U.S. Defense Purchases:

An Introduction to IDEPPS

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1. Introduction

In 1995, the Office of Program Analysis and Evaluation (OPA&E) in the Office of the Secretary of Defense (OSD) of the Department of Defense (DoD), together with Interindustry Forecasting at the University of Maryland (INFORUM), developed the Defense Employment and Purchases Projection System (*DEPPS*). *DEPPS* follows previous defense forecasting work in using an economic model to estimate demands for subassemblies, parts, and materials that the Defense Department generates by its purchases. *DEPPS* differs from past efforts, however, in its use of more detailed data on the DoD budget and specialized information on defense production.[1]

The projections for defense purchases of products from specific industries are made using a module of *DEPPS* referred to as *IDEPPS*. Specifically, the objective of *IDEPPS* is to project defense expenditures at the 360-industry level, in constant prices, over the interval defeined by the Future Years Defense Program (FYDP). *IDEPPS* projections, which are updated annually, are made available on request to businesses, trade associations, state and local government planning agencies, and other organizations with an interest in defense markets. Projections of defense purchases by state and of DoD demand for skilled labor are also available.[2]

This booklet was developed as a reference tool for *IDEPPS* users. It begins by explaining – using sample projections – what the *IDEPPS* estimates cover, and how they should be interpreted. Subsequent sections describe how the projections are generated and discuss sources of uncertainty in them.

Relationship of National Projections to State-Level Projections

IDEPPS' treatment of defense expenditures differs from that of the *Regional Defense Employment and Purchases Projection System (RDEPPS)* in several important ways. The complementary purposes that these two systems serve explain the differences between them. *IDEPPS* is designed to investigate economy-wide effects of the defense budget by simultaneously determining domestic production, imports and indirect purchases by industry. *RDEPPS* is designed to investigate the distribution, across states, of annual defense expenditures, including military retirement disbursements. Therefore, *RDEPPS* includes only that part of active-duty and retirement pay spent domestically, making an explicit adjustment for pay that is received abroad. Retirement pay is treated on a disbursement basis in *RDEPPS*, as opposed to an accrual basis in *IDEPPS*. The *RDEPPS* measure of pay (and, therefore, of total direct defense expenditures) is reduced by excluding pay received abroad, but is increased by the fact that retirement disbursements currently exceed accruals. The net effect is that *RDEPPS* projections of total direct spending are somewhat larger than the comparable *IDEPPS* projections.

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[1] Prior to 1995, the Defense Department used the Defense Economic Impact Modeling System (*DEIMS*) to generate estimates of annual defense purchases.
[2] In addition to *IDEPPS*, *DEPPS* contains two other modules: The Regional Defense Employment and Purchases Projection System (*RDEPPS*) and an employment (i.e., skilled labor) projection system, referred to as *LDEPPS*.

2. SAMPLE *IDEPPS* PROJECTIONS

IDEPPS is designed to investigate economy-wide effects of the defense budget by simultaneously calculating – by industry – domestic production, imports and indirect purchases. In general, *IDEPPS* projections:

- Are in constant (that is, inflation-adjusted) dollars, by calendar year;[3]

- Are based on the President's budget request and so reflect planned expenditures, not actual appropriations or budget authority;

- Reflect DoD expenditures for military programs only. They do not include expenditures for civil programs administered by the Defense Department (such as public works projects of the Army Corps of Engineers) or defense-related expenditures by other federal agencies;

- Reflect planned DoD outlays (i.e., the total amount of funds expended in a given year, as distinct from appropriations, which are typically voted in a single year, but are paid out over several years.

Ignoring any of these points could lead to serious misinterpretations in comparisons of *IDEPPS* projections with budget data or with published industry statistics.

IDEPPS projections are made for defense purchases from 360 industries. (The box on page 5 shows how these industries are categorized.) For each industry, the projections are presented in three tables:

- Table 1 shows projected DoD purchases and purchases by industrial sectors that supply finished goods to DoD.

- Table 2 reports projected purchases generated by outlays from various parts of the DoD budget.

- Table 3 compares projected defense purchases with estimated total defense production.

To help explain the structure and content of the tables, this section uses sample projections for one industry – electronic components. Any other industry could serve equally well as an example, however, as the format of the projections is the same across industries.

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[3] For example, projections generated in the summer of 2010 for the following year are presented in constant 2011 dollars.

THE NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM

The industries for which *IDEPPS* projections are made are defined using the 2002 North American Industry Classification System (NAICS). This system was developed to provide a consistent set of industry definitions for the U.S., Canada and Mexico. The NAICS has come out for 1997, 2002 and 2007. However, the most recent input-output data is available classified using NAICS 2002.

The NAICS is organized hierarchically, starting with broad divisions of the economy and moving to groups of products and then to more narrowly defined products. Thus, under NAICS, semiconductors are classified as follows:

Sector 33: One of 3 Manufacturing sectors (31-33)
    Subsector 334: Computer and electronic product manufacturing
        3344: Semiconductor and other electronic component manufacturing
            33441: Semiconductor and other electronic components
                334413: Semiconductors and related devices

All of the industries at the final level of disaggregation are assigned 6-digit identification codes and thus are referred to as "six-digit NAICS industries". Most of the *IDEPPS* industries are at the five- or six-digit level.

Table 1 – Projected Defense Purchases, The projections in Table 1 distinguish between "direct and "indirect" defense purchases. Direct defense purchases are purchases made by the Department of Defense. In the case of semiconductors, purchases of replacement parts by DoD depot maintenance facilities constitute an example of direct defense purchases. Indirect defense purchases, on the other hand, are purchases – generated throughout the economy – of items used to produce goods bought by DoD. For example, semiconductors bought by a DoD supplier for use in manufacturing a radar system ordered by the Navy would be counted as an indirect defense purchase. Another example of an indirect defense purchase from this industry would be the components used in test equipment bought by a producer of military aircraft.

Semiconductors is a good example of an industry from which a large share of defense purchases are indirect. In 2011, for example, DoD is projected to spend about $147 million on the products of this industry (direct purchases). During that same year, DoD purchases of missiles, communications equipment, other electronic equipment, ships and many other items will generate a projected $2,953 million in indirect purchases of semiconductors – much more than spent on direct purchases.

The projected purchases by the 11 aggregate sectors that appear in the middle section of Table 1 are all indirect. The sector generating the largest volume of indirect purchases of semiconductors is Communications Equipment, with estimated sales of about $965 million in 2011.

