



**An Analysis of the Composition of Intermediate Inputs by Industry**

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## Abstract

The Gross Domestic Product (GDP) by industry accounts for the United States provide industry estimates of value added, gross output, and intermediate inputs based, in part, on data from the benchmark and annual input-output (I-O) accounts for the United States. The GDP by industry data provide a decomposition of an industry's gross output into expenditures on primary inputs--that is, value-added inputs--and expenditures on total intermediate inputs. Recently, these data have been widely used in studies of structural change and economic growth in the U.S. economy. This paper extends the information available for such studies by introducing intermediate inputs decomposed into the cost categories of energy, materials, and purchased services using a time-series of I-O "use" tables. It develops a conceptual framework for measuring intermediate-inputs price and quantity growth and then uses this framework to prepare nominal estimates, chain-type price indexes, and chain-type quantity indexes for intermediate inputs by industry and by cost category. It also presents contributions by each cost category to growth in the chain-type price and quantity indexes of gross output. Data are consistent with the published GDP by industry accounts and are presented for the years 1992-2000.

## I. Introduction

The Gross Domestic Product (GDP) by industry accounts for the United States are prepared by the Bureau of Economic Analysis (BEA) and identify the contribution of private industries and government to the Nation's GDP.<sup>1</sup> These accounts include annual-industry estimates of value added, gross output, and intermediate inputs based, in part, on data from the

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<sup>1</sup> For the published estimates, see Sherlene K.S. Lum, Brian C. Moyer, and Robert E. Yuskavage, "Improved Estimates of Gross Domestic Product by Industry for 1947-98," *Survey of Current Business* 80 (June 2000): 24-54; Sherlene K.S. Lum and Brian C. Moyer, "Gross Domestic Product by Industry for 1997-99," *Survey of Current Business* 80 (December 2000): 24-35; and Sherlene K.S. Lum and Brian C. Moyer, "Gross Domestic Product by Industry for 1998-2000," *Survey of Current Business* 81 (November 2001): 17-33.

benchmark and annual input-output (I-O) accounts. The GDP by industry accounts provide industry estimates on an establishment basis following the Standard Industrial Classification (SIC) System. Nominal, or current-dollar, estimates are provided for the years 1947-2000, and chain-type price and quantity indexes are provided for the years 1977-2000.

Estimates of nominal value added measure the returns to an industry's primary factors of production--labor and capital--and are derived from the estimates of gross domestic income (GDI) developed in the U.S. National Income and Product Accounts (NIPA's). By industry, the components of GDI consist of compensation of employees; property-type income; and indirect business tax and nontax liability. Nominal gross output measures an industry's sales or receipts, other operating income, commodity taxes, and inventory change. Gross-output estimates are derived, in part, from the benchmark and annual I-O accounts. Nominal intermediate-inputs measure an industry's use of secondary factors of production and are also derived, in part, from the benchmark and annual I-O accounts. Along with nominal value added, gross output, and intermediate inputs, BEA also provides the corresponding chain-type price and chain-type quantity indexes. These indexes play a key role in examining inflation-adjusted growth rates among industries.

Recently, there has been increased interest in exploring economic growth, input substitution, and structural change using the GDP by industry accounts (for example, see Jorgenson and Stiroh, 2000; Stiroh, 2001; and Triplett and Bosworth, 2002 ). Much of this analysis has focused on the relationships among value added, gross output, and intermediate inputs. For example, the substitution between primary factors of production (labor and capital) and secondary factors of production (intermediate inputs--energy, materials, and purchased

services) has become an important issue in production economics. This analysis, however, has been limited because of the lack of consistent data on detailed intermediate inputs by industry. To address this shortcoming requires developing detailed data on inputs for energy, materials, and purchased services--including nominal estimates and chain-type price and quantity indexes.

This paper extends the framework for analyzing structural change and economic growth in the U.S. economy by expanding the GDP by industry accounts to include a decomposition of intermediate inputs into the cost categories of energy, materials, and purchased services. That is, it applies the KLEMS (K-capital, L-labor, E-energy, M-materials, and S-purchased services) production framework at the SIC industry-group level of detail (see Jorgenson, Gollop, and Fraumeni, 1987). The result is a set of estimates for intermediate inputs by cost category that are consistent with the published GDP by industry accounts.<sup>2</sup>

This paper consists of four sections. The first section develops a conceptual framework to decompose intermediate inputs into the cost categories of energy, materials, and purchased services. Section two discusses data sources and estimating techniques used to prepare the cost-category estimates. Section three presents empirical estimates and uses these estimates to highlight some general themes from the economic growth literature. The fourth and final section provides a summary and offers directions for future research.

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<sup>2</sup> The Bureau of Labor Statistics uses a similar framework in producing its estimates of multifactor productivity. BLS provides these measures for 2-digit and 3-digit SIC manufacturing industries, the railroad transportation industry, and the utility and gas industry. For more information on multifactor productivity estimates, see William Gullickson and Michael J. Harper, "Multifactor Productivity in U.S. Manufacturing, 1949-83," *Monthly Labor Review* (October 1987): 18-28.

## II. The Conceptual Framework

This section provides the theoretical justification for measuring inputs by industry and by cost category. It develops a conceptual framework from which the nominal estimates, the chain-type price indexes and the chain-type quantity indexes are derived. As will be discussed below, the development of these measures requires several assumptions about industry production technology. These assumptions include:

- The existence of an industry frontier production function that includes value-added inputs--capital and labor--and intermediate inputs--energy, materials, and purchased services;
- Weak separability of the industry production function in value-added inputs, energy inputs, materials inputs, and purchased-services inputs, implying that the marginal rates of technical substitution for a given input grouping are independent of the quantities of other input groupings;
- Linear homogeneity of the industry production function, implying constant-returns-to-scale production technology; and
- Cost-minimizing behavior on the part of the industry with respect to inputs.

This section is divided into two parts. The first part describes the composition of nominal intermediate inputs using the standard gross-output accounting identity. The second part develops a production-based framework in order to derive price and quantity measures of inputs based on an economic approach to the theory of index numbers.

### *Nominal Intermediate Inputs*

Consider a representative industry that produces output using both primary factors of production (labor and capital) and secondary factors of production (energy, materials, and

purchased services). That is, the industry's production process follows the KLEMS (K-capital, L-labor, E-energy, M-materials, and S-purchased services) production model (see Jorgenson, Gollop, and Fraumeni, 1987). Nominal gross output,  $\mathbf{x}_{i,t}\mathbf{X}_{i,t}$ , is equal to the sales, receipts, and other operating income obtained through the sale of output and is defined as the sum of the industry's current-dollar expenditure on capital, labor, energy, materials, and purchased services. Algebraically, nominal gross output is given by the following accounting identity.

$$\mathbf{x}_{i,t}\mathbf{X}_{i,t} / \mathbf{k}_{i,t}\mathbf{K}_{i,t} + \mathbf{l}_{i,t}\mathbf{L}_{i,t} + \mathbf{e}_{i,t}\mathbf{E}_{i,t} + \mathbf{m}_{i,t}\mathbf{M}_{i,t} + \mathbf{s}_{i,t}\mathbf{S}_{i,t}, \quad [1]$$

where  $\mathbf{x}_{i,t}$ ,  $\mathbf{k}_{i,t}$ ,  $\mathbf{l}_{i,t}$ ,  $\mathbf{e}_{i,t}$ ,  $\mathbf{m}_{i,t}$ ,  $\mathbf{s}_{i,t}$  are price vectors, and  $\mathbf{X}_{i,t}$ ,  $\mathbf{K}_{i,t}$ ,  $\mathbf{L}_{i,t}$ ,  $\mathbf{E}_{i,t}$ ,  $\mathbf{M}_{i,t}$ ,  $\mathbf{S}_{i,t}$  are quantity vectors of output, capital, labor, energy, materials, and purchased services, respectively, for industry  $i$  at time  $t$ . More precisely,

$$\mathbf{x}_{i,t} / [p_{i,t,1}^X, \dots, p_{i,t,g}^X, \dots, p_{i,t,G}^X] \gg 0, \quad [2]$$

$$\mathbf{k}_{i,t} / [p_{i,t,1}^K, \dots, p_{i,t,h}^K, \dots, p_{i,t,H}^K] \gg 0, \quad [3]$$

$$\mathbf{l}_{i,t} / [p_{i,t,1}^L, \dots, p_{i,t,j}^L, \dots, p_{i,t,J}^L] \gg 0, \quad [4]$$

$$\mathbf{e}_{i,t} / [p_{i,t,1}^E, \dots, p_{i,t,n}^E, \dots, p_{i,t,N}^E] \gg 0, \quad [5]$$

$$\mathbf{m}_{i,t} / [p_{i,t,1}^M, \dots, p_{i,t,z}^M, \dots, p_{i,t,Z}^M] \gg 0, \quad [6]$$

$$\mathbf{s}_{i,t} / [p_{i,t,1}^S, \dots, p_{i,t,r}^S, \dots, p_{i,t,R}^S] \gg 0, \quad [7]$$

$$\mathbf{X}_{i,t} / [q_{i,t,1}^X, \dots, q_{i,t,g}^X, \dots, q_{i,t,G}^X] \$ 0, \quad [8]$$

$$\mathbf{K}_{i,t} / [q_{i,t,1}^K, \dots, q_{i,t,h}^K, \dots, q_{i,t,H}^K] \$ 0, \quad [9]$$

$$\mathbf{L}_{i,t} / [q_{i,t,1}^L, \dots, q_{i,t,j}^L, \dots, q_{i,t,J}^L] \$ 0, \quad [10]$$

$$\mathbf{E}_{i,t} / [q_{i,t,1}^E, \dots, q_{i,t,n}^E, \dots, q_{i,t,N}^E] \$ 0, \quad [11]$$

$$\mathbf{M}_{i,t} / [q_{i,t,1}^M, \dots, q_{i,t,z}^M, \dots, q_{i,t,Z}^M] \$ 0, \text{ and} \quad [12]$$

$$\mathbf{S}_{i,t} / [q_{i,t,1}^S, \dots, q_{i,t,r}^S, \dots, q_{i,t,R}^S] \$ 0. \quad [13]$$

$\mathbf{x}_{i,t}, \mathbf{X}_{i,t}, \mathbf{k}_{i,t}, \mathbf{K}_{i,t}, \mathbf{l}_{i,t}, \mathbf{L}_{i,t}, \mathbf{e}_{i,t}, \mathbf{E}_{i,t}, \mathbf{m}_{i,t}, \mathbf{M}_{i,t}, \mathbf{s}_{i,t}, \mathbf{S}_{i,t}$  are scalar-valued products corresponding to the nominal levels of gross output and expenditures on capital, labor, energy, materials, and purchased services.

The sum of expenditures on capital and labor is referred to as the industry's nominal value added. That is,

$$\text{Nominal value-added inputs}_{i,t} / \mathbf{v}_{i,t} \mathbf{V}_{i,t} / \mathbf{k}_{i,t} \mathbf{K}_{i,t} + \mathbf{l}_{i,t} \mathbf{L}_{i,t}, \text{ where} \quad [14]$$

$$\mathbf{v}_{i,t} / [p_{i,t,1}^V, \dots, p_{i,t,w}^V, \dots, p_{i,t,W}^V] \gg 0 \text{ and} \quad [15]$$

$$\mathbf{V}_{i,t} / [q_{i,t,1}^V, \dots, q_{i,t,w}^V, \dots, q_{i,t,W}^V] \$ 0 \quad [16]$$

are summary price and quantity vectors for industry  $i$ 's primary factors of production. The sum of expenditures on energy, materials, and purchased services is referred to as the industry's nominal intermediate inputs. That is,

$$\text{Nominal intermediate inputs}_{i,t} / \mathbf{e}_{i,t} \mathbf{E}_{i,t} + \mathbf{m}_{i,t} \mathbf{M}_{i,t} + \mathbf{s}_{i,t} \mathbf{S}_{i,t}. \quad [17]$$

Rewriting [1] yields

$$\mathbf{x}_{i,t} \mathbf{X}_{i,t} / \mathbf{v}_{i,t} \mathbf{V}_{i,t} + \mathbf{e}_{i,t} \mathbf{E}_{i,t} + \mathbf{m}_{i,t} \mathbf{M}_{i,t} + \mathbf{s}_{i,t} \mathbf{S}_{i,t}. \quad [18]$$

Nominal gross output can be measured either directly or indirectly. A direct measure follows from the left-hand side of [18] by aggregating over the positive price and non-negative quantities of the industry's output. That is, nominal gross output follows by computing

$$\mathbf{x}_{i,t} \mathbf{X}_{i,t} / (p_{i,t,1}^X @q_{i,t,1}^X) + \dots + (p_{i,t,g}^X @q_{i,t,g}^X) + \dots + (p_{i,t,G}^X @q_{i,t,G}^X).^3 \quad [19]$$

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<sup>3</sup> A direct measure of nominal gross output is also possible when only the component expenditures,  $(p_{i,t,g}^X @q_{i,t,g}^X)$  for all  $g$ , are observable.

Alternatively, an indirect measure of nominal gross output follows from the right-hand side of [18] by aggregating over the positive prices and non-negative quantities of the industry's primary and secondary factors of production. That is, nominal gross output follows by computing

$$\begin{aligned}
& (\mathbf{v}_{i,t}\mathbf{V}_{i,t} + \mathbf{e}_{i,t}\mathbf{E}_{i,t} + \mathbf{m}_{i,t}\mathbf{M}_{i,t} + \mathbf{s}_{i,t}\mathbf{S}_{i,t}) / \\
& + (p_{i,t,l}^V @q_{i,t,l}^V) + \dots + (p_{i,t,w}^V @q_{i,t,w}^V) + \dots + (p_{i,t,W}^V @q_{i,t,W}^V) + \\
& + (p_{i,t,l}^E @q_{i,t,l}^E) + \dots + (p_{i,t,n}^E @q_{i,t,n}^E) + \dots + (p_{i,t,N}^E @q_{i,t,N}^E) + \\
& + (p_{i,t,l}^M @q_{i,t,l}^M) + \dots + (p_{i,t,z}^M @q_{i,t,z}^M) + \dots + (p_{i,t,Q}^M @q_{i,t,Q}^M) + \\
& + (p_{i,t,l}^S @q_{i,t,l}^S) + \dots + (p_{i,t,r}^S @q_{i,t,r}^S) + \dots + (p_{i,t,R}^S @q_{i,t,R}^S).^4 \tag{20}
\end{aligned}$$

To measure the components of [18], both the direct and indirect methods are used. First, a direct measure of nominal gross output,  $\mathbf{x}_{i,t}\mathbf{X}_{i,t}$ , follows from [19]. Secondly, a measure of nominal value added,  $\mathbf{v}_{i,t}\mathbf{V}_{i,t}$ , follows by summing over the components of the industry's primary factors of production. From [20],

$$\mathbf{v}_{i,t}\mathbf{V}_{i,t} / (p_{i,t,l}^V @q_{i,t,l}^V) + \dots + (p_{i,t,w}^V @q_{i,t,w}^V) + \dots + (p_{i,t,W}^V @q_{i,t,W}^V). \tag{21}$$

Finally, a measure of nominal intermediate inputs is derived as a residual--that is,

$$\mathbf{e}_{i,t}\mathbf{E}_{i,t} + \mathbf{m}_{i,t}\mathbf{M}_{i,t} + \mathbf{s}_{i,t}\mathbf{S}_{i,t} / \mathbf{x}_{i,t}\mathbf{X}_{i,t} - \mathbf{v}_{i,t}\mathbf{V}_{i,t}. \tag{22}$$

In this manner, [18] is completely specified and the shares of nominal value-added inputs and intermediate inputs follow as [23] and [24], respectively.

$$\text{Value-added inputs share}_{i,t} / \mathbf{v}_{i,t}\mathbf{V}_{i,t} / \mathbf{x}_{i,t}\mathbf{X}_{i,t}. \tag{23}$$

$$\text{Intermediate-inputs share}_{i,t} / (\mathbf{e}_{i,t}\mathbf{E}_{i,t} + \mathbf{m}_{i,t}\mathbf{M}_{i,t} + \mathbf{s}_{i,t}\mathbf{S}_{i,t}) / \mathbf{x}_{i,t}\mathbf{X}_{i,t}. \tag{24}$$

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<sup>4</sup> An indirect measure of nominal gross output is also possible when only the component expenditures,  $(p_{i,t,w}^V @q_{i,t,w}^V)$  for all  $w$ ,  $(p_{i,t,n}^E @q_{i,t,n}^E)$  for all  $n$ ,  $(p_{i,t,z}^M @q_{i,t,z}^M)$  for all  $z$ , and  $(p_{i,t,r}^S @q_{i,t,r}^S)$  for all  $r$ , are observable.



