The Congress sought to ensure that the federal need analysis would be used to the greatest extent possible for the determination of need for federal, state, and institutional aid. Questions regularly arise about whether the system can be further simplified. This report considered two of the primary issues that surface with some regularity: How much of the information currently collected by the FAFSA is actually used to determine the EFC and eligibility for federal aid? Can the EFC be calculated using fewer data than at present?

The findings presented in this report suggest that nearly all of the financial information gathered through the FAFSA form are used to calculate EFCs and determine federal aid eligibility. Nevertheless, some aid applicants who use the paper FAFSA are required to file some financial data unnecessary for federal aid purposes.

At the same time, the modeling presented in this report suggests that from a technical (i.e., mathematical) standpoint it is probably feasible to explore ways in which the financial information utilized for federal need analysis and aid eligibility determinations could be streamlined, without deviating dramatically from the EFC values generated under the current system.

Deliberation by education policymakers of the analysis presented here is likely to be influenced by several tensions inherent in the federal need analysis system. Among these tensions are the following:

- For most students, the FAFSA seeks to gather sufficient information to make relatively fine distinctions among families in terms of their
ability to pay for college. Simplifying the process and rendering it more transparent (i.e., allowing families, without much trouble, to make reasonably accurate estimates of the amount of aid they will receive) may make it harder to draw those distinctions.

- The process is intended not only to serve in the awarding of federal aid, but, to the greatest extent possible, be the single system used for state and institutional aid allocation as well. As a result, changes must be assessed in terms of how they affect the system’s ability to serve these multiple sources of aid.
- Changes that lead to an expansion of eligibility for aid will raise program costs; changes that reduce program costs are likely to adversely affect eligibility.
- Given the magnitude of the amount of aid being awarded under this process and the number of students involved, changes that may have proportionately only minor negative consequences for eligibility may affect significant numbers of students, while proportionately minor effects on program costs may be worth hundreds of millions of dollars.