Table 1. Projected Defense Purchases of Semiconductors, 2009-2015
(In millions of 2011 dollars)

	2009	2010	2011	2012	2013	2014	2015
Summary of Defense Purchases							
Direct	154	171	147	132	127	127	135
Indirect	3,321	3,409	2,953	2,712	2,546	2,520	2,480
Total	3,476	3,580	3,100	2,844	2,673	2,647	2,615
Indirect Defense Purchases by Purchasing Sector							
Missiles	259	282	263	243	233	232	232
Ammunition	30	34	29	24	22	23	23
Tanks and Tank Components	35	30	21	13	9	8	8
Other Ordnance	21	23	20	16	15	16	15
Communications Equipment	1,052	1,135	965	909	852	876	852
Other Electronic Equipment	241	250	234	226	218	227	225
Motor Vehicles	30	29	17	10	7	6	5
Aircraft and Parts	82	88	85	79	75	79	78
Aircraft Engines and Parts	25	27	25	24	23	24	24
Shipbuilding	118	83	94	108	126	87	96
All Other	1,428	1,429	1,199	1,061	965	943	921
Total	3,321	3,409	2,953	2,712	2,546	2,520	2,480

Table 2 – Sources of Defense Purchases. Table 2 provides a slightly different perspective on defense purchases by depicting the source (using categories found in the defense budget) of annual demands for products of specific industries. The headings in the table correspond to aggregate accounts of the DoD budget: military personnel; operations and maintenance (O&M); procurement; research, development, test and evaluation (RDT&E); military construction; and family housing. Together, these categories encompass all of the military functions financed through the DoD budget.

Since the projections reflect *total* defense purchases – both direct and indirect – they do not indicate whether the buyer is DoD or a private firm. Rather, they show whether defense purchases derive from a relatively small number of programs or, as is the case with semiconductors, are generated by a wide range of programs funded under several budget accounts.

Table 2. Sources of Projected Defense Purchases of Semiconductors, 2009-2015
(In millions of 2011 dollars)

	2009	2010	2011	2012	2013	2014	2015
Military Personnel	32	31	29	28	28	27	27
Operations & Maintenance + Revolving Funds	851	796	626	542	485	478	478
Procurement	1,886	2,044	1,773	1,640	1,577	1,621	1,626
Aircraft	359	407	406	389	381	407	406
Missiles	186	216	191	182	173	195	187
Weapons and Tracked Vehicles	209	236	113	63	39	37	29
Ships and Conversions	135	118	134	149	173	131	152
Ammunition	36	43	41	35	32	34	34
Other	961	1,023	888	822	778	818	818
RDT&E	658	653	623	588	545	486	453
Military Construction	43	51	44	42	36	31	28
Family Housing	6	6	5	4	3	3	3
Total	**3,476**	**3,580**	**3,100**	**2,844**	**2,673**	**2,647**	**2,615**

Table 3 – Domestic Production, Imports and Exports. Table 3 is designed to facilitate comparisons of trends in domestic production and imports. The first block in the table shows projections, made by INFORUM, of the value of semiconductors produced domestically, the amounts imported and exported, and a net calculation of supply remaining in the country (and thus assuemd to be for domestic use). The projected share of products for domestic use supplied by imports is also shown.

The middle part of the table presents projections (for comparison to the estimates of total domestic production) of defense purchases from domestic suppliers. *Domestic* defense purchases are defined as *total* defense purchases less *imports* used for defense production. In the example given, total projected defense purchases of semiconductors amounted to about $3,100 million in 2011 and projected imports to $759 million. Defense purchases from domestic producers are, therefore, projected to total about $2,341 million in 2011.

The last entry in the table is an estimate of the share of total domestic production accounted for by defense purchases. Defense purchases are projected to account for about 3.3% of this industry's output in 2011, falling to 2.2% by 2015.

Table 3. Projected Domestic Production, Defense Purchases and Imports for Defense
Production of Semiconductors, 2009-2015
**(In millions of 2011 dollars, except as noted)**

	2009	2010	2011	2012	2013	2014	2015
Domestic Production	62,499	68,803	70,334	74,445	78,522	81,894	84,519
Plus Imports	12,352	14,034	14,549	16,383	17,612	19,091	20,373
Less Export	23,679	27,687	29,033	32,106	35,471	38,464	41,173
= Domestic Use	51,172	55,150	55,850	58,722	60,663	62,521	63,719
Import Share (percent)	24	25	26	28	29	31	32
Defense Purchases	3,476	3,580	3,100	2,844	2,673	2,647	2,615
Less Imports	793	857	759	746	729	757	780
Domestic Defense Purchases	2,683	2,723	2,341	2,098	1,945	1,890	1,835
Domestic Defense Purchases as a Share of Domestic Production (percent)	4.3	4.0	3.3	2.8	2.5	2.3	2.2

3. HOW THE PROJECTIONS ARE MADE: AN OVERVIEW

Projections of direct defense purchases are derived from DoD planning documents. Direct purchases, however, constitute only part of the total. DoD direct purchases (or nonpay outlays) generate additional purchases of subassemblies, parts, components and materials. Though not recorded in the DoD budget or measured in any statistical survey, these indirect defense purchases are clearly also important to industry planners and DoD analysts.

Figure 1 summarizes how the IDEPPS projections are computed. Each of the steps corresponding to the boxes in the figure is discussed in the sections below.[4] In broad terms, the *IDEPPS* projections start with the DoD budget and FYDP data. After some transformation of these data, a "translator" is applied to restate outlays from budget accounts as DoD purchases from each of the 360 industries. An input-output (IO) table is then used to compute the total defense purchases implied by these direct purchases.

Figure 1. General Flow of IDEPPS Computations
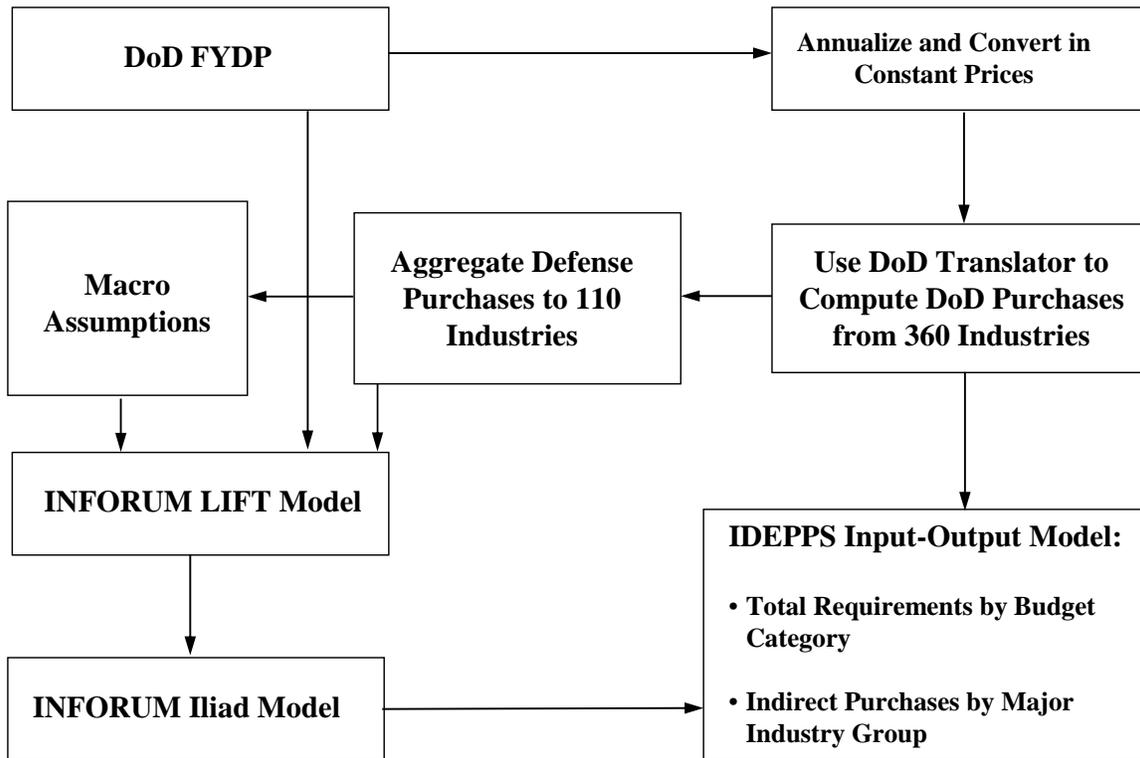
Basis of the Projections – The DoD Budget and Future Years Defense Program. The *IDEPPS* projections of direct defense purchases are based on the annual DoD budget (usually completed in December) and on the FYDP. There are six major accounts into which the budget and FYDP