As discussed below, [21] and [22] can be estimated using source data from the GDP by industry accounts in order to generate nominal measures of intermediate inputs by industry and by cost category. Similarly, [23] and [24] can be estimated in order to generate shares of intermediate inputs by industry and by cost category. Because [1] is satisfied for all industries and for all time periods, the estimates of nominal value added and intermediate-input shares will be consistent with the published measures of industry value added, gross output, and intermediate inputs from the GDP by industry accounts.

*Price Indexes, Quantity Indexes, and Real Intermediate Inputs*

Following the KLEMS production model, suppose that an industry's technology can be represented by a frontier production function of the form

$$GO(\mathbf{X}_{i,t}) = f(\mathbf{V}_{i,t}, \mathbf{E}_{i,t}, \mathbf{M}_{i,t}, \mathbf{S}_{i,t}), \quad [25]$$

where  $f(\mathbf{V}_{i,t}, \mathbf{E}_{i,t}, \mathbf{M}_{i,t}, \mathbf{S}_{i,t})$  is a scalar-valued, neoclassical production function, and  $GO(\mathbf{X}_{i,t}) \geq 0$  is a scalar-valued "real gross-output function" that is assumed linearly homogeneous in  $\mathbf{X}_{i,t}$ .

Following standard convention, the real gross-output function,  $GO(\mathbf{X}_{i,t})$ , allows the industry's multi-product output (primary and secondary products) to be represented by a scalar.

A more restrictive version of [25] results if  $f(\mathbf{V}_{i,t}, \mathbf{E}_{i,t}, \mathbf{M}_{i,t}, \mathbf{S}_{i,t})$  is weakly separable in  $\mathbf{V}_{i,t}$ ,  $\mathbf{E}_{i,t}$ ,  $\mathbf{M}_{i,t}$ , and  $\mathbf{S}_{i,t}$ . Weak separability implies that [25] can be written

$$GO(\mathbf{X}_{i,t}) = f(VA(\mathbf{V}_{i,t}), TE(\mathbf{E}_{i,t}), TM(\mathbf{M}_{i,t}), TS(\mathbf{S}_{i,t})), \quad [26]$$

where  $VA(\mathbf{V}_{i,t}) \geq 0$ ,  $TE(\mathbf{E}_{i,t}) \geq 0$ ,  $TM(\mathbf{M}_{i,t}) \geq 0$ , and  $TS(\mathbf{S}_{i,t}) \geq 0$  are scalar-valued functions.

$VA(\mathbf{V}_{i,t})$  is assumed linearly homogeneous in  $\mathbf{V}_{i,t}$ ;  $TE(\mathbf{E}_{i,t})$  is assumed linearly homogeneous in  $\mathbf{E}_{i,t}$ ;  $TM(\mathbf{M}_{i,t})$  is assumed linearly homogeneous in  $\mathbf{M}_{i,t}$ ; and  $TS(\mathbf{S}_{i,t})$  is assumed linearly

homogeneous in  $\mathbf{S}_{i,t}$ .<sup>5</sup> In this framework,  $VA(\mathbf{V}_{i,t})$  is a measure of industry real value added, referred to as the industry's "real value-added function,"  $TE(\mathbf{E}_{i,t})$  is a measure of industry real energy inputs,  $TM(\mathbf{M}_{i,t})$  is a measure of industry real materials inputs, and  $TS(\mathbf{S}_{i,t})$  is a measure of industry real purchased-services inputs.

Discrete-time price and quantity index pairs for energy, materials, and purchased-services inputs can be developed from this conceptual framework using the economic approach to the theory of index numbers (for an overview of this approach, see the introduction to Diewert and Nakamura, 1993). To begin, consider the conditional minimization problem in which the industry chooses, for example, its optimal mix of energy inputs.

$$\min_{\mathbf{E}_{i,t} \geq 0} \{ \mathbf{v}_{i,t} \mathbf{V}_i^* + \mathbf{e}_{i,t} \mathbf{E}_{i,t} + \mathbf{m}_{i,t} \mathbf{M}_i^* + \mathbf{s}_{i,t} \mathbf{S}_i^* \mid$$

$$f(\mathbf{VA}(\mathbf{V}_i^*), \mathbf{TE}(\mathbf{E}_{i,t}), \mathbf{TM}(\mathbf{M}_i^*), \mathbf{TS}(\mathbf{S}_i^*)) = \mathbf{GO}(\mathbf{X}_i^*) \}, \text{ where} \quad [27]$$

$$\mathbf{V}_i^* / [q_{i,1}^{*V}, \dots, q_{i,w}^{*V}, \dots, q_{i,W}^{*V}] \geq 0, \quad [28]$$

$$\mathbf{M}_i^* / [q_{i,1}^{*M}, \dots, q_{i,z}^{*M}, \dots, q_{i,Z}^{*M}] \geq 0, \quad [29]$$

$$\mathbf{S}_i^* / [q_{i,1}^{*S}, \dots, q_{i,r}^{*S}, \dots, q_{i,R}^{*S}] \geq 0, \text{ and} \quad [30]$$

$$\mathbf{X}_i^* / [q_{i,1}^{*X}, \dots, q_{i,g}^{*X}, \dots, q_{i,G}^{*X}] \geq 0 \quad [31]$$

are reference quantity vectors of primary factors of production, materials, purchased services, and output, respectively. Let a solution to this problem be given by  $\mathbf{E}'_{i,t-1}$  in year t-1 and by  $\mathbf{E}'_{i,t}$  in year t. The indirect function associated with this problem is the cost function defined as

$$C(\mathbf{v}_{i,t}, \mathbf{e}_{i,t}, \mathbf{m}_{i,t}, \mathbf{s}_{i,t}, \mathbf{V}_i^*, \mathbf{M}_i^*, \mathbf{S}_i^*, \mathbf{X}_i^*) / \min_{\mathbf{E}_{i,t} \geq 0} \{ \mathbf{v}_{i,t} \mathbf{V}_i^* + \mathbf{e}_{i,t} \mathbf{E}_{i,t} + \mathbf{m}_{i,t} \mathbf{M}_i^* + \mathbf{s}_{i,t} \mathbf{S}_i^* \mid$$

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<sup>5</sup> The weak separability of  $f(\mathbf{V}_{i,t}, \mathbf{E}_{i,t}, \mathbf{M}_{i,t}, \mathbf{S}_{i,t})$  in  $\mathbf{V}_{i,t}$ ,  $\mathbf{E}_{i,t}$ ,  $\mathbf{M}_{i,t}$ , and  $\mathbf{S}_{i,t}$  implies that the marginal rates of technical substitution within a cost category--that is, within energy, materials, or purchased services--are independent of the quantities of the other cost categories.

$$f(\text{VA}(\mathbf{V}_i^*), \text{TE}(\mathbf{E}_{i,t}), \text{TM}(\mathbf{M}_i^*), \text{TS}(\mathbf{S}_i^*)) = \text{GO}(\mathbf{X}_i^*). \quad [32]$$

An energy-inputs price relative,  $\text{PR}_{i,t-1,t}^{\text{TE}}$  for the years t-1 and t follows as

$$\text{PR}_{i,t-1,t}^{\text{TE}} / C(\mathbf{v}_{i,t}, \mathbf{e}_{i,t}, \mathbf{m}_{i,t}, \mathbf{s}_{i,t}, \mathbf{V}_i^*, \mathbf{M}_i^*, \mathbf{S}_i^*, \mathbf{X}_i^*) / C(\mathbf{v}_{i,t-1}, \mathbf{e}_{i,t-1}, \mathbf{m}_{i,t-1}, \mathbf{s}_{i,t-1}, \mathbf{V}_i^*, \mathbf{M}_i^*, \mathbf{S}_i^*, \mathbf{X}_i^*). \quad [33]$$

Weak separability of the frontier production function and linear homogeneity of  $\text{TE}(\mathbf{E}_{i,t})$  in  $\mathbf{E}_{i,t}$

implies that [33] reduces to

$$\text{PR}_{i,t-1,t}^{\text{TE}} / C(\mathbf{e}_{i,t}) / C(\mathbf{e}_{i,t-1}). \quad [34]$$

Now consider the conditional maximization problem,

$$\max_{\lambda \geq 0} \{ \lambda \mid f(\text{VA}(\mathbf{V}_i^*), \text{TE}(\lambda^{-1}\mathbf{E}_{i,t}), \text{TM}(\mathbf{M}_i^*), \text{TS}(\mathbf{S}_i^*)) = \text{GO}(\mathbf{X}_i^*) \}, \quad [35]$$

where  $\lambda$  is a non-negative scalar. The indirect function associated with this problem is the input distance function, defined as

$$D(\mathbf{V}_i^*, \mathbf{E}_{i,t}, \mathbf{M}_i^*, \mathbf{S}_i^*, \mathbf{X}_i^*) / \max_{\lambda \geq 0} \{ \lambda \mid f(\text{VA}(\mathbf{V}_i^*), \text{TE}(\lambda^{-1}\mathbf{E}_{i,t}), \text{TM}(\mathbf{M}_i^*), \text{TS}(\mathbf{S}_i^*)) = \text{GO}(\mathbf{X}_i^*) \}. \quad [36]$$

An energy-inputs quantity relative,  $\text{QR}_{i,t-1,t}^{\text{TE}}$  for the years t-1 and t follows as

$$\text{QR}_{i,t-1,t}^{\text{TE}} / D(\mathbf{V}_i^*, \mathbf{E}_{i,t}, \mathbf{M}_i^*, \mathbf{S}_i^*, \mathbf{X}_i^*) / D(\mathbf{V}_i^*, \mathbf{E}_{i,t-1}, \mathbf{M}_i^*, \mathbf{S}_i^*, \mathbf{X}_i^*). \quad [37]$$

The assumptions of weak separability and linear homogeneity along with the assumption of cost minimization, imply that [37] reduces to [38].

$$\text{QR}_{i,t-1,t}^{\text{TE}} / D(\mathbf{E}'_{i,t}) / D(\mathbf{E}'_{i,t-1}). \quad [38]$$

Intuitively, the input distance function identifies the largest value of  $\lambda$  by which the energy inputs,  $\mathbf{E}_{i,t}$ , must be deflated in order to generate a given amount of output,  $\text{GO}(\mathbf{X}_i^*)$ . From [36], it is apparent that  $D(\mathbf{V}_i^*, \mathbf{E}_{i,t}, \mathbf{M}_i^*, \mathbf{S}_i^*, \mathbf{X}_i^*)$  is increasing in  $\mathbf{E}_{i,t}$ , implying that

$[D(\mathbf{E}'_{i,t}) / D(\mathbf{E}'_{i,t-1})]$  provides a meaningful measure of energy-inputs quantity growth between the years  $t-1$  and  $t$ .

$(PR^{TE}_{i,t-1,t}, QR^{TE}_{i,t-1,t})$ , therefore, is a pair of price and quantity relatives for energy inputs for industry  $i$ . Suppose that the industry's production technology can be approximated by a quadratic frontier production function--a well known flexible functional form. Diewert (1992) shows that the Fisher-Ideal price and quantity relatives are exact for the quadratic technology. This implies that [34] and [38] can be approximated by [39] and [40], respectively.

$$PR^{TE}_{i,t-1,t} / \{[(\sum_n q^E_{i,t-1,n} \textcircled{P}^E_{i,t,n}) / (\sum_n q^E_{i,t-1,n} \textcircled{P}^E_{i,t-1,n})] \textcircled{P}^E_{i,t,n} / (\sum_n q^E_{i,t,n} \textcircled{P}^E_{i,t,n}) / (\sum_n q^E_{i,t,n} \textcircled{P}^E_{i,t-1,n})\}^{1/2} \quad [39]$$

$$QR^{TE}_{i,t-1,t} / \{[(\sum_n p^E_{i,t-1,n} \textcircled{Q}^E_{i,t,n}) / (\sum_n p^E_{i,t-1,n} \textcircled{Q}^E_{i,t-1,n})] \textcircled{Q}^E_{i,t,n} / (\sum_n p^E_{i,t,n} \textcircled{Q}^E_{i,t,n}) / (\sum_n p^E_{i,t,n} \textcircled{Q}^E_{i,t-1,n})\}^{1/2} \quad [40]$$

A chain-type index pair corresponding to these relatives is  $(PI^{TE}_{i,t}, QI^{TE}_{i,t})$ , where

$$PI^{TE}_{i,t} / \begin{cases} R (PI^{TE}_{i,t-1} \textcircled{P}^E_{i,t-1,t}) \text{ for } t > 0 \\ \cdot (PI^{TE}_{i,t-1} / PR^{TE}_{i,t-1,t}) \text{ for } t < 0 \\ J \ 1.0 \text{ for } t = 0 \text{ and} \end{cases} \quad [41]$$

$$QI^{TE}_{i,t} / \begin{cases} R (QI^{TE}_{i,t-1} \textcircled{Q}^E_{i,t-1,t}) \text{ for } t > 0 \\ \cdot (QI^{TE}_{i,t-1} / QR^{TE}_{i,t-1,t}) \text{ for } t < 0 \\ J \ 1.0 \text{ for } t = 0. \end{cases} \quad [42]$$

Chain-type price and quantity indexes for materials and purchased services are derived in an identical manner. [43]-[46] provide the price and quantity relatives corresponding to the chain-type index pairs for materials and purchased services.

$$PR^{TM}_{i,t-1,t} / \{[(\sum_z q^M_{i,t-1,z} \textcircled{P}^M_{i,t,z}) / (\sum_z q^M_{i,t-1,z} \textcircled{P}^M_{i,t-1,z})] \textcircled{P}^M_{i,t,z} / (\sum_z q^M_{i,t,z} \textcircled{P}^M_{i,t,z}) / (\sum_z q^M_{i,t-1,z} \textcircled{P}^M_{i,t-1,z})\} \textcircled{P}^M_{i,t,z}$$

$$[(\sum_z q_{i,t,z}^M \mathbb{P}_{i,t,z}^M) / (\sum_z q_{i,t,z}^M \mathbb{P}_{i,t-1,z}^M)]^{1/2} \quad [43]$$

$$QR^{TM}_{i,t-1,t} / \{[(\sum_z p_{i,t-1,z}^M \mathbb{Q}_{i,t,z}^M) / (\sum_z p_{i,t-1,z}^M \mathbb{Q}_{i,t-1,z}^M)] @$$

$$[(\sum_z p_{i,t,z}^M \mathbb{Q}_{i,t,z}^M) / (\sum_z p_{i,t,z}^M \mathbb{Q}_{i,t-1,z}^M)]^{1/2}\} \quad [44]$$

$$PR^{TS}_{i,t-1,t} / \{[(\sum_r q_{i,t-1,r}^S \mathbb{P}_{i,t,r}^S) / (\sum_r q_{i,t-1,r}^S \mathbb{P}_{i,t-1,r}^S)] @$$

$$[(\sum_r q_{i,t,r}^S \mathbb{P}_{i,t,r}^S) / (\sum_r q_{i,t,r}^S \mathbb{P}_{i,t-1,r}^S)]^{1/2}\} \quad [45]$$

$$QR^{TS}_{i,t-1,t} / \{[(\sum_r p_{i,t-1,r}^S \mathbb{Q}_{i,t,r}^S) / (\sum_r p_{i,t-1,r}^S \mathbb{Q}_{i,t-1,r}^S)] @$$

$$[(\sum_r p_{i,t,r}^S \mathbb{Q}_{i,t,r}^S) / (\sum_r p_{i,t,r}^S \mathbb{Q}_{i,t-1,r}^S)]^{1/2}\} \quad [46]$$

As discussed below, these expressions can be estimated using deflation-level source data from the GDP by industry accounts in order to generate chain-type price and quantity indexes for intermediate inputs by industry and by cost category. Moreover, these estimates will be consistent with the published measures of industry value added, gross output, and intermediate inputs from the GDP by industry accounts.