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[4] The "Annualize and Convert to Constant Prices" box is not discussed. The annualization and conversion of the DoD FYDP is performed by the Cost Assessment and Program Evaluation.

data are grouped.[5] The procurement data is further divided into six subaccounts.[6] Together, these accounts reflect planned expenditures for all of the military functions of DoD. They do not include the comparatively small amounts budgeted for civil functions of the department (such as public works projects of the Army Corps of Engineers) or for defense programs funded by other federal agencies (principally the Department of Energy).

The budget figures from which the *IDEPPS* projections are derived are those published each January in the *Budget of the United States Government*. It is important to note that the projections are based on outlays, rather than on total obligational authority (TOA) or budget authority (BA). TOA and BA are measures of the dollar amount of new commitments into which DoD can enter during a fiscal year; outlays are the dollars actually spent during a fiscal year. In the procurement accounts (and, to a lesser extent, in the other accounts as well) only a fraction of the amount of new commitment is actually spent in the year in which the commitment is made; the bulk of funds are paid out over several years. Because it is actual expenditures that generate defense purchases, the budget and FYDP data are restated as outlays for each of the budget accounts on the basis of historical payout rates.

DoD Purchases – The Translator. The next step in *IDEPPS* starts from the constant price outlay data for each of the budget accounts. Using a "translator", the outlay data are converted to purchases from each of 360 industries. (Additional information about the nature of the translator may be found in Section 4.) The translator embodies information on many defense programs. Any particular program may generate purchases from a dozen to several dozen industries.[7]

Table 4 illustrates how the translator for one of the budget accounts listed earlier – aircraft procurement – would allocate outlays, in any given year, among various NAICS industries. Note that in this example, about 79 percent of the outlays go to the three aircraft-related industries. The translators for all 11 accounts allow the computation, from the budget data described above, of direct defense purchases from each of the 360 industries in the system. These projections are initially computed in constant dollars for the upcoming budget year.

Table 4. Estimated Distribution Among Industries of Outlays from the Aircraft Procurement Account, 2011
(In millions of 2011 dollars)

Industry Number	Industry Title	2011	Share (%)
198	Other communications equipment	338	0.8
201	All other electronic components	354	0.9
203	Search, detection, and navigation instruments	796	2.0
235	Aircraft	21,060	52.6
236	Aircraft engines and engine parts	3,763	9.4
237	Other aircraft parts and auxiliary equipment	6,761	16.9
273	Scenic and sightseeing transportation and support activities for transportation	665	1.7
303	Architectural, engineering, and related services	2,768	6.9
310	Scientific research and development services	337	0.8
343	Commercial and industrial machinery and equipment repair and maintenance	441	1.1
	Total	**40,074**	**100**

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[5] The six accounts are: military personnel; operations and maintenance; procurement; research, development, test and evaluation; military construction; and family housing.

[6] The six procurement subaccounts are: aircraft; missiles; weapons and tracked vehicles; ship construction and conversions; ammunition; and other procurement.

[7] The translator is updated annually. Documentation of the translator is available upon request.

Total Defense Demands. The *IDEPPS* projections of total defense purchases are made using a 360-sector input-output model developed by INFORUM. DoD prepares the estimates of direct defense purchases. Like virtually all large IO models of the U.S. economy, INFORUM's is based on the Benchmark IO table produced by the Department of Commerce. The unique features of the INFORUM model includes the manner in which the input-output coefficients are updated to account for such factors as technological change and changes in the product mix within the various industrial sectors. The box on page 9 describes what an IO table is. (A listing of the commodities in the IO table can be found in Appendix B.)

The IO table is used 23 times in *IDEPPS*, for the direct DoD purchases associated with:

- The DoD budget as a whole;
- Each of 11 aggregate DoD budget accounts; and
- Each of 11 aggregate industrial sectors.

The first application of the table yields projections of total, direct and indirect defense purchases (Table 1). (Indirect purchases are calculated by subtracting direct defense purchases from total purchases.) The remaining applications disaggregate defense purchases by budget category (Table 2).

Total Domestic Production – Defense Imports. The *IDEPPS* reports include projections, made by INFORUM, of total domestic production (Table 3). The projections are derived from two types of data: (1) the DoD budget data used in *IDEPPS* and (2) data on the Administration's planned expenditures for nondefense programs. In addition to these data, the *IDEPPS* projections rely on various assumptions made by INFORUM in its published baseline forecasts. DoD does not endorse these forecasts, or those of any other forecasting firm, and offers them only as benchmarks for comparison with defense purchases.

The projections reported for *domestic* defense purchases (also shown in Table 3) are calculated by subtracting estimates of imports used to produce defense purchases from total defense purchases. The import share of total apparent consumption for each year in the forecast period is computed from INFORUM projections of imports and consumption. The estimates of imports for defense should be used with caution, as the share of defense purchases made abroad could prove to be quite different from the import share of total apparent consumption.

INPUT-OUTPUT TABLE

An input-output (IO) table provides a way of computing the dollar volume of various inputs required to produce the output of each commodity. In the table used in *IDEPPS*, both inputs and outputs are defined in terms that correspond closely to the products of five- to-six-digit NAICS industries (see the box on page 3).

The IO table consists of 360 columns, one for each of the commodities for which the *IDEPPS* projections are prepared. The numbers in the columns indicates the shares of purchases made of the commodities from each industry (for example, aircraft). The shares represent the fractions of total purchases (to produce a given commodity output) that are spent on the various commodity groups.

The *IDEPPS* translator converts data on DoD outlays to final demand for the products of the 360 *IDEPPS* industries. The IO table is then used to estimate the total amount of the products of each industry group that must be produced to meet the estimated final demands. Conceptually, the computations are a matter of tracing through the large number of production pathways implicit in the table (for example, aircraft to landing gear to nonferrous forgings; aircraft to aircraft engines to nonferrous forgings; aircraft to aircraft engines to machine tools to nonferrous forgings; and so on).

INPUT-OUTPUT STRUCTURE

Industry	Aerospace	Professional, Scientific, & Technical Services	Communication Equipment	Computers	Semiconductors	Motor Vehicles	Petroleum Refining	Plastic Products	Search and Navigation Equipment	Ships and Boats
Aerospace	0.222	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
Computers	0.000	0.002	0.003	0.130	0.004	0.003	0.000	0.001	0.006	0.000
Crude Petroleum	0.000	0.000	0.000	0.000	0.000	0.000	0.591	0.000	0.000	0.000
Electric Utilities	0.006	0.004	0.005	0.003	0.013	0.003	0.005	0.020	0.008	0.006
Semiconductors	0.017	0.001	0.191	0.177	0.153	0.016	0.001	0.013	0.094	0.010
Fabricated Metal Products	0.043	0.004	0.031	0.028	0.028	0.033	0.003	0.020	0.031	0.054
Motor Vehicle Parts	0.005	0.001	0.013	0.002	0.002	0.418	0.001	0.001	0.002	0.043
Other Chemicals	0.004	0.005	0.003	0.005	0.047	0.009	0.012	0.062	0.004	0.009
Petroleum Refining	0.001	0.003	0.001	0.002	0.002	0.000	0.093	0.009	0.001	0.000
Plastic Products	0.009	0.003	0.021	0.015	0.011	0.016	0.001	0.063	0.007	0.021
Management of Companies	0.085	0.017	0.108	0.101	0.108	0.043	0.017	0.039	0.143	0.053
All Other Industries	0.244	0.359	0.461	0.327	0.312	0.269	0.090	0.437	0.321	0.414
Total Intermediate Demand	**0.636**	**0.398**	**0.836**	**0.788**	**0.680**	**0.811**	**0.814**	**0.666**	**0.620**	**0.611**

Source: Extract of INFORUM LIFT model input-output table for 2002

- Numbers are input-output coefficients
- Coefficients represent the share of one industry's output (column) attributable to another industry's input (row)
   - Example: The 0.191 entry in the shaded cell means that 19.1 percent of the output of the communication equipment industry is attributable to inputs from the semiconductor industry.
- Factor input costs (i.e., compensation, taxes and profits) are added to the total intermediate demand figure to obtain a total of 1.0 in each column.

4. HOW THE PROJECTIONS ARE MADE: THE TRANSLATOR

The preceeding section described what the translator *does*. In summary, the translator breaks down outlays from budget categories into DoD purchases from various industries. But what *is* the translator? Is it fundamentally a classification procedure? Or is it an economic model? The answer is "both". The translator works as an approximate crosswalk between the budget accounts and industries, but it also provides information on the inputs used in manufacturing major weapons systems.

The Translator as a Classification Procedure. A *DEPPS* "translator" is made up of estimates of the shares of outlays from individual budget accounts that go to purchase the products of various industries. Applied to planned outlays from these accounts, the translator yields dollar estimates of DoD purchases from various NAICS industries.

A few dozen to a few thousand subaccounts underlie each of the budget accounts. In many cases, all of the outlays from a given subaccount go to a single NAICS industry. For example, 100 percent of the purchases of replacement jet engines are made from NAICS 336412, "Aircraft engines and engine parts." Subaccounts that fund substantial purchases from two or more industries must be disaggregated further, but reasonable estimates of the breakout – if not exact figures – can be obtained from program descriptions, historical patterns of expenditures, or the judgment of program managers.

Sorting through and disaggregating the various subaccounts could be done by hand, but the process would be so time-consuming that projections of defense demand could not be updated annually to reflect changes in the defense budget. Consequently, to keep the projections current, the translator privides a faster and more efficient means of classifying defense purchases by industrial sector.

The translator automates the classification process for the procurement accounts. In these cases, *DEPPS* uses budgeted amounts in the subaccounts for each year of the forecast horizon, and each subaccount includes a "subtranslator" composed of estimates of the shares of outlays from that subaccount going to purchase products of various industries. The translators for the aggregate accounts (Aircraft procurement) are built up from the subtranslators for the subaccounts (e.g. F/A-18 aircraft). The aggregate translators vary from one year of the forecast period to the next as the mix of items funded by the procurement account changes.

The translators for the O&M and military construction (MILCON) accounts are also adjusted each year. These translators are computed using detailed budget and FYDP data that distinguish among several thousand categories of purchases (e.g., costs of operating repair depots, architectural and engineering services, various types of spare parts). Outlays from individual subaccounts, sometimes after further disaggregation, are classified by NAICS industry (e.g., truck parts to NAICS 3363 Motor vehicle parts). The dollar figures are then used to compute shares of total outlays from the aggregate accounts contained in the budget and the FYDP.

The translators for the RDT&E accounts, like those for the O&M and MILCON accounts, reflect planned purchases over the FYDP years.

The Translator as a Model. The translator works as a classification technique to the extent that it takes planned outlays from individual budget accounts and sorts them among the various NAICS industries from which purchases will be made. The translator serves as a model to the extent that it breaks out the cost of complete products – such as F/A-18 aircraft – into purchases from the various industries.

The translator is designed to "unbundle" the costs (as they appear in the budget) of major weapons systems. For example, the costs of aircraft are broken into purchases from the following NAICS industries (see Table 4):

- Other communications equipment
- All other electronic components
- Search, detection, and navigation instruments
- Aircraft
- Aircraft engines and engine parts
- Other aircraft parts and auxiliary equipment
- Support activities for transportation
- Architectural, engineering and related services
- Scientific research and development services
- Commercial and industrial machinery and equipment repair and maintenance

Purchases from these industries are used in place of a single purchase from the aircraft industry when the IO table is applied to compute total defense purchases

This practice was adopted in response to unreasonable results, obtained in early trials of *DEPPS'* predecessor model *DEIMS*, for some categories of purchases arising from the procurement of aircraft and missiles. For example, the projections for aircraft engine purchases were only about half the amounts implied by budget data. The results understated likely purchases because the IO table used to make the projections did not accurately describe the pattern of inputs to major weapons systems.

The problems with the IO table were, in turn, traced to the way government-furnished equipment (GFE) was accounted for in computing coefficients in the IO table. Returning to the example of aircraft engines, the relevant IO coefficient should be – but because of accounting conventions, it is not – the share of cost accounted for by engines. Engines purchased by aircraft manufacturers are counted as part of the costs of aircraft production. For both military and large civilian aircraft, however, an aircraft manufacturer typically does not buy the engines; they are purchased (from the engine producer) by the buyer of the aircraft and shipped to the aircraft manufacturer for installation. In the data used to construct the IO table, these purchases of engines are not treated as inputs to aircraft production. Consequently, the computed IO coefficient is substantially less than the actual share of aircraft cost accounted for by engines.