### III. Estimating Methodology

This section presents the data and methodology used to produce the estimates of intermediate inputs by industry and by cost category. It first describes the methodology used to prepare the nominal measures of inputs and then it discusses the deflation process and the computation of the chained-type price and quantity indexes of inputs by cost category.

### *Nominal Intermediate Inputs*

The relationship among nominal gross output, nominal value added, and nominal intermediate input is given by [18]. This expression shows the interdependence among these variables, and, as discussed above, provides a way of indirectly measuring intermediate inputs--that is, [18] can be solved for aggregate intermediate inputs,

$$\text{Nominal intermediate inputs}_{i,t} / \mathbf{e}_{i,t} \mathbf{E}_{i,t} + \mathbf{m}_{i,t} \mathbf{M}_{i,t} + \mathbf{s}_{i,t} \mathbf{S}_{i,t} / \mathbf{x}_{i,t} \mathbf{X}_{i,t} - \mathbf{v}_{i,t} \mathbf{V}_{i,t}. \quad [47]$$

In turn, nominal gross output is measured directly by aggregating over the components of the industry's output (as shown in [19]); and nominal value added is measured by aggregating over the industry's components of GDI (as shown in [21]). The data sources used by the BEA to estimate nominal gross output and nominal value added are provided in Tables 1 and 2, respectively.

SIC-based estimates of intermediate inputs by industry (computed from [47]) are distributed to detailed products using annual product distributions from the benchmark and annual "use" tables. These tables show the consumption of intermediate products by industry. Product distributions from the 1992 benchmark and the 1996-1997 annual I-O tables are incorporated. For the years 1993-1995, the annual product distributions are derived by linearly interpolating between the 1992 and 1996 distributions. The 1996 annual I-O table is used to derive the 1996 and 1997 product distributions and the 1997 annual I-O table is used to derive the 1998-2000 product distributions. These annual product distributions are consistent with those used in the GDP by industry accounts--that is, the I-O tables are incorporated into the GDP by industry accounts based on when they first became available.

After applying the annual product distributions, each product is then classified into the cost categories of energy, materials, and purchased services. The assignment of these categories is generally straightforward, however, in certain cases, assignments vary depending on the use by consuming industry. For example, the assignment of petroleum to a cost category varies according to the consuming industry--when consumed by most industries, petroleum is categorized as an energy input; when consumed by the petroleum refining industry, it is categorized as a material input.

As a final step, the detailed products within the cost categories of energy, materials, and purchased services are summed to produce annual estimates of nominal intermediate inputs by industry and by cost category. These estimates, in turn, yield shares of intermediate inputs by industry and by cost category. Following [23]-[24], inputs shares for value-added, intermediate inputs, energy, materials, and purchased services are presented in [48]-[52], respectively.

$$\text{Value-added inputs share}_{i,t} / \mathbf{v}_{i,t} \mathbf{V}_{i,t} / \mathbf{x}_{i,t} \mathbf{X}_{i,t}, \quad [48]$$

$$\text{Intermediate-inputs share}_{i,t} / (\mathbf{e}_{i,t} \mathbf{E}_{i,t} + \mathbf{m}_{i,t} \mathbf{M}_{i,t} + \mathbf{s}_{i,t} \mathbf{S}_{i,t}) / \mathbf{x}_{i,t} \mathbf{X}_{i,t}, \quad [49]$$

$$\text{Energy-inputs share}_{i,t} / \mathbf{e}_{i,t} \mathbf{E}_{i,t} / \mathbf{x}_{i,t} \mathbf{X}_{i,t}, \quad [50]$$

$$\text{Materials-inputs share}_{i,t} / \mathbf{m}_{i,t} \mathbf{M}_{i,t} / \mathbf{x}_{i,t} \mathbf{X}_{i,t}, \text{ and} \quad [51]$$

$$\text{Purchased-services inputs share}_{i,t} / \mathbf{s}_{i,t} \mathbf{S}_{i,t} / \mathbf{x}_{i,t} \mathbf{X}_{i,t}. \quad [52]$$

### *Price and Quantity Indexes of Intermediate Inputs*

Index-number formulas for the chain-type price and quantity relatives for energy, materials, and purchased services are presented in [39]-[40], [43]-[44], and [45]-[46], respectively. Estimating these expressions requires revisiting the product detail used to prepare the nominal intermediate-inputs estimates, described above. First, the intermediate inputs by

product are split between domestic inputs and imported inputs using 1992 benchmark I-O data on the proportions of domestic and imported inputs by product. Secondly, product price indexes are obtained from the Bureau of Labor Statistics, including Producer Price Indexes (PPI) and International Price Indexes (IPI). The PPI's are used to deflate the domestic portion of intermediate inputs by product, and the IPI's are used to deflate the imported portion of intermediate inputs by product. The deflated intermediate inputs by product are aggregated to the cost categories of energy, materials, and purchased services using the Fisher-Ideal index-number-formulas presented in [39]-[40], [43]-[44], and [45]-[46], respectively. Multiplicatively chaining these relatives (as shown in [41]-[42]), yields intermediate-inputs chain-type price and quantity indexes by industry and by cost category.

#### **IV. Empirical Results**

This section presents empirical estimates of intermediate inputs by industry group and by cost category for the years 1992-2000. Tables 3-10 present a decomposition of gross output, into the components of value added and intermediate inputs, including the cost categories of energy, materials, and purchased services. These estimates provide the necessary data to more fully examine the economic growth, input substitution, and structural change that occurred throughout the 1990's. Highlights from this section include the following.

- For the economy as a whole, a shift occurred within the composition of intermediate inputs over the 1992-2000 period--purchased-services inputs comprised a much larger share of economy-wide gross output in 2000 than in 1992. This reflects, in part, the increased outsourcing of services inputs in the 1990's.
- For both private goods-producing and private services-producing industries, materials inputs demonstrated the highest average annual 1992-2000 growth rates in the chain-type



quantity index among the intermediate-inputs cost categories. Quantity growth in materials inputs can be attributed, in part, to the rapid growth in information technology (IT)-related inputs.

- Materials-inputs prices grew the slowest among all intermediate-inputs cost categories in 1992-2000 for both private-goods producing and private-services producing industries. In fact, materials inputs made a -0.4-percent contribution to economy-wide gross output price growth in 1995-2000. This reflects, in part, significant price declines for IT-related inputs.

Below, industry-group results are discussed in greater detail. The first part discusses the composition of nominal gross output by industry group, including the shares of value-added inputs and intermediate inputs by cost category. The second part describes the growth in the chain-type quantity indexes by industry group for gross output, value added, and intermediate inputs by cost category. It presents the contributions to growth in the chain-type quantity indexes for gross output, including contributions of energy, materials, and purchased services. Part three presents the growth in the chain-type price indexes for gross output, value added, and intermediate inputs and the contributions to growth in the chain-type price indexes for gross output.

### *Composition and Shares of Nominal Gross Output*

The composition of current-dollar gross output for an industry or industry group indicates the relative importance of the value-added inputs and the energy, materials, and purchased-service inputs used in the production of industry output. Changes in these shares indicate the extent to which expenditures on value-added inputs and inputs by cost category are becoming relatively more or less important to the industry.

The composition of nominal gross output by industry group is presented in Table 3. Shares of nominal gross output are presented in Table 4. For the economy as a whole in 1992-2000, the shares of value-added inputs declined--from 59.2 percent in 1992 to 57.3 percent in 2000 and intermediate inputs slightly increased--41.2 percent in 1992 and 42.0 percent in 2000. Within intermediate inputs, purchased-services inputs increased steadily--from 17.5 percent in 1992 to 20.2 percent in 2000. Materials inputs, on the other hand, declined--from 21.2 percent to 19.8 percent. By 2000, purchased-services inputs comprised a larger share of economy-wide gross output than both energy and materials inputs. The shift toward purchased-services inputs can be attributed, in part, to the increased outsourcing of services inputs in the 1990's.

Despite a slight decline in the share of intermediate inputs for the private goods-producing industries in 1992-2000--from 59.9 percent in 1992 to 59.1 percent in 2000--purchased-services inputs slightly increased its share by 0.6 percentage points--from 11.3 percent to 12.0 percent. A similar trend was observed for the private services-producing industries. Purchased-services inputs for private services-producing industries increased 2.9 percentage points--from 23.9 percent to 26.8 percent. At the industry group level-of-detail, the largest increases in shares of purchased-services inputs occurred in communications (up 7.7 percentage points) and in finance, insurance and real estate (FIRE) (up 4.4 percentage points). Energy and materials inputs declined slightly for both the private goods-producing and private services-producing industries, yet private goods-producing industries remained heavily dependant on materials inputs throughout the 1992-2000 period.

*Chain-Type Quantity Indexes: Growth and Contributions*

Growth rates in the chain-type quantity indexes for gross output, value added, and intermediate inputs by cost category indicate whether the quantities of an industry's value-added inputs and its energy, materials, and purchased-services inputs are growing faster or slower than its output. Contributions to growth in an industry's gross output chain-type quantity index identify the sources of growth among an industry's inputs.<sup>6</sup>

The chain-type quantity indexes by industry group are presented in Table 5, and the growth rates in these indexes in Table 6. Average annual growth rates are presented for 1992-2000 and for the sub-periods 1992-1995 and 1995-2000. (Recent literature has identified 1995-2000 as a period of rapid economic growth.) For 1992-2000, the economy-wide gross-output quantity index grew at an average annual rate of 4.4 percent. Value-added inputs grew at 3.7 percent and intermediate inputs grew at 4.8 percent. Within intermediate inputs, purchased-services inputs grew the fastest at 5.2 percent. By sub-period, purchased-services inputs grew at an average annual rate of 6.3 percent in 1992-1995, and then decreased to 4.6 percent in 1995-2000. For both private goods-producing and private services-producing industries, materials inputs demonstrated the highest average annual growth rates in 1992-2000.<sup>7</sup> Materials inputs for private goods-producing industries grew at 4.4 percent (relative to a 4.2-percent growth rate in

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<sup>6</sup> Contributions to growth estimates depend on both the relative size and the growth rate of the contributing component. For additional information, see the box "Using Chained-Dollar Estimates for Computing Contributions to Economic Growth: A Cautionary Note" in Sherlene K.S. Lum and Brian C. Moyer, "Gross Product by Industry, 1995-97," Survey of Current Business 78 (November 1998): 24-25.

<sup>7</sup> Materials-inputs quantity growth is smaller than purchased-services inputs quantity growth for "private industries" because of the relative shares of materials inputs and purchased-services inputs for private goods-producing and private services-producing industries.

the quantity index for gross output) and private services-producing industries grew at 6.5 percent (relative to a 5.0-percent growth rate in the quantity index for gross output).

At the industry-group level of detail, materials inputs for durable-goods manufacturing experienced an acceleration in average annual growth rates between 1992-1995 and 1995-2000--increasing from 6.4 percent to 8.2 percent. This acceleration was due, in part, to the rapid growth in IT-related inputs, such as computers and semiconductors. For the communications industry group, purchased-services inputs accelerated from 6.6 percent to 13.6 percent between 1992-1995 and 1995-2000, and materials inputs accelerated from 10.6 percent to 22.9 percent. Again, the acceleration in materials inputs can be largely attributed to accelerations in IT-related inputs.

Contributions to growth in the gross output chain-type quantity index by industry group are presented in Table 7. For the economy as a whole in 1992-2000, value-added inputs contributed 2.2 percentage points and intermediate inputs contributed 2.0 percentage points to the 4.4-percent average annual growth in the gross output chain-type quantity index. Within intermediate inputs, materials inputs contributed 1.0 percentage point and purchased-services inputs contributed 0.9 percentage point to gross-output quantity growth. The contribution of materials inputs to gross-output quantity growth increased 0.4 percentage point between 1992-1995 and 1995-2000--in 1992-1995 materials inputs contributed 0.8 percentage point to the 3.8-percent quantity growth in gross output, and in 1995-2000 materials inputs contributed 1.2 percentage points to the 4.7-percent quantity growth in gross output.

Contributions by materials inputs for private goods-producing industries increased between 1992-1995 and 1995-2000. The contribution of materials inputs for durable-goods

manufacturing increased 0.9 percentage point--in 1992-1995 materials inputs contributed 3.0 percentage points to the 7.1-percent quantity growth in gross output, and in 1995-2000 materials inputs contributed 3.9 percentage points to the 7.3-percent quantity growth in gross output--reflecting, in part, growth in IT-related inputs. The contribution of materials inputs for the mining industry group increased 2.7 percentage points--in 1992-1995 materials inputs contributed -1.4 percentage points to the 0.5-percent quantity growth in gross output, and in 1995-2000 materials inputs contributed 1.3 percentage points to the 0.5-percent quantity growth in gross output--reflecting, in part, increases in petroleum-related inputs prices in 1999-2000.

For private services-producing industries in 1992-2000, purchased-services inputs contributed 1.4 percentage points to the 5.0-percent average annual growth in the gross output chain-type quantity index. For the communications industry group, purchased-services inputs contributed 2.9 percentage points to the 8.9-percent quantity growth in gross output, and for FIRE, purchased-services inputs contributed 1.7 percentage points to the 4.8-percent quantity growth in gross output.

#### *Chain-Type Price Indexes: Growth and Contributions*

The price indexes for gross output, value added, and intermediate inputs represent the prices received by an industry for its output and the prices paid for its value-added inputs and intermediate inputs, respectively. Growth rates in the chain-type price indexes for gross output, value added, and intermediate inputs by cost category indicate whether the prices of the industry's value-added inputs and its energy, materials, and purchased-services inputs are

growing faster or slower than its output prices. Contributions to growth in the industry's gross output chain-type price index identifies the sources of price growth among an industry's inputs.<sup>8</sup>

The chain-type price indexes by industry group are presented in Table 8, and the growth rates in these indexes in Table 9. For 1992-2000, the economy-wide gross-output price index grew at an average annual rate of 1.7 percent. Value-added inputs grew at 1.9 percent and intermediate inputs grew at 1.5 percent. Within intermediate inputs, purchased-services inputs grew the fastest at 2.7 percent. For both private goods-producing and private services-producing industries, purchased-services inputs demonstrated the highest average annual growth rates in 1992-2000--2.6 percent for private goods-producing industries (relative to a 0.8-percent growth rate in the price index for gross output) and 2.7 percent for private services-producing industries (relative to a 2.1-percent growth rate in the price index for gross output).

Economy-wide materials-inputs prices increased only 0.3 percent in 1992-2000, relative to a 1.7-percent average annual increase in gross-output prices. Materials-inputs prices for durable-goods manufacturing decreased 1.3 percent, relative to a 1.2-percent decrease in durable-goods manufacturing gross-output prices. For the sub-period 1992-1995, materials-inputs prices for durable-goods manufacturing increased 1.7 percent relative to a 0.8-percent increase in gross-output prices, and for 1995-2000, materials-inputs price decreased 3.0 percent relative to a 2.4-percent decrease in gross-output prices. These price decreases reflect, in part, the rapidly declining prices for IT-related inputs, such as computers and semiconductors, in the second half of the 1990's.

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<sup>8</sup> For price calculations, the procedures used to compute contributions to growth in chain-type quantity indexes were modified to replace the chain-type quantity index with the chain-type price index.

Contributions to growth in the chain-type price indexes for gross output by industry group are presented in Table 10. For the economy as a whole in 1992-2000, value-added inputs contributed 1.1 percentage points and intermediate inputs contributed 0.6 percentage point to the 1.7-percent average annual growth in the gross output chain-type price index. Within intermediate inputs, purchased-services inputs contributed 0.5 percentage point and materials inputs contributed 0.1 percentage point while energy inputs contributed zero percentage points to gross output chain-type price growth. The contribution of materials inputs to gross-output price growth decreased 0.7 percentage point between 1992-1995 and 1995-2000--in 1992-1995, materials inputs contributed 0.5 percentage point to the 2.3-percent price growth in gross output, and in 1995-2000 materials inputs contributed -0.2 percentage point to the 1.4-percent price growth in gross output. Despite the 1.8-percent average-annual price growth for economy-wide energy inputs in 1992-2000 (Table 8), energy inputs contributed 0.0-percent point to the 1.7-percent gross-output price growth because of their relatively small share of economy-wide gross output (Table 4).