This problem is dealt with by developing input coefficients that more accurately reflect the input requirements of major weapons systems. In effect, *DEPPS* uses an IO table modified to reflect the unique input requirements of military weaponry.

Unbundling the costs of major weapons systems into purchases from various industries is the first step in developing the modified input coefficients. In general terms, the unbundled cost shares are substituted for the corresponding IO coefficients, and the other coefficients are adjusted appropriately.[8]

One other problem must be noted: The translators for the procurement accounts separate out shares of purchases of selected products (e.g., electronics) whether the costs represent GFE or contractor-furnished equipment (CFE). This is done to permit more accurate estimates of the

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[8] A technical description of this process is available upon request.

total requirements for production of major weapons systems. But this procedure misclassifies some purchases of CFE as direct defense purchases. A final step in *IDEPPS* (done after the computations with the IO table have been completed) shifts CFE direct purchases to indirect purchases, using information derived from the input-output table. This correction, however, is only approximate, and in a few cases there is some ambiguity in the classification of defense purchases between "direct" and "indirect". (This problem arises for military electronics, for example, and in research and development expenditures.)

5. SOURCES OF UNCERTAINTLY IN THE PROJECTIONS

This section describes sources of uncertainty in *IDEPPS* projections of direct defense purchases.[9] The projections of direct defense purchases rely on three types of information:

- Estimates of *total obligational authority (TOA)* for each of the budget accounts in each of the years represented in the FYDP;

- Historical *payout rates* for each budget account, which are used to convert total obligational authority to outlays; and

- The *translator*, which traces the flow of purchases from each outlay account to the industrial sectors in which the purchases are made

Though there is some potential for error in each of these steps, the major sources of uncertainty in the projections are the underlying budget data and the translator.

A useful way to put uncertainty in planned DoD budgets into perspective is to ask: Is there more uncertainty in planned defense spending over a five-year horizon than there is in five-year forecasts of such variables as gross domestic product (GDP) and the index of industrial production? The answer is probably "no".

Examining the number of budget accounts that fund those purchases (Table 2) provides some indication of the variability of defense purchases from particular industries. To the extent that planned purchases are broadly derived, variations in the purchases are likely to track nonpay defense outlays as a whole. Conversely, if the purchases are funded by only a few accounts, attention is directed to uncertainty in the particular programs generating the purchases.

The *DEPPS* translator has two helpful properties. First, it does not magnify errors in the projections arising from differences between planned and actual spending. On the contrary, errors in the projections of direct defense purchases are proportional to the difference between actual spending in the programs giving rise to those purchases and planned spending at the time the projections were made. Second, a change in spending on a given program does not affect projected purchase for unrelated items.

The distribution of DoD purchases among industries changes over time in response to:

- Shifts in the composition of defense outlays (an increase in the share of budget going for procurement, for example); and

- Changes, within individual budget accounts, in the share of outlays going to various industries.

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[9] The projections of total defense purchases and of total domestic production of each industry in the system, which involve different considerations, are not discussed.

The first source of change – shifts in the composition of defense outlays – represents the primary factor behind variations in the distribution of purchases. The second – shifts in the share of outlays going to various industries – changes relatively slowly over time and is due primarily to technological change, changes in product features, and price changes. Hence, to the extent that planned changes in budget composition are borne out, the translator is a good predictor of the ultimate distribution of purchases among industries.

Beyond these general points, uncertainties in the projections of direct defense purchases can be assessed only on an industry-by-industry basis.

APPENDIX A. Purchasing Sector to NAICS Industry Crosswalk

Missiles	238	Guided missiles and space vehicles (336414)
	239	Propulsion units and parts for space vehicles and guided missiles (336415, 336419)
Ammunition	152	Ammunition (332992, 332993)
Tanks and Tank Components	244	Military armored vehicle, tanks and tank components (336992)
Other Ordnance	153	Arms, ordnance and accessories (332994, 332995)
Communications Equipment	196	Telephone apparatus (33421)
	197	Broadcast and wireless communications equipment (33422)
	198	Other communications equipment (33429)
	203	Search, detection and navigation equipment (334511)
Other Electronic Equipment	199	Audio and video equipment (3343)
	200	Semiconductors and electron tubes (334411, 334413)
	201	All other electronic components (334414,2,4-6,7-9)
	202	Electromedical and electrotherapeutic appartus (334510)
Motor Vehicles	229	Automobiles (336111, 336112)
	230	Heavy duty trucks (336120)
	231	Motor vehicle bodies (336211)
	232	Truck trailers (336212)
	233	Motor homes, trailers and campers (336213, 336214)
	234	Motor vehicle parts (3363)
Aircraft and Parts	235	Aircraft (336411)
	237	Other aircraft parts and auxiliary equipment (336413)
Aircraft Engines and Engine Parts	236	Aircraft engines and engine parts (336412)
All Other		All other NAICS industries

APPENDIX B. *IDEPPS* to NAICS Industry to RDEPPS Crosswalk

National		NAICS Classification		State Level	
Ind #	Industry Title	Classification Code(s)	Sec #	Industrial Sector Title	
1	Oilseed farming	111111-2	1	Crop Production	
2	Grain farming	11113-6, 11119	1		
3	Vegetable and melon farming	1112	1		
4	Fruit and nut farming	11131-2,111331-6, 111339	1		
5	Greenhouse, nursery, and floriculture production	1114	1		
6	Tobacco farming	11191	1		
7	Cotton farming	11192	1		
8	Sugarcane and sugar beet farming	11193, 111991	1		
9	All other crop farming	11194, 111992, 111998	1		
10	Cattle ranching and dairy farming	11211, 11212, 11213	2	Animal Production	
11	Poultry and egg production	1123	2		
12	Animal production, except cattle and poultry and eggs	1122, 1124-5, 1129	2		
13	Forestry and logging	1131-3	3	Forestry, fishing and agriculture support activities	
14	Fishing, hunting and trapping	1141-2	3		
15	Support activities for agriculture and forestry	115	3		
16	Crude oil extraction	211pt	4	Crude oil extraction	
17	Natural gas extraction	211pt	5	Natural gas extraction	
18	Coal mining	2121	6	Coal Mining	
19	Iron ore mining	21221	7	Metal Ore Mining	
20	Copper, nickel, lead, and zinc mining	21223	7		
21	Gold, silver, and other metal ore mining	21222, 21229	7		
22	Stone mining and quarrying	21231	8	Nonmetallic mineral mining	
23	Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying	21232	8		
24	Other nonmetallic mineral mining and quarrying	21239	8		
25	Drilling oil and gas wells	213111	9	Support activities for mining	
26	Support activities for oil and gas operations	213112	9		
27	Support activities for other mining	213113-5	9		
28	Electric power generation, transmission, and distribution	2211	10	Electric utilities	
29	Natural gas distribution	2212	11	Natural gas distribution	
30	Water, sewage and other systems	2213	12	Water, sewage and other systems	
31	New residential construction	23*	13	New construction	
32	New non-residential building construction	23*	13		
33	Highway, street, bridge, tunnel, water, sewer, pipeline and other construction	23*	13		
34	Maintenance and repair of residential structures	23*	14	Maintenance and repair construction	
35	Maintenance and repair of nonresidential buildings, infrastructure and other	23*	14		
36	Dog and cat food	311111	16	Other foods	
37	Other animal food	311119	16		
38	Flour milling and malt	31121	16		
39	Wet corn milling	311221	16		
40	Soybean and other oilseed processing	311222-3	16		
41	Fats and oils refining and blending	311225	16		
42	Breakfast cereals	311230	16		
43	Sugar manufacturing	311311-3	16		
44	Chocolate	31132, 31133	16		
45	Nonchocolate confectionery	31134	16		
46	Frozen food manufacturing	31141	16		
47	Fruit and vegetable canning, pickling, and drying	31142	16		
48	Fluid milk and butter	311511-2	15	Dairy products, meat and seafood	
49	Cheese	311513	15		
50	Dry, condensed, and evaporated dairy product manufacturing	311514	15		