Contributions to gross-output price change by materials inputs for private goods-producing industries decreased between 1992-1995 and 1995-2000. For durable-goods manufacturing, the contribution to price change of materials inputs decreased 2.2 percentage points--in 1992-1995 materials inputs contributed 0.8 percentage points to the 0.8-percent price growth in gross output, and in 1995-2000 materials inputs contributed -1.4 percentage points to the -2.4-percent price growth in gross output. The contribution of materials inputs for the mining industry group increased 1.7 percentage points--in 1992-1995 materials inputs contributed 0.1 percentage point to the -1.3-percent price growth in gross output, and in 1995-

2000 materials inputs contributed 1.8 percentage points to the 8.6-percent price growth in gross output. These increases are attributed, in part, to increases in petroleum-related inputs prices in 1999-2000.

## **V. Summary**

This paper extends the possibilities for analysis of structural change and economic growth in the U.S. economy by expanding the GDP by industry accounts to include nominal measures, chain-type price indexes, and chain-type quantity indexes for intermediate inputs by cost category. It establishes a theoretical framework and uses this framework to measure energy inputs, materials inputs, and purchased-services inputs. Empirical results at the industry-group level of detail are largely consistent with the themes that have emerged from the literature on structural change and economic growth. For example, cost-category data clearly identify an increase in the role of purchased-services inputs throughout the 1990's. In general, this increase is attributed to a greater outsourcing of services inputs, particularly in the private services-producing industries. The cost-category data also show the impact of IT-related products on the growth in industry output. Like many of the economic growth studies for the 1995-2000 period, this analysis concludes that much of the output quantity growth and lower rates of price growth in the second half of the 1990's can be attributed to quantity growth and price declines in IT-related products--particularly, materials inputs in the durable-goods manufacturing industry group.

With the development of these new data, studies that previously used the GDP by industry estimates of intermediate inputs can now be extended to include measures of inputs by



cost category. Such extensions will provide additional insight into the structural changes of the 1990's by identifying changes in the input composition for industries and by identifying sources of industry price and quantity growth.

Table 1.--Source Data for Estimating Gross Output by Industry

Industry <sup>1</sup>	Current dollars	Quantity Index
	Extrapolator or interpolator of benchmark values <sup>2</sup>	Detailed price indexes used to calculate quantity index
Agriculture, forestry, and fishing:		
Farms.....	Cash receipts from marketings and inventory change from USDA.	Prices received by farmers from USDA.
Agricultural services.....	For veterinary services, PCE; for landscape and horticultural services and all other agricultural services, wages and salaries from BLS. Previously, receipts from IRS tabulations of business tax returns.	Composite price index of wages and salaries per employee from BLS, PCE, farm prices, and PPI's.
Forestry.....	Shipments of logging camps and contractors from Census Bureau quinquennial census and annual survey.	PPI's.
Fishing.....	Value of fish landed from NOAA.	IPD for fish landed from NOAA.
Mining:		
Metal mining.....	Physical quantity produced times average price: For uranium, physical quantity and average price from DOE; for all others, quantities and prices from USGS.	IPD for metallic minerals from DOE and USGS.
Coal mining.....	Physical quantity produced times average price, both from DOE.	IPD for coal from DOE.
Oil and gas extraction.....	Physical quantity produced times average price, both from DOE, except natural gas liquids (PPI).	IPD for crude petroleum and natural gas from DOE, except for natural gas liquids (PPI).
Oil and gas field services.....	Petroleum and natural gas well drilling and exploration; Footage drilled and cost per foot from trade source.	IPD for footage drilled from trade source.
Nonmetallic minerals, except fuels.....	Physical quantity produced times average price, both from USGS.	IPD for nonmetallic minerals from USGS.
Construction:		
For the Department of Defense.....	Expenditures from DOD...	For most military construction, BEA indexes based on DOD prices; for other construction, cost indexes from trade sources and government agencies.
For State and local highways.....	Expenditures from Census Bureau annual survey of government spending.	For new construction, cost indexes from government agencies; for maintenance and repair, CPI for home maintenance and repair services.
For private electric and gas utilities.....	Expenditures from Federal regulatory agencies and trade sources.	Cost indexes from trade sources and government agencies.
For farms, excluding residential.....	Expenditures from USDA...	Cost index from trade source and price deflator for new single-family houses under construction from Census Bureau.
For other nonresidential:		
New construction.....	Value put in place from Census Bureau construction survey.	Cost indexes from trade sources and government agencies and price indexes from new single-family houses under construction from Census Bureau.
Maintenance and repair.....	Value put in place from Census Bureau construction survey.	CPI for home maintenance and repair services.
For other residential:		
New construction.....	Value put in place from Census Bureau construction survey.	Price index for new single-family houses under construction from Census Bureau.
Maintenance and repair.....	Value put in place from Census Bureau construction survey.	CPI for home maintenance and repair services.
Manufacturing.....	Shipments and inventory change from Census Bureau annual survey.	PPI's, quality-adjusted price indexes for computers, semiconductors, and digital telephone switching equipment. BEA price indexes based on DOD prices paid for military equipment.
Transportation:		
Railroad transportation:		
Railroad freight transportation.....	Total operating revenue for class I railroads from trade source.	PPI for railroads, line-haul operating starting in 1992. Previously, IPD for freight ton-miles from trade source.
Railroad passenger transportation.....	Total operating revenue for AMTRAK.	PPI for railroads, line-haul operating starting in 1992. Previously, IPD for passenger-miles from trade source.
Local and interurban passenger transit:		
Taxicabs.....	PCE.	PCE price index for taxi fares based on CPI.
Intercity buses.....	Operating revenues from trade source.	IPD for passenger revenue miles from trade source.
School buses.....	Wages and salaries from BLS.	Wages and salaries per employee from BLS.
Other local transit.....	Operating revenues of private local transit systems from trade source.	IPD based on revenues and passenger trips from trade source.
Trucking and warehousing:		
Trucking, and terminal facilities.....	Receipts from Census Bureau annual survey starting in 1984. Previously, operating revenues for Class I motor carriers of property from ICC.	PPI for motor freight transportation and warehousing starting in 1993. Previously, IPD for freight ton-miles from trade source.
Courier services, except by air.....	Receipts from Census Bureau annual survey starting in 1984. Previously, operating revenues for Class I motor carriers of property from ICC.	PPI for courier services, except by air starting in 1993. Previously, IPD for freight ton-miles from trade source.
Public warehousing and storage.....	Receipts from Census Bureau annual survey starting in 1984. Previously, operating revenues for Class I motor carriers of property from ICC.	PPI for public warehousing and storage starting in 1993. Previously, IPD for freight ton-miles from trade source.

Table 1 (continued).--Source Data for Estimating Gross Output by Industry

Industry <sup>1</sup>	Current dollars	Quantity Index
	Extrapolator or interpolator of benchmark values <sup>2</sup>	Detailed price indexes used to calculate quantity index
Water transportation:		
Marine cargo handling.....	Wages and salaries from BLS.	PPI for marine cargo handling starting in 1993. Previously, wages and salaries per employee from BLS.
Marinas.....	PCE for commercial participant amusements.	PCE price index for commercial participant amusements.
Other water transportation.....	Freight and passenger revenue data from trade source.	PPI for water transportation starting in 1993. Previously, BEA price index for freight payments for foreign U.S. ocean carriers.
Transportation by air:		
Air passenger transportation .....	Total passenger related revenues from DOT.	IPD for total passenger related revenues and passenger-miles from DOT.
Air Freight, mail and express.....	Total freight, mail and express revenues from DOT.	IPD for total freight, mail and express related revenues and ton-miles from DOT.
Other air transportation.....	Wages and salaries from BLS.	Wages and salaries per employee from BLS.
Pipelines, except natural gas.....	Operating revenues from trade source.	IPD for ton-miles from trade source.
Transportation services:		
Passenger transportation arrangement.....	Receipts from Census Bureau annual survey.	PPI for travel agencies starting in 1990. Previously, wages and salaries per employee from BLS.
Freight transportation arrangement.....	Wages and salaries from BLS.	PPI for freight transportation arrangement starting in 1995. Previously, wages and salaries per employee from BLS.
Other transportation services.....	Wages and salaries from BLS.	Wages and salaries per employee from BLS.
Communications:		
Radio and television broadcasting.....	Receipts from Census Bureau annual survey starting in 1989. Previously, advertising expenditures from trade source and PCE for cable television.	For advertising, cost indexes from trade source. For cable television, PPI starting in 1993. Previously, PCE price index for cable television based on CPI.
Telephone and telegraph.....	Receipts from Census Bureau annual survey starting in 1989. Previously, revenues from FCC.	For cellular telephone services starting in 1987, PCE price index; for other telephone services, PPI's.
Electric, gas, and sanitary services:		
Electric utilities.....	For private utilities, revenues from DOE/EIA. For rural cooperatives, revenues from USDA.	PPI for electricity, starting in 1991. Previously, IPD for kilowatt hours from trade source.
Gas utilities.....	Quantity delivered times average price by class of service from DOE/EIA starting in 1987. Previously, revenues of gas pipeline and utilities from trade source.	Composite price index for gas utilities by class of service from DOE/EIA, starting in 1987. Previously, IPD for BTU's from trade source.
Sanitary services.....	Receipts from IRS tabulations of business tax returns.	CPI for water and sewerage maintenance.
Wholesale trade:		
Merchant wholesalers.....	Ratio of gross margin to sales (margin rate) times sales: For 1977-82, margin rate from quinquennial census and sales from Census Bureau annual survey; for 1983 forward, both from annual survey.	Sales price index by kind of business computed from PPI's.
Manufacturers' sales branches and sales offices.....	For equipment rental, interpolation of quinquennial census receipts; for 1993 forward, judgmental trend. For other receipts, manufacturing shipments from Census Bureau annual survey.	For equipment rental, BEA capital stock price index. For other receipts, shipments deflated by PPI's.
Agents and brokers.....	Merchant wholesalers margin rate times sales: For 1977-82, margin rate from quinquennial census and sales from Census Bureau annual survey; for 1983 forward, both from annual survey.	Merchant wholesalers' price index.
Retail trade:		
Eating and drinking places.....	Sales from quinquennial census and Census Bureau annual survey.	CPI's.
Other.....	Ratio of gross margin to sales (margin rate) times sales: For 1977-82, margin rate from quinquennial census and sales from Census Bureau annual survey; for 1983 forward, both from annual survey.	Sales price index by kind-of-business computed from CPI's.
Finance, insurance, and real estate:		
Depository institutions.....	NIPA imputed service charges for depository institutions, and noninterest income of commercial banks and savings institutions.	NIPA price index for imputed interest paid by depository institutions and PCE price index for bank service charges.
Nondepository institutions.....	Fees and other income without interest and trading gains of federally sponsored credit institutions, owned and managed receivables of domestic finance companies, and PCE for motor vehicle leasing.	Wages and salaries from BLS and PCE price index for motor vehicle leasing.
Security and commodity brokers.....	Securities commissions, revenue from sale of investment company securities, profits on underwriting/selling/gains on trading accounts and other revenues excluding interest, and revenues earned by exchanges; receipt items from SEC and interest from SEC and BEA.	For securities commissions, IPD from number of public securities orders from SEC and trade sources; for mutual funds, IPD for securities commissions; for underwriting, IPD from new securities registrations from SEC and trade sources; for other revenue, composite of PCE price indexes for other brokerage services starting in 1987. Previously, IPD for GDP.
Insurance carriers.....	Net premiums for health, auto, accident, property, and workers' compensation insurance from trade sources; PCE for expense of handling life insurance.	CPI for auto and property insurance and PCE price indexes for all other types of insurance.

Table 1 (continued).--Source Data for Estimating Gross Output by Industry

Industry <sup>1</sup>	Current dollars	Quantity Index
	Extrapolator or interpolator of benchmark values <sup>2</sup>	Detailed price indexes used to calculate quantity index
Insurance agents, brokers, and service.....	Receipts from IRS tabulations of business tax returns.	Insurance carrier deflators weighted by commissions from trade source.
Real estate:		
Nonfarm housing services.....	PCE for owner- and tenant-occupied nonfarm dwellings.	PCE price index.
Other real estate.....	NIPA farm rental, NIPA rent paid by nonprofits, NIPA royalties received, IRS corporate business receipts, and Census annual survey data.	NIPA rental IPD's, rental rate index from trade source, and PPI for property management starting in 1996. Previously, CPI for household maintenance and repair.
Holding and other investment offices.....	Proxy gross output series computed as sum of GPO and intermediate inputs. Intermediate inputs extrapolated from I-O accounts by BEA wages and salaries.	Composite cost-based price index.
Services:		
Hotels and other lodging places.....	For tenant group room and board, PCE. For all other, receipts from Census Bureau quinquennial census and annual survey.	For hotels and motels starting in 1993, PPI. Previously, room-rate index from trade source. For sporting and recreational camps, PCE price index; for rooming and boarding houses, composite of PCE price indexes.
Personal services.....	For shoe repair, PCE. For all other, receipts from Census Bureau quinquennial census and annual survey.	PCE price index based on CPI's.
Business services.....	Receipts from Census Bureau quinquennial census and annual survey.	For advertising, PPI's starting in 1995. Previously, cost indexes from trade sources. For miscellaneous equipment rental and leasing, PPI's and BEA net capital stock price index for other equipment. For prepackaged software, BEA price index; for computer equipment rental, BEA capital stock price index; for custom programming, BEA custom software price index; for other computing services, wages and salaries per employee from BLS; for all other business services, PPI's, PCE price indexes, and wages and salaries per employee from BLS.
Automotive repair, services, and parking.....	Receipts from Census Bureau quinquennial census and annual survey.	For automotive rental and leasing without drivers, composite index of PCE price index and PPI's starting in 1992. Previously, PCE price index for rental, leasing, and other services. For all other automotive repair and services, PCE price index based on CPI's.
Miscellaneous repair services.....	Receipts from Census Bureau quinquennial census and annual survey.	PCE price index based on CPI's.
Motion Pictures.....	Receipts from Census Bureau quinquennial census and annual survey.	PCE price index based on CPI's.
Amusement and recreation services.....	Receipts from Census Bureau quinquennial census and annual survey.	PCE price index based on CPI's.
Health services:		
Hospitals.....	Receipts from trade sources.	PPI starting in 1993. Previously, HCFA index of input prices and CPI for hospital room.
Other health services.....	Receipts from Census Bureau quinquennial census and annual survey.	CPI's and HCFA index of input prices. PPI for physicians services beginning in 1994.
Legal services.....	Receipts from Census Bureau quinquennial census and annual survey.	PPI for legal services, starting in 1997. Previously, CPI for legal services.
Educational services.....	PCE for private education.	PCE price index.
Social services.....	Receipts and expenses from Census Bureau quinquennial census and annual survey.	Wages and salaries per employee from BLS and PCE price indexes.
Membership organizations.....	Expenses from Census Bureau quinquennial census and annual survey; PCE; and wage and salary data from BLS.	Wages and salaries per employee from BLS and PCE price indexes.
Other services.....	PCE for museums and libraries and other services; For all others, receipts from Census Bureau quinquennial census and annual survey.	PPI's for engineering, architectural, and surveying services, and for accounting, auditing, and bookkeeping services starting in 1997. PPI for advertising agencies used for management and public relations services starting in 1995. Previously, wages and salaries per employee from BLS for each component. PCE price indexes for museums, art galleries, zoological gardens, research organizations (commercial and non-commercial), and services not elsewhere classified.
Government enterprises:		
Federal government enterprises:		
State and local government enterprises:	For the U.S. Postal Service, receipts; for electric utilities, DOE; for other enterprises, wages and salaries from BEA's Government Division.	For U.S. Postal Service and for Federal electric utilities, PPI; for other enterprises, BEA composite price index.
State and local government enterprises:	For electric utilities, DOE; for other enterprises, revenue by type from BEA's Government Division.	For electric utilities, PPI; for transit, composite price index based on PCE price indexes for private transit, for other enterprises, BEA composite price index.

1. Source data and estimating methods apply to both the 1972 SIC and 1987 SIC definition of the industries shown in the table. Industry titles are 1987 SIC titles.

2. Benchmark values are derived from the 1977, 1982, 1987, and 1992 input-output (I-O) accounts. Gross output estimates are prepared only for industries for which the double-deflation method is used for estimating real GPO.