APPENDIX B. *IDEPPS* to NAICS Industry to RDEPPS Crosswalk

National		NAICS Classification		State Level
Ind #	Industry Title	Classification Code(s)	Sec #	Industrial Sector Title
51	Ice cream and frozen desserts	311520	15	
52	Animal (except poultry) slaughtering, rendering, and processing	311611-3	15	
53	Poultry processing	311615	15	
54	Seafood product preparation and packaging	3117	15	
55	Bread and bakery products	31181	16	Other foods
56	Cookies, crackers and tortillas	31182, 31183	16	
57	Snack foods	31191	16	
58	Coffee and tea	31192	16	
59	Flavoring syrup and concentrate	31193	16	
60	Seasonings and dressings	31194	16	
61	All other food	31199	16	
62	Soft drinks and ice	31211	17	Beverages
63	Breweries	31212	17	
64	Wineries	31213	17	
65	Distilleries	31214	17	
66	Tobacco product manufacturing	3122	18	Tobacco
67	Fiber, yarn, and thread mills	3131	19	Textiles and textile products
68	Fabric mills	3132	19	
69	Textile and fabric finishing mills	3133	19	
70	Carpet and rug mills	31411	19	
71	Curtain and linen mills	31412	19	
72	Other textile products	31491, 31499	19	
73	Apparel knitting mills	31511, 31519	20	Apparel
74	Cut and sew apparel	3152	20	
75	Apparel accessories and other apparel	3159	20	
76	Footwear and other leather products	3161	21	Leather products
77	Sawmills and wood preservation	3211	22	Wood products
78	Veneer, plywood, particleboard, and engineered wood products	3212	22	
79	Wood windows and doors and millwork	32191	22	
80	Wood containers and pallets	32192	22	
81	Manufactured homes (mobile homes)	321991	22	
82	Prefabricated wood buildings	321992	22	
83	All other miscellaneous wood products	321999	22	
84	Pulp mills	32211	23	Paper
85	Paper and paperboard mills	32212, 32213	23	
86	Paperboard container manufacturing	32221	23	
87	Coated and laminated paper, packaging paper and plastics film	322221-2	23	
88	All other paper bag and coated and treated paper manufacturing	322223-6	23	
89	Stationery product manufacturing	32223	23	
90	Sanitary paper product manufacturing	322291	23	
91	All other converted paper products	322299	23	
92	Printing	32311	24	Printing
93	Support activities for printing	32312	24	
94	Petroleum refineries	32411	25	Petroleum and coal products
95	Asphalt products	324121, 324122	25	
96	Lubricating and other petroleum products	324191, 324199	25	
97	Petrochemicals	32511	28	Other chemicals
98	Industrial gases	32512	28	
99	Synthetic dyes and pigments	32513	28	
100	Other basic inorganic chemicals	32518	28	

APPENDIX B. *IDEPPS* to NAICS Industry to RDEPPS Crosswalk

National		NAICS Classification		State Level
Ind #	Industry Title	Classification Code(s)	Sec #	Industrial Sector Title
101	Other basic organic chemicals	32519	28	
102	Plastics materials and resins	325211	26	Resin, synthetic rubber and fibers
103	Synthetic rubber	325212	26	
104	Artificial and synthetic fibers and filaments	32522	26	
105	Fertilizers	325311-4	28	Other chemicals
106	Pesticides and other agricultural chemicals	325320	28	
107	Pharmaceuticals and medicines	325411-4	27	Pharmaceuticals
108	Painst and coatings	32551	28	Other chemicals
109	Adhesives	32552	28	
110	Soaps and cleaning compounds	32561	28	
111	Toilet preparations	32562	28	
112	Printing ink	32591	28	
113	All other chemical products and preparations	32592, 32599	28	
114	Plastics packaging materials and unlaminated film and sheet	32611	29	Plastic products
115	Plastics pipe, fittings, and profile shapes	32612	29	
116	Laminated plastics plate, sheet (except packaging), and shapes	32613	29	
117	Plastic foam products	32614, 32615	29	
118	Plastic bottles	32616	29	
119	Other plastics products	32619	29	
120	Tires	32621	30	Rubber products
121	Rubber and plastics hoses and beltings	32622	30	
122	Other rubber products	32629	30	
123	Pottery, ceramics, and plumbing fixtures	32711	31	Nonmetallic mineral products
124	Clay building materials and refractories	327122,4,5	31	
125	Glass and glass products, exc containers	327211-2, 327215	31	
126	Glass containers	327213	31	
127	Cement	32731	31	
128	Ready-mix concrete	32732	31	
129	Concrete pipe, brick, and blocks	32733	31	
130	Other concrete products	32739	31	
131	Lime and gypsum products	3274	31	
132	Abrasive products	32791	31	
133	Cut stone and stone products	327991	31	
134	Other non-metallic mineral products	327992,3,9	31	
135	Primary ferrous metal products	3311, 3312	32	Iron and steel
136	Primary aluminum production	331311,2,4	33	Nonferrous metals
137	Aluminum product manufacturing from purchased aluminum	331315, 331316, 331319	33	
138	Primary smelting and refining of copper	331411	33	
139	Primary smelting and refining of nonferrous metal (except copper and aluminum)	331419	33	
140	Copper rolling, drawing, extruding and alloying	33142	33	
141	Nonferrous metal (except copper and aluminum) rolling, drawing, extruding and alloying	33149	33	
142	Ferrous metal foundries	33151	32	Iron and steel
143	Nonferrous metal foundries	33152	33	Nonferrous metals
144	Forging and stamping	33211	34	Fabricated metal products
145	Cutlery, utensils, pots, and pans	332211, 332214	34	
146	Handtools	332212-3	34	
147	Plate work and fabricated structural products	33231	34	
148	Ornamental and architectural metal products	33232	34	
149	Power boilers and heat exchangers	33241	34	
150	Metal tanks (heavy gauge)	33242	34	

APPENDIX B. *IDEPPS* to NAICS Industry to RDEPPS Crosswalk

National		NAICS Classification		State Level
Ind #	**Industry Title**	**Classification Code(s)**	**Sec #**	**Industrial Sector Title**
151	Metal cans, boxes, and other metal containers (light gauge)	33243	34	
152	Ammunition	332992-3	34	
153	Arms, ordnance, and accessories	332994-5	34	
154	Hardware manufacturing	3325	34	
155	Springs and wire products	3326	34	
156	Machine shops	33271	34	
157	Turned products and screws, nuts, and bolts	33272	34	
158	Coating, engraving, heat treating and allied activities	3328	34	
159	Metal valves	33291-3, 332919	34	
160	Ball and roller bearings	332991	34	
161	Fabricated pipe and pipe fittings	332996	34	
162	Other fabricated metal products	332997-9	34	
163	Farm machinery and equipment	333111	35	Agriculture, construction and mining machinery
164	Lawn and garden equipment	333112	35	
165	Construction machinery	33312	35	
166	Mining and oil and gas field machinery	33313	35	
167	Other industrial machinery	33321, 333291-4, 333298	36	Industrial machinery
168	Plastics and rubber industry machinery	33322	36	
169	Semiconductor machinery manufacturing	333295	36	
170	Vending, commercial, industrial, and office machinery	333311-3	37	Commercial and service industry machinery
171	Optical instruments and lenses	333314	37	
172	Photographic and photocopying equipment	333315	37	
173	Other commercial and service industry machinery	333319	38	Ventilation, heating, air-conditioning and ventilation equipment
174	Air purification and ventilation equipment	333411-2	38	
175	Heating equipment (except warm air furnaces)	333414	38	
176	Air conditioning, refrigeration, and warm air heating equipment	333415	38	
177	Industrial molds	333511	39	Metalworking machinery
178	Metal cutting and forming machine tools	333512-3	39	
179	Special tools, dies, jigs, and fixtures	333514	39	
180	Cutting tool and machine tool accessories	333515	39	
181	Rolling mill and other metalworking machinery	333516, 333518	39	
182	Turbine and turbine generator set units	333611	40	Engine, turbine and power transmission equipment
183	Speed changers and mechanical power transmission equipment	333612, 333613	40	
184	Other engine equipment	333618	40	
185	Pump and pumping equipment	333911, 333913	41	Other general purpose machinery
186	Air and gas compressors	333912	41	
187	Material handling equipment	333921-4	41	
188	Power-driven handtool manufacturing	333991	41	
189	Other general purpose machinery	333992, 333997, 333999	41	
190	Packaging machinery	333993	41	
191	Industrial process furnaces and ovens	333994	41	
192	Fluid power process machinery	333995-6	41	
193	Computers	334111	42	Computers and peripheral equipment
194	Computer storage devices	334112	42	
195	Computer terminals and other computer peripherals	334113, 334119	42	
196	Telephone apparatus	33421	43	Communications and audio-video equipment
197	Broadcast and wireless communications equipment	33422	43	
198	Other communications equipment	33429	43	
199	Audio and video equipment	3343	43	
200	Semiconductors and electron tubes	334411, 334413	44	Semiconductors and other electronic components

APPENDIX B. *IDEPPS* to NAICS Industry to RDEPPS Crosswalk

National		NAICS Classification		State Level
Ind #	Industry Title	Classification Code(s)	Sec #	Industrial Sector Title
201	All other electronic components	334414,2,4-6,7-9	44	
202	Electromedical and electrotherapeutic apparatus	334510	45	Electromedical and electrotherapeutic apparatusw
203	Search, detection, and navigation instruments	334511	46	Search, detection and navigation equipment
204	Automatic environmental controls	334512	47	Measuring and control instruments
205	Industrial process variable instruments	334513	47	
206	Totalizing fluid meters and counting devices	334514	47	
207	Electricity and signal testing instruments	334515	47	
208	Analytical laboratory instruments	334516	47	
209	Irradiation apparatus manufacturing	334517	45	Electromedical and electrotherapeutic apparatusw
210	Watch, clock, and other measuring and controlling devices	334518-9	47	Measuring and control instruments
211	Software, audio, and video media reproducing	334611-2	48	Magnetic and optical media
212	Magnetic and optical recording media	334613	48	
213	Electric lamp bulbs and parts	33511	51	Other electrical equipment and components
214	Lighting fixtures	33512	51	
215	Small electrical appliances	33521	49	Household appliances
216	Household cooking appliances	335221	49	
217	Household refrigerators and home freezers	335222	49	
218	Household laundry equipment	335224	49	
219	Other major household appliances	335228	49	
220	Power, distribution, and specialty transformers	335311	50	Electrical equipment
221	Motors and generators	335312	50	
222	Switchgear and switchboard apparatus	335313	50	
223	Relays and industrial controls	335314	50	
224	Storage batteries	335911	51	Other electrical equipment and components
225	Primary battery manufacturing	335912	51	
226	Communication and energy wires and cables	33592	51	
227	Wiring devices	33593	51	
228	Carbon and graphite and miscellaneous electrical equipment	335991, 335999	51	
229	Automobiles	336111-2	52	Motor vehicles
230	Heavy duty trucks	336120	52	
231	Motor vehicle bodies	336211	52	
232	Truck trailer manufacturing	336212	52	
233	Motor homes, trailers and campers	336213, 336214	52	
234	Motor vehicle parts	3363	53	Motor vehicle parts
235	Aircraft	336411	54	Aerospace products and parts
236	Aircraft engines and engine parts	336412	54	
237	Other aircraft parts and auxiliary equipment	336413	54	
238	Guided missiles and space vehicles	336414	54	
239	Propulsion units and parts for space vehicles and guided missiles	336415, 336419	54	
240	Railroad rolling stock	3365	56	Other transportation equipment
241	Ship building and repairing	336611	55	Ship and boat building
242	Boat building	336612	55	
243	Motorcycles, bicycles, and parts	336991	56	Other transportation equipment
244	Military armored vehicles, tanks, and tank components	336992	56	
245	All other transportation equipment	336999	56	
246	Wood kitchen cabinet and countertops	33711	57	Furniture
247	Household and institutional furniture	33712	57	
248	Office furniture (including fixtures)	33721	57	
249	Mattresses, blinds and shades	33791, 33792	57	
250	Laboratory apparatus and furniture	339111	58	Medical equipment and supplies, dental labs