BEA Bureau of Economic Analysis  
 DOC U.S. Department of Commerce  
 DOT U.S. Department of Transportation  
 HOPA Health Care Financing Administration  
 IRS Internal Revenue Service  
 PCE Personal consumption expenditures (BEA)  
 USDA U.S. Department of Agriculture

BLS Bureau of Labor Statistics  
 DOD U.S. Department of Defense  
 EIA Energy Information Administration  
 ICC Interstate Commerce Commission  
 NIPA National Income and Product Accounts  
 PPI Producer Price Index (BLS)  
 USGS U.S. Geological Survey (Office of Minerals, formerly Bureau of Mines)

CPI Consumer Price Index (BLS)  
 DOE U.S. Department of Energy  
 FCC Federal Communications Commission  
 IPD Implicit price deflator  
 NOAA National Oceanic and Atmospheric Administration  
 SEC Securities and Exchange Commission

Source: Lum, Moyer, and Yuskavage 2000

Table 2.--Source Data for Estimating Nominal Value Added by Industry

Component	Major Source Data	Industrial Distribution	
		Distribution available in source data	Data or assumption used if distribution by establishment is not available in source data
Compensation of employees:			
Wages and salaries.....	BLS tabulations of wages and salaries of employees covered by State unemployment insurance and Office of Personnel Management data on wages and salaries of Federal Government employees.	Establishment.	
Employer contributions for social insurance.....	Federal budget data.....	None.....	Social Security Administration and BLS tabulations.
Other labor income.....	Department of Labor tabulations of pension plans, HCFA and BLS data on health insurance, trade association data for other types.	None, except pensions.....	BLS employer cost for employee compensation.
Proprietors' income with inventory valuation adjustment:			
Farm.....	Department of Agriculture farm statistics.....	Establishment.	
Nonfarm:			
Proprietors' income.....	IRS tabulations of business tax returns.....	Company.....	Assumed to be equivalent to an establishment distribution.
Inventory valuation adjustment.....	BLS prices and IRS inventory data.....	Establishment.	
Rental income of persons.....	Census Bureau American Housing Survey, BLS Consumer Expenditures Survey, and IRS tabulations of business and individual tax returns.....	Establishment.	
Corporate profits with inventory valuation adjustment:			
Corporate profits before tax.....	IRS tabulations of business tax returns.....	Company.....	Census Bureau company-establishment employment matrix and Department of Energy establishment data for energy
Inventory valuation adjustment.....	BLS prices and IRS inventory data.....	Establishment.	
Net interest:			
Corporate.....	IRS tabulations of business tax returns.....	Company.....	Same as corporate profits before taxes starting in 1987; previously none.
Noncorporate.....	IRS tabulations of business tax returns.....	Company.....	Assumed to be equivalent to an establishment distribution.
Business transfer payments.....	IRS tabulations of business tax returns.....	Company.....	Industry-specific payments are assigned to those industries; other are based on IRS company industry distribution.
Indirect business tax and nontax liability.....	Federal budget data and Census Bureau data on State and local governments.	None.....	Industry-specific payments are assigned to those industries; property taxes are based on BEA capital stock distribution.
Subsidies less current surplus of government enterprises.....	Federal budget data and Census Bureau data on State and local governments.	Establishment.	
Capital consumption allowances:			
Corporate.....	IRS tabulations of business tax returns.....	Company.....	Same as corporate profits before taxes.
Noncorporate.....	IRS tabulations of business tax returns.....	Company.....	Assumed to be equivalent to an establishment distribution.
Government consumption of fixed capital.....	BEA capital stock estimates.....	Type of agency.	

BEA Bureau of Economic Analysis  
BLS Bureau of Labor Statistics

HCFA Health Care Financing Administration  
IRS Internal Revenue Service

Source: Lum, Moyer, and Yuskavage 2000

**Table 3. Composition of Nominal Gross Output by Industry Group, 1992-2000**  
**[Billions of dollars]**

Industry Group	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>All Industries</b> .....	10,679.7	11,296.4	12,020.2	12,815.5	13,570.4	14,465.7	15,141.6	16,018.9	17,244.4
Value Added <sup>1</sup> .....	6,318.9	6,642.3	7,054.3	7,400.5	7,813.2	8,318.4	8,781.5	9,268.6	9,872.9
Intermediate Inputs.....	4,404.5	4,717.8	5,024.4	5,441.5	5,790.0	6,177.0	6,329.1	6,677.5	7,241.0
Energy.....	268.2	277.6	284.6	294.8	304.6	319.2	312.7	324.1	357.3
Materials.....	2,264.0	2,382.0	2,523.4	2,707.1	2,838.1	3,020.9	3,044.3	3,177.5	3,408.4
Purchased services.....	1,872.2	2,058.2	2,216.4	2,439.6	2,647.3	2,837.0	2,972.0	3,175.9	3,475.4
<b>Private industries</b> .....	9,728.2	10,305.8	10,992.5	11,752.2	12,470.5	13,322.5	13,955.9	14,779.7	15,936.0
Value Added <sup>1</sup> .....	5,424.5	5,717.5	6,096.7	6,411.1	6,792.8	7,253.6	7,678.2	8,116.9	8,656.5
Intermediate Inputs.....	4,347.3	4,652.0	4,954.3	5,367.7	5,710.5	6,098.7	6,246.7	6,590.1	7,149.0
Energy.....	255.5	263.3	269.5	279.2	288.3	302.9	296.9	307.4	339.6
Materials.....	2,238.9	2,353.2	2,492.5	2,674.5	2,803.1	2,986.1	3,007.0	3,138.0	3,366.8
Purchased services.....	1,852.9	2,035.5	2,192.3	2,413.9	2,619.2	2,809.8	2,942.8	3,144.7	3,442.6
<b>Private goods-producing industries</b> .....	3,778.7	3,931.7	4,202.9	4,467.9	4,680.5	4,966.6	5,021.6	5,235.7	5,600.3
Value Added <sup>1</sup> .....	1,515.7	1,577.0	1,707.3	1,784.9	1,875.9	1,966.7	2,040.6	2,152.9	2,293.0
Intermediate Inputs.....	2,263.0	2,354.7	2,495.7	2,683.1	2,804.6	2,999.9	2,981.0	3,082.8	3,307.2
Energy.....	105.1	104.1	106.4	111.2	111.2	117.3	112.9	115.4	126.1
Materials.....	1,729.8	1,800.4	1,908.6	2,047.7	2,139.4	2,288.2	2,267.8	2,350.3	2,511.1
Purchased services.....	428.0	450.2	480.7	524.1	554.0	594.4	600.4	617.1	670.0
Agriculture, forestry, and fishing.....	231.0	233.4	253.2	250.3	278.4	285.8	279.1	279.4	290.7
Value Added.....	111.7	108.3	118.5	109.8	130.4	130.0	128.0	127.2	135.7
Intermediate Inputs.....	119.4	125.0	134.7	140.4	147.9	155.8	151.1	152.1	155.0
Energy.....	7.5	7.6	7.8	7.9	7.9	8.4	7.8	7.8	8.0
Materials.....	91.0	95.5	102.7	107.1	112.8	118.9	116.0	116.7	118.8
Purchased services.....	20.9	22.0	24.2	25.5	27.2	28.5	27.2	27.6	28.2
Mining.....	159.6	159.7	156.3	156.1	186.6	198.0	165.5	171.2	242.5
Value Added.....	87.6	88.4	90.2	95.7	113.0	118.9	100.2	103.3	127.1
Intermediate Inputs.....	72.0	71.3	66.1	60.4	73.6	79.1	65.2	67.9	115.5
Energy.....	13.2	12.3	12.1	11.5	11.7	12.3	10.8	10.4	12.5
Materials.....	37.1	37.2	34.4	31.4	39.0	42.0	33.8	35.4	61.4
Purchased services.....	21.6	21.8	19.6	17.5	22.8	24.7	20.6	22.1	41.5
Construction.....	431.7	455.8	491.7	514.1	554.5	603.0	633.8	689.2	731.7
Value Added.....	234.4	248.9	275.3	290.3	316.4	338.2	380.8	425.5	463.6
Intermediate Inputs.....	197.3	206.8	216.4	223.8	238.0	264.8	252.9	263.6	268.1
Energy.....	1.8	1.9	1.9	1.9	1.9	2.1	1.6	1.7	1.7
Materials.....	150.0	157.8	165.6	171.8	183.4	204.0	194.1	202.3	205.7
Purchased services.....	45.4	47.2	48.9	50.1	52.8	58.7	57.2	59.6	60.6
Manufacturing.....	2,956.3	3,082.9	3,301.7	3,547.5	3,661.1	3,879.8	3,943.3	4,095.9	4,335.3
Value Added.....	1,082.0	1,131.4	1,223.2	1,289.1	1,316.0	1,379.6	1,431.5	1,496.8	1,566.6
Intermediate Inputs.....	1,874.3	1,951.5	2,078.4	2,258.4	2,345.0	2,500.2	2,511.8	2,599.1	2,768.7
Energy.....	82.6	82.3	84.6	90.0	89.6	94.5	92.6	95.5	103.9
Materials.....	1,451.6	1,509.9	1,605.9	1,737.4	1,804.3	1,923.4	1,923.8	1,995.8	2,125.2
Purchased services.....	340.1	359.3	388.0	431.0	451.2	482.4	495.4	507.8	539.7
Durable goods.....	1,508.2	1,604.1	1,761.9	1,899.5	1,973.7	2,109.3	2,188.1	2,283.9	2,391.3
Value Added.....	594.0	632.8	694.1	729.8	748.4	791.2	830.7	865.7	901.7
Intermediate Inputs.....	914.3	971.3	1,067.8	1,169.7	1,225.2	1,318.1	1,357.4	1,418.2	1,489.6
Energy.....	35.4	36.1	38.1	40.4	40.5	43.1	44.1	44.7	46.7
Materials.....	710.4	753.0	825.9	900.2	941.4	1,014.2	1,046.1	1,096.8	1,148.3
Purchased services.....	168.4	182.1	203.7	229.1	243.3	260.8	267.2	276.7	294.7
Nondurable goods.....	1,448.1	1,478.8	1,539.8	1,648.0	1,687.4	1,770.6	1,755.2	1,812.0	1,944.0
Value Added.....	488.0	498.6	529.1	559.2	567.6	588.4	600.8	631.0	664.8
Intermediate Inputs.....	960.1	980.2	1,010.7	1,088.7	1,119.8	1,182.2	1,154.4	1,181.0	1,279.1
Energy.....	47.2	46.2	46.5	49.7	49.1	51.4	48.5	50.8	57.2
Materials.....	741.2	756.9	780.0	837.2	862.9	909.2	877.8	899.0	976.9
Purchased services.....	171.6	177.1	184.2	201.9	207.9	221.6	228.1	231.2	245.0
<b>Private services-producing industries</b> .....	5,949.5	6,374.1	6,789.6	7,284.3	7,789.9	8,355.9	8,934.3	9,544.0	10,335.7
Value Added.....	3,865.1	4,076.7	4,331.0	4,599.7	4,884.0	5,257.1	5,668.6	6,036.7	6,493.9
Intermediate Inputs.....	2,084.4	2,297.3	2,458.6	2,684.6	2,905.9	3,098.8	3,265.7	3,507.3	3,841.8
Energy.....	150.3	159.2	163.1	168.0	177.1	185.6	184.0	192.0	213.5
Materials.....	509.2	552.8	583.9	626.8	663.7	697.8	739.2	787.8	855.7
Purchased services.....	1,424.9	1,585.3	1,711.6	1,889.9	2,065.2	2,215.4	2,342.4	2,527.5	2,772.6

**Table 3 (continued).--Composition of Nominal Gross Output by Industry Group, 1992-2000**  
**[Billions of dollars]**

Industry Group	1992	1993	1994	1995	1996	1997	1998	1999	2000
Transportation and public utilities.....	929.0	980.2	1,033.2	1,087.6	1,162.9	1,232.4	1,306.5	1,388.8	1,509.7
Value Added.....	538.5	573.3	611.4	642.6	666.3	688.4	732.0	776.8	825.0
Intermediate Inputs.....	390.5	406.9	421.8	445.0	496.5	544.0	574.5	612.0	684.7
Energy.....	71.2	73.2	71.7	69.9	75.2	80.2	77.0	76.2	88.0
Materials.....	96.6	101.0	101.7	103.3	114.7	126.1	138.2	141.5	160.9
Purchased services.....	222.7	232.7	248.4	271.8	306.6	337.7	359.3	394.3	435.8
Transportation.....	381.1	400.3	428.0	453.8	477.9	508.8	541.8	574.8	617.0
Value Added.....	193.4	206.0	223.2	233.4	243.4	261.8	288.7	302.7	313.9
Intermediate Inputs.....	187.7	194.3	204.8	220.4	234.5	247.1	253.1	272.1	303.1
Energy.....	32.8	33.1	33.9	35.3	36.7	38.5	34.9	37.2	41.5
Materials.....	24.0	24.4	25.6	27.4	28.3	29.6	33.7	36.1	40.0
Purchased services.....	130.9	136.8	145.3	157.7	169.4	179.0	184.5	198.7	221.6
Communications.....	250.3	266.3	287.4	314.6	348.7	379.6	422.3	473.2	511.9
Value Added.....	163.9	178.6	190.7	202.3	214.7	220.8	238.5	258.5	281.1
Intermediate Inputs.....	86.4	87.7	96.7	112.3	134.1	158.8	183.8	214.6	230.8
Energy.....	1.2	1.2	1.3	1.5	1.7	2.0	2.3	2.7	2.9
Materials.....	18.2	18.8	20.9	24.8	28.7	34.3	41.3	47.9	51.6
Purchased services.....	67.0	67.7	74.5	86.0	103.7	122.6	140.2	164.1	176.3
Electric, gas, and sanitary services.....	297.6	313.6	317.8	319.2	336.2	343.9	342.4	340.8	380.8
Value Added.....	181.2	188.7	197.4	206.9	208.3	205.9	204.8	215.6	230.0
Intermediate Inputs.....	116.4	124.9	120.3	112.3	128.0	138.1	137.6	125.3	150.8
Energy.....	37.2	38.9	36.5	33.2	36.8	39.7	39.8	36.3	43.6
Materials.....	54.4	57.9	55.2	51.1	57.7	62.2	63.2	57.5	69.3
Purchased services.....	24.9	28.2	28.6	28.0	33.5	36.1	34.6	31.5	37.9
Wholesale trade.....	593.6	639.8	701.1	768.4	789.8	828.0	844.3	907.1	979.8
Value Added.....	414.6	432.5	479.2	500.6	529.6	566.8	607.9	633.5	674.1
Intermediate Inputs.....	179.0	207.3	221.9	267.7	260.2	261.1	236.4	273.5	305.6
Energy.....	11.4	12.8	13.1	15.2	14.2	14.3	11.9	13.7	15.3
Materials.....	49.1	56.3	59.8	71.5	68.8	69.1	60.1	69.5	77.6
Purchased services.....	118.4	138.2	149.0	181.0	177.2	177.8	164.5	190.3	212.7
Retail trade.....	846.6	906.9	974.8	1,021.7	1,070.9	1,118.3	1,184.2	1,272.0	1,366.2
Value Added.....	551.7	578.0	620.6	646.8	687.1	740.5	790.4	834.9	893.9
Intermediate Inputs.....	294.8	328.9	354.3	374.9	383.8	377.8	393.9	437.0	472.4
Energy.....	24.3	26.6	28.0	29.0	29.0	28.5	29.3	32.5	35.2
Materials.....	109.2	120.3	128.0	133.8	135.2	133.1	138.7	153.9	166.3
Purchased services.....	161.3	182.0	198.3	212.1	219.6	216.2	225.9	250.6	270.9
Finance, insurance and real estate.....	1,679.3	1,829.7	1,927.3	2,075.5	2,247.1	2,470.3	2,637.3	2,789.5	3,017.6
Value Added.....	1,140.9	1,205.3	1,254.8	1,347.2	1,436.8	1,569.9	1,708.5	1,810.6	1,936.2
Intermediate Inputs.....	538.4	624.4	672.4	728.2	810.4	900.4	928.8	978.9	1,081.3
Energy.....	15.0	15.9	16.7	16.8	18.5	20.0	18.8	19.8	21.4
Materials.....	62.3	70.6	74.7	76.7	83.8	92.0	91.0	93.8	97.6
Purchased services.....	461.1	537.9	581.0	634.7	708.1	788.5	819.0	865.4	962.4
Services.....	1,901.1	2,017.4	2,153.3	2,331.2	2,519.3	2,706.9	2,962.0	3,186.7	3,462.4
Value Added.....	1,219.4	1,287.7	1,365.0	1,462.4	1,564.2	1,691.5	1,829.9	1,980.9	2,164.6
Intermediate Inputs.....	681.7	729.8	788.3	868.8	955.0	1,015.5	1,132.1	1,205.8	1,297.8
Energy.....	28.5	30.8	33.5	37.0	40.2	42.7	47.0	49.8	53.6
Materials.....	191.9	204.5	219.8	241.6	261.1	277.6	311.3	329.1	353.3
Purchased services.....	461.3	494.4	535.0	590.2	653.7	695.2	773.7	826.9	890.9
<b>Government.....</b>	<b>951.5</b>	<b>990.6</b>	<b>1,027.6</b>	<b>1,063.3</b>	<b>1,099.9</b>	<b>1,143.1</b>	<b>1,185.7</b>	<b>1,239.2</b>	<b>1,308.4</b>
Value Added.....	894.4	924.8	957.6	989.5	1,020.4	1,064.8	1,103.3	1,151.7	1,216.4
Intermediate Inputs.....	57.1	65.8	70.0	73.8	79.5	78.3	82.4	87.5	92.0
Energy.....	12.8	14.3	15.1	15.6	16.3	16.3	15.9	16.8	17.7
Materials.....	25.1	28.7	30.9	32.6	35.0	34.8	37.3	39.4	41.5
Purchased services.....	19.3	22.8	24.1	25.6	28.2	27.2	29.2	31.3	32.8

1. Includes the statistical discrepancy. The statistical discrepancy equals gross domestic product measured as the sum of expenditures less gross domestic income.