National		NAICS Classification		State Level
Ind #	Industry Title	Classification Code(s)	Sec #	Industrial Sector Title
251	Surgical and medical instruments	339112	58	
252	Surgical appliances and supplies	339113	58	
253	Dental equipment and supplies	339114	58	
254	Ophthalmic goods	339115	59	Ophthalmic goods
255	Dental laboratories	339116	58	Medical equipment and supplies, dental labs
256	Jewelry and silverware	33991	60	Miscellaneous manufacturing
257	Sporting and athletic goods	33992	60	
258	Dolls, toys, and games	33993	60	
259	Office supplies (except paper)	33994	60	
260	Sign manufacturing	33995	60	
261	Gasket, packing, and sealing devices	339991	60	
262	Musical instruments	339992	60	
263	All other miscellaneous manufacturing	339993, 339995, 339999	60	
264	Broom, brush, and mop manufacturing	339994	60	
265	Wholesale trade	42	61	Wholesale trade
266	Retail trade	44, 45	62	Retail trade
267	Air transportation	481	63	Air transportation
268	Rail transportation	482	64	Rail transportation
269	Water transportation	483	65	Water transportation
270	Truck transportation	484	66	Truck transportation
271	Transit and ground passenger transportation	485	67	Transit and ground passenger transportation
272	Pipeline transportation	486	68	Pipeline transportation
273	Scenic and sightseeing transportation and support activities for transportation	487, 488	69	Transportation support, sightseeing, couriers
274	Couriers and messengers	492	69	
275	Warehousing and storage	493	70	Warehousing and storage
276	Newspaper publishers	51111	71	Publishing, except software
277	Periodical publishers	51112	72	Software
278	Book publishers	51113	71	Publishing, except software
279	Directory, mailing list, and other publishers	51114, 51119	71	
280	Software publishers	51121	71	
281	Motion picture and video industries	5121	73	Motion picture and sound recording
282	Sound recording industries	5122	73	
283	Radio and television broadcasting	5151	74	
284	Cable and internet	5152, 516	74	
285	Telecommunications	517	75	
286	Data processing, hosting and internet service providers	5181, 5182	76	
287	Other information services	519	76	
288	Monetary authorities and depository credit intermediation	521, 5221	77	Banks, credit cards and finance
289	Nondepository credit intermediation and related activities	5222-3	77	
290	Securities, commodity contracts, investments, and related activities	523	78	Securities, investments, funds and trusts
291	Insurance carriers	5241	79	Insurance
292	Insurance agencies, brokerages, and related activities	5242	79	
293	Funds, trusts, and other financial vehicles	525	78	Securities, investments, funds and trusts
294	Real estate	531	80	Real estate
295	Owner-occupied dwellings	S00800	81	Owner-occupied dwellings
296	Automotive equipment rental and leasing	5321	82	Rental and leasing of goods
297	General and consumer goods rental except video tapes and discs	53221-2, 53229, 5323	82	
298	Video tape and disc rental	53223	82	
299	Commercial and industrial machinery and equipment rental and leasing	5324	82	
300	Lessors of nonfinancial intangible assets	533	83	Royalties

APPENDIX B. *IDEPPS* to NAICS Industry to RDEPPS Crosswalk

National		NAICS Classification		State Level
Ind #	Industry Title	Classification Code(s)	Sec #	Industrial Sector Title
301	Legal services	5411	84	Legal services
302	Accounting, tax preparation, bookkeeping, and payroll services	5412	85	Professional, scientific and technical services
303	Architectural, engineering, and related services	5413	85	
304	Specialized design services	5414	85	
305	Custom computer programming services	541511	86	Computer systems design and related services
306	Computer systems design services	541512	86	
307	Other computer related services, including facilities management	541513, 541519	86	
308	Management, scientific, and technical consulting services	54161	85	Professional, scientific and technical services
309	Environmental and other technical consulting services	54162, 54169	85	
310	Scientific research and development services	5417	85	
311	Advertising and related services	5418	85	
312	All other miscellaneous professional, scientific, and technical services	54191, 54193, 54199	85	
313	Photographic services	54192	85	
314	Veterinary services	54194	85	
315	Management of companies and enterprises	55	87	Management of companies and enterprices
316	Office administrative services	5611	88	Administrative and support services
317	Facilities support services	5612	88	
318	Business support services	5614	88	
319	Investigation and security services	5616	88	
320	Services to buildings and dwellings	5617	88	
321	Other support services	5619	88	
322	Employment services	5613	88	
323	Travel arrangement and reservation services	5615	88	
324	Waste management and remediation services	562	89	Waste management and remediation
325	Elementary and secondary schools	6111	90	Educational services
326	Junior colleges, colleges, universities, and professional schools	6112-3	90	
327	Other educational services	6114-7	90	
328	Offices of physicians, dentists, and other health practitioners	6211-3	92	Offices of physicians, dentists, and other health practiners
329	Medical and diagnostic labs and outpatient and other ambulatory care services	6214-5, 6219	93	Other ambulatory health care services
330	Home health care services	6216	91	Home health care services
331	Hospitals	622	94	Hospitals
332	Nursing and residential care facilities	623	95	Nursing and residential care facilities
333	Social assistance, except child day care services	6241-3	96	Child care and social assistance
334	Child day care services	6244	96	
335	Performing arts	'7111,7113,7114,7115,	97	Performing arts, spectator sports and museums
336	Museums, historical sites, zoos, and parks	712	97	
337	Spectator sports	7112	97	
338	Amusements, gambling, & recreation activities	7131-2, 71391-3, 71394, 71395, 71399	98	Amusements, gambling and recreation
339	Hotels and other accomodations	72111-2, 72119, 7212-3	99	Accomodation
340	Food services and drinking places	722	100	Food services and drinking places
341	Automotive repair, maintenance and car washes	8111	101	Automotive repair and maintenance
342	Electronic and precision equipment repair and maintenance	8112	102	Other repair and maintenance, personal services
343	Commercial and industrial machinery and equipment repair and maintenance	8113	102	
344	Personal and household goods repair and maintenance	8114	102	
345	Personal care services	8121	102	
346	Death care services	8122	102	
347	Dry-cleaning and laundry services	8123	102	
348	Other personal services	8129	102	
349	Religious, grantmaking, civic & professional organizations	813	103	Religious, grantmaking and other organizations
350	Private households	814	104	Private households

APPENDIX B. *IDEPPS* to NAICS Industry to RDEPPS Crosswalk

National		NAICS Classification		State Level	
Ind #	**Industry Title**	**Classification Code(s)**	**Sec #**	**Industrial Sector Title**	
351	Postal service	491	105	Postal service and federal government enterprises	
352	Other federal government enterprises	S00102	105		
353	Other state and local government enterprises	S00203	106	State and local government enterprises	
354	General Federal defense government services	S00500	107	General government industry	
355	General Federal nondefense government services	S00600	107		
356	General state and local government services	S00700	107		
357	Noncomparable imports	S00300	108	Noncomparable imports	
358	Scrap	S00401	109	Scrap, used and secondhand	
359	Used and secondhand goods	S00402	109		
360	Rest of the world adjustment	S00900	110	Rest of the world adjustment to final uses	