**Table 4.--Shares of Nominal Gross Output by Industry Group, 1992-2000**  
[Percent]

Industry Group	1992	1993	1994	1995	1996	1997	1998	1999	2000	Difference in Shares, 2000-1992
<b>All Industries .....</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added <sup>1</sup> .....	59.2	58.8	58.7	57.7	57.6	57.5	58.0	57.9	57.3	-1.9
Intermediate Inputs.....	41.2	41.8	41.8	42.5	42.7	42.7	41.8	41.7	42.0	0.7
Energy.....	2.5	2.5	2.4	2.3	2.2	2.2	2.1	2.0	2.1	-0.4
Materials.....	21.2	21.1	21.0	21.1	20.9	20.9	20.1	19.8	19.8	-1.4
Purchased services.....	17.5	18.2	18.4	19.0	19.5	19.6	19.6	19.8	20.2	2.6
<b>Private industries .....</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added <sup>1</sup> .....	55.8	55.5	55.5	54.6	54.5	54.4	55.0	54.9	54.3	-1.4
Intermediate Inputs.....	44.7	45.1	45.1	45.7	45.8	45.8	44.8	44.6	44.9	0.2
Energy.....	2.6	2.6	2.5	2.4	2.3	2.3	2.1	2.1	2.1	-0.5
Materials.....	23.0	22.8	22.7	22.8	22.5	22.4	21.5	21.2	21.1	-1.9
Purchased services.....	19.0	19.8	19.9	20.5	21.0	21.1	21.1	21.3	21.6	2.6
<b>Private goods-producing industries .....</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	40.1	40.1	40.6	39.9	40.1	39.6	40.6	41.1	40.9	0.8
Intermediate Inputs.....	59.9	59.9	59.4	60.1	59.9	60.4	59.4	58.9	59.1	-0.8
Energy.....	2.8	2.6	2.5	2.5	2.4	2.4	2.2	2.2	2.3	-0.5
Materials.....	45.8	45.8	45.4	45.8	45.7	46.1	45.2	44.9	44.8	-0.9
Purchased services.....	11.3	11.4	11.4	11.7	11.8	12.0	12.0	11.8	12.0	0.6
<b>Agriculture, forestry, and fishing.....</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	48.3	46.4	46.8	43.9	46.9	45.5	45.9	45.5	46.7	-1.6
Intermediate Inputs.....	51.7	53.6	53.2	56.1	53.1	54.5	54.1	54.5	53.3	1.6
Energy.....	3.2	3.2	3.1	3.1	2.9	2.9	2.8	2.8	2.7	-0.5
Materials.....	39.4	40.9	40.6	42.8	40.5	41.6	41.6	41.8	40.9	1.5
Purchased services.....	9.1	9.4	9.6	10.2	9.8	10.0	9.8	9.9	9.7	0.6
<b>Mining.....</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	54.9	55.3	57.7	61.3	60.6	60.1	60.6	60.3	52.4	-2.5
Intermediate Inputs.....	45.1	44.7	42.3	38.7	39.4	39.9	39.4	39.7	47.6	2.5
Energy.....	8.3	7.7	7.8	7.4	6.3	6.2	6.5	6.1	5.2	-3.1
Materials.....	23.3	23.3	22.0	20.1	20.9	21.2	20.4	20.7	25.3	2.1
Purchased services.....	13.5	13.6	12.5	11.2	12.2	12.5	12.5	12.9	17.1	3.6
<b>Construction.....</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	54.3	54.6	56.0	56.5	57.1	56.1	60.1	61.7	63.4	9.1
Intermediate Inputs.....	45.7	45.4	44.0	43.5	42.9	43.9	39.9	38.3	36.6	-9.1
Energy.....	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.2	0.2	-0.2
Materials.....	34.8	34.6	33.7	33.4	33.1	33.8	30.6	29.4	28.1	-6.6
Purchased services.....	10.5	10.4	9.9	9.7	9.5	9.7	9.0	8.7	8.3	-2.2
<b>Manufacturing.....</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	36.6	36.7	37.0	36.3	35.9	35.6	36.3	36.5	36.1	-0.5
Intermediate Inputs.....	63.4	63.3	63.0	63.7	64.1	64.4	63.7	63.5	63.9	0.5
Energy.....	2.8	2.7	2.6	2.5	2.4	2.4	2.3	2.3	2.4	-0.4
Materials.....	49.1	49.0	48.6	49.0	49.3	49.6	48.8	48.7	49.0	-0.1
Purchased services.....	11.5	11.7	11.8	12.1	12.3	12.4	12.6	12.4	12.4	0.9
<b>Durable goods.....</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	39.4	39.5	39.4	38.4	37.9	37.5	38.0	37.9	37.7	-1.7
Intermediate Inputs.....	60.6	60.5	60.6	61.6	62.1	62.5	62.0	62.1	62.3	1.7
Energy.....	2.4	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	-0.4
Materials.....	47.1	46.9	46.9	47.4	47.7	48.1	47.8	48.0	48.0	0.9
Purchased services.....	11.2	11.4	11.6	12.1	12.3	12.4	12.2	12.1	12.3	1.2
<b>Nondurable goods.....</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	33.7	33.7	34.4	33.9	33.6	33.2	34.2	34.8	34.2	0.5
Intermediate Inputs.....	66.3	66.3	65.6	66.1	66.4	66.8	65.8	65.2	65.8	-0.5
Energy.....	3.3	3.1	3.0	3.0	2.9	2.9	2.8	2.8	2.9	-0.3
Materials.....	51.2	51.2	50.7	50.8	51.1	51.3	50.0	49.6	50.3	-0.9
Purchased services.....	11.9	12.0	12.0	12.3	12.3	12.5	13.0	12.8	12.6	0.8
<b>Private services-producing industries .....</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	65.0	64.0	63.8	63.1	62.7	62.9	63.4	63.3	62.8	-2.1
Intermediate Inputs.....	35.0	36.0	36.2	36.9	37.3	37.1	36.6	36.7	37.2	2.1
Energy.....	2.5	2.5	2.4	2.3	2.3	2.2	2.1	2.0	2.1	-0.5
Materials.....	8.6	8.7	8.6	8.6	8.5	8.4	8.3	8.3	8.3	-0.3
Purchased services.....	23.9	24.9	25.2	25.9	26.5	26.5	26.2	26.5	26.8	2.9



**Table 4 (continued).--Shares of Nominal Gross Output by Industry Group, 1992-2000  
[Percent]**

Industry Group	1992	1993	1994	1995	1996	1997	1998	1999	2000	Difference in Shares, 2000-1992
Transportation and public utilities.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	58.0	58.5	59.2	59.1	57.3	55.9	56.0	55.9	54.6	-3.3
Intermediate Inputs.....	42.0	41.5	40.8	40.9	42.7	44.1	44.0	44.1	45.4	3.3
Energy.....	7.7	7.5	6.9	6.4	6.5	6.5	5.9	5.5	5.8	-1.8
Materials.....	10.4	10.3	9.8	9.5	9.9	10.2	10.6	10.2	10.7	0.3
Purchased services.....	24.0	23.7	24.0	25.0	26.4	27.4	27.5	28.4	28.9	4.9
Transportation.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	50.8	51.5	52.1	51.4	50.9	51.4	53.3	52.7	50.9	0.1
Intermediate Inputs.....	49.2	48.5	47.9	48.6	49.1	48.6	46.7	47.3	49.1	-0.1
Energy.....	8.6	8.3	7.9	7.8	7.7	7.6	6.4	6.5	6.7	-1.9
Materials.....	6.3	6.1	6.0	6.0	5.9	5.8	6.2	6.3	6.5	0.2
Purchased services.....	34.3	34.2	34.0	34.8	35.5	35.2	34.1	34.6	35.9	1.6
Communications.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	65.5	67.1	66.4	64.3	61.6	58.2	56.5	54.6	54.9	-10.6
Intermediate Inputs.....	34.5	32.9	33.6	35.7	38.4	41.8	43.5	45.4	45.1	10.6
Energy.....	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.1
Materials.....	7.3	7.1	7.3	7.9	8.2	9.0	9.8	10.1	10.1	2.8
Purchased services.....	26.8	25.4	25.9	27.3	29.7	32.3	33.2	34.7	34.4	7.7
Electric, gas, and sanitary services.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	60.9	60.2	62.1	64.8	61.9	59.9	59.8	63.2	60.4	-0.5
Intermediate Inputs.....	39.1	39.8	37.9	35.2	38.1	40.1	40.2	36.8	39.6	0.5
Energy.....	12.5	12.4	11.5	10.4	10.9	11.5	11.6	10.6	11.5	-1.0
Materials.....	18.3	18.4	17.4	16.0	17.2	18.1	18.5	16.9	18.2	-0.1
Purchased services.....	8.4	9.0	9.0	8.8	10.0	10.5	10.1	9.2	9.9	1.6
Wholesale trade.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	69.9	67.6	68.3	65.2	67.1	68.5	72.0	69.8	68.8	-1.0
Intermediate Inputs.....	30.1	32.4	31.7	34.8	32.9	31.5	28.0	30.2	31.2	1.0
Energy.....	1.9	2.0	1.9	2.0	1.8	1.7	1.4	1.5	1.6	-0.4
Materials.....	8.3	8.8	8.5	9.3	8.7	8.3	7.1	7.7	7.9	-0.3
Purchased services.....	20.0	21.6	21.3	23.6	22.4	21.5	19.5	21.0	21.7	1.8
Retail trade.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	65.2	63.7	63.7	63.3	64.2	66.2	66.7	65.6	65.4	0.3
Intermediate Inputs.....	34.8	36.3	36.3	36.7	35.8	33.8	33.3	34.4	34.6	-0.3
Energy.....	2.9	2.9	2.9	2.8	2.7	2.5	2.5	2.6	2.6	-0.3
Materials.....	12.9	13.3	13.1	13.1	12.6	11.9	11.7	12.1	12.2	-0.7
Purchased services.....	19.1	20.1	20.3	20.8	20.5	19.3	19.1	19.7	19.8	0.8
Finance, insurance and real estate.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	67.9	65.9	65.1	64.9	63.9	63.6	64.8	64.9	64.2	-3.8
Intermediate Inputs.....	32.1	34.1	34.9	35.1	36.1	36.4	35.2	35.1	35.8	3.8
Energy.....	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	-0.2
Materials.....	3.7	3.9	3.9	3.7	3.7	3.7	3.4	3.4	3.2	-0.5
Purchased services.....	27.5	29.4	30.1	30.6	31.5	31.9	31.1	31.0	31.9	4.4
Services.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	64.1	63.8	63.4	62.7	62.1	62.5	61.8	62.2	62.5	-1.6
Intermediate Inputs.....	35.9	36.2	36.6	37.3	37.9	37.5	38.2	37.8	37.5	1.6
Energy.....	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5	0.1
Materials.....	10.1	10.1	10.2	10.4	10.4	10.3	10.5	10.3	10.2	0.1
Purchased services.....	24.3	24.5	24.8	25.3	25.9	25.7	26.1	25.9	25.7	1.5
<b>Government</b> .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Value Added.....	94.0	93.4	93.2	93.1	92.8	93.1	93.1	92.9	93.0	-1.0
Intermediate Inputs.....	6.0	6.6	6.8	6.9	7.2	6.9	6.9	7.1	7.0	1.0
Energy.....	1.3	1.4	1.5	1.5	1.5	1.4	1.3	1.4	1.3	0.0
Materials.....	2.6	2.9	3.0	3.1	3.2	3.0	3.1	3.2	3.2	0.5
Purchased services.....	2.0	2.3	2.3	2.4	2.6	2.4	2.5	2.5	2.5	0.5

1. Shares may not sum to 100 percent for "All Industries" and "Private Industries" because value added's share for these industry groups includes the statistical discrepancy.

**Table 5.--Chain-Type Quantity Indexes for Gross Output, Value Added, and Intermediate Inputs by Industry Group, 1992-2000**  
[Index numbers; 1996 =100.00]

Industry Group	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>All Industries</b> .....	85.75	88.62	92.46	95.98	100.00	105.28	110.28	115.39	120.70
Value Added <sup>1</sup> .....	88.06	90.39	94.04	96.55	100.00	104.43	108.90	113.35	118.06
Intermediate Inputs .....	82.73	87.03	91.16	95.43	100.00	105.86	110.50	115.30	120.83
Energy .....	94.79	97.30	99.88	103.76	100.00	105.58	114.96	113.27	109.23
Materials .....	85.06	88.38	92.56	95.40	100.00	107.86	114.00	119.30	124.53
Purchased services .....	78.78	84.39	88.64	94.53	100.00	103.80	106.44	111.39	118.19
<b>Private industries</b> .....	84.69	87.76	91.88	95.67	100.00	105.65	110.97	116.41	122.02
Value Added <sup>1</sup> .....	86.57	88.96	92.96	95.82	100.00	105.28	110.27	115.60	120.39
Intermediate Inputs .....	82.78	87.00	91.12	95.42	100.00	105.99	110.60	115.43	121.05
Energy .....	95.41	97.49	99.88	103.74	100.00	105.85	115.20	113.42	109.82
Materials .....	85.12	88.37	92.55	95.40	100.00	107.99	114.13	119.46	124.74
Purchased services .....	78.82	84.35	88.61	94.54	100.00	103.91	106.53	111.49	118.34
<b>Private goods-producing industries</b> .....	85.88	88.19	93.16	96.58	100.00	106.59	110.81	115.23	119.05
Value Added .....	84.20	86.53	92.97	97.04	100.00	105.12	109.77	115.68	119.08
Intermediate Inputs .....	87.04	89.34	93.30	96.27	100.00	107.57	111.50	114.89	118.99
Energy .....	100.86	98.85	100.94	105.71	100.00	105.71	110.73	108.89	108.30
Materials .....	86.63	89.11	93.15	95.54	100.00	108.54	113.39	117.90	122.25
Purchased services .....	85.83	88.37	92.33	97.26	100.00	104.24	104.69	105.12	109.17
Agriculture, forestry, and fishing .....	94.43	92.54	100.30	97.69	100.00	106.17	108.09	111.58	113.58
Value Added .....	100.19	93.96	104.08	94.40	100.00	110.13	111.51	117.60	127.47
Intermediate Inputs .....	89.71	91.46	97.28	100.52	100.00	102.91	105.25	106.72	102.96
Energy .....	100.63	103.96	106.01	109.22	100.00	104.34	110.45	98.48	84.11
Materials .....	90.42	91.61	97.76	100.48	100.00	103.83	107.70	111.06	107.92
Purchased services .....	83.69	87.29	92.84	98.19	100.00	98.77	94.18	92.29	89.49
Mining .....	95.58	95.99	97.76	97.11	100.00	104.16	101.75	96.93	99.70
Value Added .....	84.66	89.43	95.64	99.94	100.00	103.48	105.92	99.06	84.18
Intermediate Inputs .....	111.57	105.36	100.70	92.85	100.00	105.20	95.77	93.83	123.18
Energy .....	115.86	109.02	107.73	102.48	100.00	106.54	101.37	94.43	101.94
Materials .....	109.44	102.97	96.67	91.31	100.00	104.11	89.88	91.35	123.94
Purchased services .....	113.24	107.84	104.23	90.27	100.00	106.42	103.46	97.88	131.54
Construction .....	88.71	90.61	94.49	94.99	100.00	105.43	107.58	112.60	114.44
Value Added .....	85.88	88.23	93.92	94.69	100.00	102.58	110.26	116.92	119.86
Intermediate Inputs .....	92.35	93.69	95.22	95.39	100.00	109.25	103.72	106.39	106.58
Energy .....	107.75	108.72	110.04	107.56	100.00	115.58	104.80	99.11	82.31
Materials .....	91.29	92.41	94.04	94.58	100.00	109.86	104.29	107.44	108.24
Purchased services .....	95.57	97.65	98.90	97.83	100.00	106.96	101.75	103.07	101.84
Manufacturing .....	84.43	87.19	92.27	96.71	100.00	106.92	111.98	116.80	121.15
Value Added .....	82.45	85.32	91.63	97.62	100.00	105.41	109.75	116.41	121.17
Intermediate Inputs .....	85.62	88.31	92.65	96.20	100.00	107.77	113.24	116.99	121.11
Energy .....	98.74	96.86	99.42	105.79	100.00	105.52	112.06	111.86	111.92
Materials .....	85.47	88.34	92.72	95.43	100.00	108.81	115.27	120.08	124.55
Purchased services .....	83.59	86.50	91.04	97.46	100.00	104.15	105.73	106.47	109.94
Durable goods .....	76.45	80.45	87.26	93.94	100.00	108.76	117.03	125.14	133.54
Value Added .....	76.02	80.21	87.71	95.51	100.00	108.62	119.30	128.94	138.16
Intermediate Inputs .....	76.77	80.65	87.00	92.99	100.00	108.84	115.67	122.87	130.80
Energy .....	93.42	93.84	98.95	104.94	100.00	106.38	116.52	115.33	110.76
Materials .....	76.20	80.06	86.26	91.85	100.00	110.00	117.99	126.90	136.37
Purchased services .....	76.25	80.78	87.98	95.58	100.00	104.83	106.92	109.42	113.89
Nondurable goods .....	94.47	95.63	98.46	100.04	100.00	104.79	106.16	107.34	107.44
Value Added .....	91.62	92.56	97.11	100.48	100.00	101.25	97.87	101.12	101.12
Intermediate Inputs .....	95.98	97.25	99.16	99.81	100.00	106.60	110.55	110.52	110.69
Energy .....	103.15	99.35	99.80	106.49	100.00	104.80	108.35	108.98	112.90
Materials .....	96.45	98.11	100.24	99.47	100.00	107.50	112.26	112.54	111.89
Purchased services .....	92.31	93.28	94.65	99.68	100.00	103.35	104.36	103.09	105.44
<b>Private services-producing industries</b> .....	83.96	87.50	91.10	95.12	100.00	105.09	111.03	117.05	123.66
Value Added .....	87.13	89.15	92.34	95.44	100.00	105.45	111.81	117.77	124.17
Intermediate Inputs .....	78.62	84.71	89.00	94.59	100.00	104.48	109.72	115.82	122.80
Energy .....	91.95	96.63	99.21	102.49	100.00	105.94	118.07	116.33	110.87
Materials .....	80.33	86.03	90.61	94.95	100.00	106.21	116.47	124.34	132.57
Purchased services .....	76.94	83.28	87.62	93.81	100.00	103.82	107.01	113.16	120.76

**Table 5 (continued).--Chain-Type Quantity Indexes for Gross Output, Value Added, and Intermediate Inputs by Industry Group, 1992-2000**  
[Index numbers; 1996 =100.00]

Industry Group	1992	1993	1994	1995	1996	1997	1998	1999	2000
Transportation and public utilities.....	84.15	86.83	90.63	94.80	100.00	103.72	109.38	115.94	121.37
Value Added.....	83.40	86.49	90.97	95.23	100.00	100.36	102.51	110.63	117.29
Intermediate Inputs.....	85.22	87.31	90.17	94.19	100.00	108.27	118.85	123.14	126.99
Energy.....	102.85	105.78	104.55	103.52	100.00	108.33	121.51	111.39	103.27
Materials.....	91.73	93.30	96.20	98.12	100.00	109.90	133.67	132.90	132.39
Purchased services.....	78.73	80.81	84.63	90.55	100.00	107.66	113.09	121.99	130.25
Transportation.....	83.06	85.64	91.21	94.95	100.00	103.39	108.09	112.27	115.90
Value Added.....	79.54	82.66	89.82	92.47	100.00	102.27	105.97	110.34	115.48
Intermediate Inputs.....	86.92	88.89	92.65	97.61	100.00	104.58	110.40	114.34	116.40
Energy.....	101.49	103.82	108.33	111.20	100.00	110.72	130.64	118.41	88.19
Materials.....	91.72	91.18	93.82	97.56	100.00	103.91	118.37	126.89	139.78
Purchased services.....	83.18	85.50	89.29	94.85	100.00	103.41	105.31	111.16	118.46
Communications.....	74.60	78.27	82.95	90.36	100.00	107.75	119.17	135.45	147.99
Value Added.....	78.86	84.81	88.90	94.27	100.00	101.42	107.71	119.46	132.24
Intermediate Inputs.....	67.79	67.74	73.40	84.11	100.00	117.92	137.71	161.40	173.59
Energy.....	77.64	75.66	80.82	90.89	100.00	119.74	151.36	167.63	159.19
Materials.....	60.76	61.77	68.34	82.25	100.00	125.28	162.36	198.83	230.82
Purchased services.....	69.77	69.42	74.80	84.54	100.00	115.91	131.18	151.91	160.02
Electric, gas, and sanitary services.....	95.91	97.67	97.99	99.27	100.00	100.05	101.11	101.10	102.12
Value Added.....	92.77	92.83	94.45	99.50	100.00	97.01	93.03	102.24	104.64
Intermediate Inputs.....	101.71	106.39	104.42	98.84	100.00	104.98	114.55	98.59	97.75
Energy.....	104.64	108.32	101.76	96.72	100.00	105.53	112.22	102.71	118.11
Materials.....	110.40	113.42	114.18	107.42	100.00	105.40	127.49	104.07	86.81
Purchased services.....	84.05	92.74	91.68	87.33	100.00	103.66	96.87	85.53	98.77
Wholesale trade.....	80.47	84.81	89.96	95.17	100.00	106.86	113.76	121.67	127.89
Value Added.....	84.02	85.43	90.94	91.21	100.00	110.30	125.25	130.07	133.77
Intermediate Inputs.....	73.12	83.39	87.78	103.33	100.00	100.00	91.46	105.10	116.04
Energy.....	88.52	97.89	100.89	116.35	100.00	102.17	96.79	104.22	98.56
Materials.....	69.75	79.32	83.95	98.60	100.00	105.17	96.50	116.01	136.16
Purchased services.....	73.30	83.93	88.33	104.25	100.00	97.88	89.16	101.26	110.51
Retail trade.....	83.55	87.41	92.49	95.66	100.00	104.14	110.42	117.69	125.37
Value Added.....	82.92	84.68	89.83	93.35	100.00	108.47	116.43	122.79	131.82
Intermediate Inputs.....	84.55	92.42	97.34	99.86	100.00	96.50	99.85	108.67	114.07
Energy.....	90.20	97.09	102.05	104.38	100.00	98.97	109.72	117.54	116.75
Materials.....	87.44	94.96	99.33	100.07	100.00	98.29	102.91	114.13	121.59
Purchased services.....	82.00	90.22	95.48	99.14	100.00	95.09	96.80	104.35	109.31
Finance, insurance and real estate.....	84.97	89.58	91.88	95.32	100.00	106.16	110.52	115.95	123.51
Value Added.....	90.30	92.49	93.79	96.95	100.00	105.85	112.90	119.26	125.94
Intermediate Inputs.....	75.56	84.42	88.49	92.43	100.00	106.72	106.39	110.19	119.25
Energy.....	86.79	90.33	94.67	95.26	100.00	107.54	107.21	110.35	112.22
Materials.....	80.88	90.30	94.39	92.72	100.00	107.84	105.16	107.15	109.49
Purchased services.....	74.62	83.56	87.62	92.33	100.00	106.57	106.50	110.52	120.50
Services.....	84.31	86.92	90.40	94.86	100.00	104.60	111.70	116.96	122.95
Value Added.....	88.95	90.65	93.21	96.56	100.00	104.35	108.61	113.46	119.24
Intermediate Inputs.....	76.91	80.94	85.87	92.10	100.00	105.03	116.93	122.91	129.26
Energy.....	76.85	82.10	88.96	97.72	100.00	107.08	130.28	130.93	124.10
Materials.....	74.76	79.10	84.61	90.72	100.00	108.45	125.06	133.95	146.06
Purchased services.....	77.81	81.64	86.20	92.33	100.00	103.56	113.06	118.26	123.36
<b>Government</b> .....	98.01	98.57	99.15	99.46	100.00	101.15	102.67	104.11	106.27
Value Added.....	99.50	99.29	99.57	99.68	100.00	101.48	102.64	103.95	106.37
Intermediate Inputs.....	79.13	89.43	93.80	96.64	100.00	96.88	103.12	106.38	105.06
Energy.....	83.72	93.98	99.97	104.12	100.00	100.76	110.71	110.71	98.84
Materials.....	79.82	88.86	93.40	95.62	100.00	97.65	103.54	107.42	108.57
Purchased services.....	75.68	87.59	90.80	93.69	100.00	93.71	98.40	102.51	103.94

1. Includes the statistical discrepancy. The statistical discrepancy equals gross domestic product measured as the sum of expenditures less gross domestic income. The statistical discrepancy does not apply to gross output or to intermediate inputs. As a result, the gross output index may not be bounded by the indexes for intermediate inputs and value added.

**Table 6.--Percent Changes in Chain-Type Quantity Indexes for Gross Output,  
Value Added, and Intermediate Inputs by Industry Group, 1992-2000  
[Percent]**

Industry Group	1993	1994	1995	1996	1997	1998	1999	2000	average annual rate, 1992-95	average annual rate, 1995-00	average annual rate, 1992-00
<b>All Industries</b> .....	3.4	4.3	3.8	4.2	5.3	4.8	4.6	4.6	3.8	4.7	4.4
Value Added <sup>1</sup> .....	2.7	4.0	2.7	3.6	4.4	4.3	4.1	4.1	3.1	4.1	3.7
Intermediate Inputs .....	5.2	4.7	4.7	4.8	5.9	4.4	4.3	4.8	4.9	4.8	4.8
Energy .....	2.7	2.7	3.9	-3.6	5.6	8.9	-1.5	-3.6	3.1	1.0	1.8
Materials .....	3.9	4.7	3.1	4.8	7.9	5.7	4.7	4.4	3.9	5.5	4.9
Purchased services .....	7.1	5.0	6.7	5.8	3.8	2.5	4.7	6.1	6.3	4.6	5.2
<b>Private industries</b> .....	3.6	4.7	4.1	4.5	5.6	5.0	4.9	4.8	4.1	5.0	4.7
Value Added .....	2.8	4.5	3.1	4.4	5.3	4.7	4.8	4.1	3.4	4.7	4.2
Intermediate Inputs .....	5.1	4.7	4.7	4.8	6.0	4.4	4.4	4.9	4.9	4.9	4.9
Energy .....	2.2	2.5	3.9	-3.6	5.8	8.8	-1.5	-3.2	2.8	1.1	1.8
Materials .....	3.8	4.7	3.1	4.8	8.0	5.7	4.7	4.4	3.9	5.5	4.9
Purchased services .....	7.0	5.1	6.7	5.8	3.9	2.5	4.7	6.1	6.3	4.6	5.2
<b>Private goods-producing industries</b> .....	2.7	5.6	3.7	3.5	6.6	4.0	4.0	3.3	4.0	4.3	4.2
Value Added .....	2.8	7.4	4.4	3.0	5.1	4.4	5.4	2.9	4.8	4.2	4.4
Intermediate Inputs .....	2.7	4.4	3.2	3.9	7.6	3.7	3.0	3.6	3.4	4.3	4.0
Energy .....	-2.0	2.1	4.7	-5.4	5.7	4.7	-1.7	-0.5	1.6	0.5	0.9
Materials .....	2.9	4.5	2.6	4.7	8.5	4.5	4.0	3.7	3.3	5.1	4.4
Purchased services .....	3.0	4.5	5.3	2.8	4.2	0.4	0.4	3.9	4.3	2.3	3.1
<b>Agriculture, forestry, and fishing</b> .....	-2.0	8.4	-2.6	2.4	6.2	1.8	3.2	1.8	1.1	3.1	2.3
Value Added .....	-6.2	10.8	-9.3	5.9	10.1	1.3	5.5	8.4	-2.0	6.2	3.1
Intermediate Inputs .....	2.0	6.4	3.3	-0.5	2.9	2.3	1.4	-3.5	3.9	0.5	1.7
Energy .....	3.3	2.0	3.0	-8.4	4.3	5.9	-10.8	-14.6	2.8	-5.1	-2.2
Materials .....	1.3	6.7	2.8	-0.5	3.8	3.7	3.1	-2.8	3.6	1.4	2.2
Purchased services .....	4.3	6.4	5.8	1.8	-1.2	-4.7	-2.0	-3.0	5.5	-1.8	0.8
<b>Mining</b> .....	0.4	1.8	-0.7	3.0	4.2	-2.3	-4.7	2.9	0.5	0.5	0.5
Value Added .....	5.6	6.9	4.5	0.1	3.5	2.4	-6.5	-15.0	5.7	-3.4	-0.1
Intermediate Inputs .....	-5.6	-4.4	-7.8	7.7	5.2	-9.0	-2.0	31.3	-5.9	5.8	1.2
Energy .....	-5.9	-1.2	-4.9	-2.4	6.5	-4.9	-6.8	8.0	-4.0	-0.1	-1.6
Materials .....	-5.9	-6.1	-5.5	9.5	4.1	-13.7	1.6	35.7	-5.9	6.3	1.6
Purchased services .....	-4.8	-3.3	-13.4	10.8	6.4	-2.8	-5.4	34.4	-7.3	7.8	1.9
<b>Construction</b> .....	2.1	4.3	0.5	5.3	5.4	2.0	4.7	1.6	2.3	3.8	3.2
Value Added .....	2.7	6.5	0.8	5.6	2.6	7.5	6.0	2.5	3.3	4.8	4.3
Intermediate Inputs .....	1.4	1.6	0.2	4.8	9.3	-5.1	2.6	0.2	1.1	2.2	1.8
Energy .....	0.9	1.2	-2.3	-7.0	15.6	-9.3	-5.4	-17.0	-0.1	-5.2	-3.3
Materials .....	1.2	1.8	0.6	5.7	9.9	-5.1	3.0	0.7	1.2	2.7	2.2
Purchased services .....	2.2	1.3	-1.1	2.2	7.0	-4.9	1.3	-1.2	0.8	0.8	0.8
<b>Manufacturing</b> .....	3.3	5.8	4.8	3.4	6.9	4.7	4.3	3.7	4.6	4.6	4.6
Value Added .....	3.5	7.4	6.5	2.4	5.4	4.1	6.1	4.1	5.8	4.4	4.9
Intermediate Inputs .....	3.1	4.9	3.8	4.0	7.8	5.1	3.3	3.5	4.0	4.7	4.4
Energy .....	-1.9	2.6	6.4	-5.5	5.5	6.2	-0.2	0.1	2.3	1.1	1.6
Materials .....	3.4	5.0	2.9	4.8	8.8	5.9	4.2	3.7	3.7	5.5	4.8
Purchased services .....	3.5	5.2	7.1	2.6	4.1	1.5	0.7	3.3	5.3	2.4	3.5
<b>Durable goods</b> .....	5.2	8.5	7.7	6.4	8.8	7.6	6.9	6.7	7.1	7.3	7.2
Value Added .....	5.5	9.4	8.9	4.7	8.6	9.8	8.1	7.1	7.9	7.7	7.8
Intermediate Inputs .....	5.1	7.9	6.9	7.5	8.8	6.3	6.2	6.5	6.6	7.1	6.9
Energy .....	0.5	5.4	6.1	-4.7	6.4	9.5	-1.0	-4.0	4.0	1.1	2.2
Materials .....	5.1	7.7	6.5	8.9	10.0	7.3	7.5	7.5	6.4	8.2	7.5
Purchased services .....	5.9	8.9	8.6	4.6	4.8	2.0	2.3	4.1	7.8	3.6	5.1
<b>Nondurable goods</b> .....	1.2	3.0	1.6	-0.0	4.8	1.3	1.1	0.1	1.9	1.4	1.6
Value Added .....	1.0	4.9	3.5	-0.5	1.3	-3.3	3.3	-0.0	3.1	0.1	1.2
Intermediate Inputs .....	1.3	2.0	0.7	0.2	6.6	3.7	-0.0	0.1	1.3	2.1	1.8
Energy .....	-3.7	0.5	6.7	-6.1	4.8	3.4	0.6	3.6	1.1	1.2	1.1
Materials .....	1.7	2.2	-0.8	0.5	7.5	4.4	0.2	-0.6	1.0	2.4	1.9
Purchased services .....	1.1	1.5	5.3	0.3	3.4	1.0	-1.2	2.3	2.6	1.1	1.7
<b>Private services-producing industries</b> .....	4.2	4.1	4.4	5.1	5.1	5.7	5.4	5.6	4.2	5.4	5.0
Value Added .....	2.3	3.6	3.4	4.8	5.4	6.0	5.3	5.4	3.1	5.4	4.5
Intermediate Inputs .....	7.7	5.1	6.3	5.7	4.5	5.0	5.6	6.0	6.4	5.4	5.7
Energy .....	5.1	2.7	3.3	-2.4	5.9	11.5	-1.5	-4.7	3.7	1.6	2.4
Materials .....	7.1	5.3	4.8	5.3	6.2	9.7	6.8	6.6	5.7	6.9	6.5
Purchased services .....	8.2	5.2	7.1	6.6	3.8	3.1	5.8	6.7	6.8	5.2	5.8

**Table 6 (continued).--Percent Changes in Chain-Type Quantity Indexes for Gross Output, Value Added, and Intermediate Inputs by Industry Group, 1992-2000 [Percent]**

Industry Group	1993	1994	1995	1996	1997	1998	1999	2000	average annual rate, 1992-95	average annual rate, 1995-00	average annual rate, 1992-00
Transportation and public utilities.....	3.2	4.4	4.6	5.5	3.7	5.5	6.0	4.7	4.1	5.1	4.7
Value Added.....	3.7	5.2	4.7	5.0	0.4	2.1	7.9	6.0	4.5	4.3	4.4
Intermediate Inputs.....	2.5	3.3	4.5	6.2	8.3	9.8	3.6	3.1	3.4	6.2	5.1
Energy.....	2.8	-1.2	-1.0	-3.4	8.3	12.2	-8.3	-7.3	-0.2	-0.0	0.1
Materials.....	1.7	3.1	2.0	1.9	9.9	21.6	-0.6	-0.4	2.3	6.2	4.7
Purchased services.....	2.7	4.7	7.0	10.4	7.7	5.0	7.9	6.8	4.8	7.5	6.5
Transportation.....	3.1	6.5	4.1	5.3	3.4	4.5	3.9	3.2	4.6	4.1	4.3
Value Added.....	3.9	8.7	3.0	8.1	2.3	3.6	4.1	4.7	5.1	4.5	4.8
Intermediate Inputs.....	2.3	4.2	5.4	2.4	4.6	5.6	3.6	1.8	3.9	3.6	3.7
Energy.....	2.3	4.3	2.7	-10.1	10.7	18.0	-9.4	-25.5	3.1	-4.5	-1.7
Materials.....	-0.6	2.9	4.0	2.5	3.9	13.9	7.2	10.2	2.1	7.5	5.4
Purchased services.....	2.8	4.4	6.2	5.4	3.4	1.8	5.6	6.6	4.5	4.5	4.5
Communications.....	4.9	6.0	8.9	10.7	7.8	10.6	13.7	9.3	6.6	10.4	8.9
Value Added.....	7.6	4.8	6.0	6.1	1.4	6.2	10.9	10.7	6.1	7.0	6.7
Intermediate Inputs.....	-0.1	8.4	14.6	18.9	17.9	16.8	17.2	7.6	7.5	15.6	12.5
Energy.....	-2.6	6.8	12.5	10.0	19.7	26.4	10.8	-5.0	5.4	11.9	9.4
Materials.....	1.7	10.6	20.4	21.6	25.3	29.6	22.5	16.1	10.6	22.9	18.2
Purchased services.....	-0.5	7.8	13.0	18.3	15.9	13.2	15.8	5.3	6.6	13.6	10.9
Electric, gas, and sanitary services.....	1.8	0.3	1.3	0.7	0.0	1.1	-0.0	1.0	1.2	0.6	0.8
Value Added.....	0.1	1.7	5.3	0.5	-3.0	-4.1	9.9	2.3	2.4	1.0	1.5
Intermediate Inputs.....	4.6	-1.9	-5.4	1.2	5.0	9.1	-13.9	-0.8	-1.0	-0.2	-0.5
Energy.....	3.5	-6.1	-5.0	3.4	5.5	6.3	-8.5	15.0	-2.6	4.1	1.5
Materials.....	2.7	0.7	-5.9	-6.9	5.4	21.0	-18.4	-16.6	-0.9	-4.2	-3.0
Purchased services.....	10.3	-1.1	-4.8	14.5	3.7	-6.5	-11.7	15.5	1.3	2.5	2.0
Wholesale trade.....	5.4	6.1	5.8	5.1	6.9	6.5	7.0	5.1	5.7	6.1	6.0
Value Added.....	1.7	6.5	0.3	9.6	10.3	13.6	3.8	2.8	2.8	8.0	6.0
Intermediate Inputs.....	14.0	5.3	17.7	-3.2	0.0	-8.5	14.9	10.4	12.2	2.3	5.9
Energy.....	10.6	3.1	15.3	-14.1	2.2	-5.3	7.7	-5.4	9.5	-3.3	1.4
Materials.....	13.7	5.8	17.5	1.4	5.2	-8.2	20.2	17.4	12.2	6.7	8.7
Purchased services.....	14.5	5.2	18.0	-4.1	-2.1	-8.9	13.6	9.1	12.5	1.2	5.3
Retail trade.....	4.6	5.8	3.4	4.5	4.1	6.0	6.6	6.5	4.6	5.6	5.2
Value Added.....	2.1	6.1	3.9	7.1	8.5	7.3	5.5	7.4	4.0	7.1	6.0
Intermediate Inputs.....	9.3	5.3	2.6	0.1	-3.5	3.5	8.8	5.0	5.7	2.7	3.8
Energy.....	7.6	5.1	2.3	-4.2	-1.0	10.9	7.1	-0.7	5.0	2.3	3.3
Materials.....	8.6	4.6	0.7	-0.1	-1.7	4.7	10.9	6.5	4.6	4.0	4.2
Purchased services.....	10.0	5.8	3.8	0.9	-4.9	1.8	7.8	4.8	6.5	2.0	3.7
Finance, insurance and real estate.....	5.4	2.6	3.7	4.9	6.2	4.1	4.9	6.5	3.9	5.3	4.8
Value Added.....	2.4	1.4	3.4	3.1	5.9	6.7	5.6	5.6	2.4	5.4	4.2
Intermediate Inputs.....	11.7	4.8	4.5	8.2	6.7	-0.3	3.6	8.2	7.0	5.2	5.9
Energy.....	4.1	4.8	0.6	5.0	7.5	-0.3	2.9	1.7	3.2	3.3	3.3
Materials.....	11.7	4.5	-1.8	7.9	7.8	-2.5	1.9	2.2	4.7	3.4	3.9
Purchased services.....	12.0	4.9	5.4	8.3	6.6	-0.1	3.8	9.0	7.4	5.5	6.2
Services.....	3.1	4.0	4.9	5.4	4.6	6.8	4.7	5.1	4.0	5.3	4.8
Value Added.....	1.9	2.8	3.6	3.6	4.3	4.1	4.5	5.1	2.8	4.3	3.7
Intermediate Inputs.....	5.2	6.1	7.3	8.6	5.0	11.3	5.1	5.2	6.2	7.0	6.7
Energy.....	6.8	8.4	9.8	2.3	7.1	21.7	0.5	-5.2	8.3	4.9	6.2
Materials.....	5.8	7.0	7.2	10.2	8.4	15.3	7.1	9.0	6.7	10.0	8.7
Purchased services.....	4.9	5.6	7.1	8.3	3.6	9.2	4.6	4.3	5.9	6.0	5.9
Government.....	0.6	0.6	0.3	0.5	1.2	1.5	1.4	2.1	0.5	1.3	1.0
Value Added.....	-0.2	0.3	0.1	0.3	1.5	1.1	1.3	2.3	0.1	1.3	0.8
Intermediate Inputs.....	13.0	4.9	3.0	3.5	-3.1	6.4	3.2	-1.2	6.9	1.7	3.6
Energy.....	12.3	6.4	4.2	-4.0	0.8	9.9	0.0	-10.7	7.5	-1.0	2.1
Materials.....	11.3	5.1	2.4	4.6	-2.3	6.0	3.7	1.1	6.2	2.6	3.9
Purchased services.....	15.7	3.7	3.2	6.7	-6.3	5.0	4.2	1.4	7.4	2.1	4.0

1. Includes the statistical discrepancy. The statistical discrepancy equals gross domestic product measured as the sum of expenditures less gross domestic income. The statistical discrepancy does not apply to gross output or to intermediate inputs. As a result, the gross output index may not be bounded by the indexes for intermediate inputs and value added.

**Table 7.--Contributions to Percent Changes in Chain-Type Quantity Indexes  
for Gross Output by Industry Group, 1992-2000  
[Percent and percentage points]**

Industry Group	1993	1994	1995	1996	1997	1998	1999	2000	average annual rate, 1992-95	average annual rate, 1995-00	average annual rate, 1992-00
<b>All Industries .....</b>	<b>3.4</b>	<b>4.3</b>	<b>3.8</b>	<b>4.2</b>	<b>5.3</b>	<b>4.8</b>	<b>4.6</b>	<b>4.6</b>	<b>3.8</b>	<b>4.7</b>	<b>4.4</b>
Value Added.....	1.6	2.4	1.6	2.1	2.6	2.5	2.4	2.4	1.8	2.4	2.2
Intermediate Inputs.....	2.1	2.0	2.0	2.0	2.5	1.9	1.8	2.0	2.0	2.1	2.0
Energy.....	0.1	0.1	0.1	-0.1	0.1	0.2	-0.0	-0.1	0.1	0.0	0.0
Materials.....	0.8	1.0	0.6	1.0	1.6	1.2	0.9	0.9	0.8	1.2	1.0
Purchased services.....	1.2	0.9	1.2	1.1	0.7	0.5	0.9	1.2	1.1	0.9	0.9
<b>Private industries .....</b>	<b>3.6</b>	<b>4.7</b>	<b>4.1</b>	<b>4.5</b>	<b>5.6</b>	<b>5.0</b>	<b>4.9</b>	<b>4.8</b>	<b>4.1</b>	<b>5.0</b>	<b>4.7</b>
Value Added.....	1.5	2.5	1.7	2.4	2.9	2.6	2.7	2.3	1.9	2.5	2.3
Intermediate Inputs.....	2.3	2.1	2.1	2.2	2.7	2.0	2.0	2.2	2.2	2.2	2.2
Energy.....	0.1	0.1	0.1	-0.1	0.1	0.2	-0.0	-0.1	0.1	0.0	0.0
Materials.....	0.9	1.1	0.7	1.1	1.8	1.3	1.0	0.9	0.9	1.3	1.1
Purchased services.....	1.3	1.0	1.3	1.2	0.8	0.5	1.0	1.3	1.2	0.9	1.0
<b>Private goods-producing industries .....</b>	<b>2.7</b>	<b>5.6</b>	<b>3.7</b>	<b>3.5</b>	<b>6.6</b>	<b>4.0</b>	<b>4.0</b>	<b>3.3</b>	<b>4.0</b>	<b>4.3</b>	<b>4.2</b>
Value Added.....	1.1	3.0	1.8	1.2	2.1	1.8	2.2	1.2	1.9	1.7	1.8
Intermediate Inputs.....	1.6	2.6	1.9	2.3	4.5	2.2	1.8	2.1	2.0	2.6	2.4
Energy.....	-0.1	0.1	0.1	-0.1	0.1	0.1	-0.0	-0.0	0.0	0.0	0.0
Materials.....	1.3	2.1	1.2	2.1	3.9	2.1	1.8	1.7	1.5	2.3	2.0
Purchased services.....	0.3	0.5	0.6	0.3	0.5	0.1	0.0	0.5	0.5	0.3	0.3
Agriculture, forestry, and fishing.....	-2.0	8.4	-2.6	2.4	6.2	1.8	3.2	1.8	1.1	3.1	2.3
Value Added.....	-3.0	5.0	-4.4	2.6	4.7	0.6	2.5	3.8	-0.9	2.7	1.5
Intermediate Inputs.....	1.0	3.4	1.8	-0.3	1.5	1.2	0.8	-1.9	2.0	0.3	0.9
Energy.....	0.1	0.1	0.1	-0.3	0.1	0.2	-0.3	-0.4	0.1	-0.2	-0.1
Materials.....	0.5	2.7	1.1	-0.2	1.6	1.6	1.3	-1.2	1.4	0.6	0.9
Purchased services.....	0.4	0.6	0.6	0.2	-0.1	-0.5	-0.2	-0.3	0.5	-0.2	0.1
Mining.....	0.4	1.8	-0.7	3.0	4.2	-2.3	-4.7	2.9	0.5	0.5	0.5
Value Added.....	3.1	3.8	2.6	0.0	2.1	1.4	-3.9	-9.1	3.1	-2.1	-0.0
Intermediate Inputs.....	-2.5	-2.0	-3.3	3.0	2.1	-3.6	-0.8	12.4	-2.7	2.3	0.6
Energy.....	-0.5	-0.1	-0.4	-0.2	0.4	-0.3	-0.4	0.5	-0.3	-0.0	-0.1
Materials.....	-1.4	-1.4	-1.2	1.9	0.9	-2.9	0.3	7.4	-1.4	1.3	0.4
Purchased services.....	-0.6	-0.5	-1.7	1.2	0.8	-0.3	-0.7	4.4	-1.0	0.9	0.3
Construction.....	2.1	4.3	0.5	5.3	5.4	2.0	4.7	1.6	2.3	3.8	3.2
Value Added.....	1.5	3.5	0.5	3.2	1.5	4.2	3.6	1.6	1.8	2.7	2.3
Intermediate Inputs.....	0.7	0.7	0.1	2.1	4.0	-2.2	1.0	0.1	0.5	1.0	0.8
Energy.....	0.0	0.0	-0.0	-0.0	0.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
Materials.....	0.4	0.6	0.2	1.9	3.3	-1.7	0.9	0.2	0.4	0.9	0.7
Purchased services.....	0.2	0.1	-0.1	0.2	0.7	-0.5	0.1	-0.1	0.1	0.1	0.1
Manufacturing.....	3.3	5.8	4.8	3.4	6.9	4.7	4.3	3.7	4.6	4.6	4.6
Value Added.....	1.3	2.7	2.4	0.9	1.9	1.5	2.2	1.5	2.1	1.6	1.8
Intermediate Inputs.....	2.0	3.1	2.4	2.5	5.0	3.3	2.1	2.2	2.5	3.0	2.8
Energy.....	-0.1	0.1	0.2	-0.1	0.1	0.2	-0.0	0.0	0.1	0.0	0.0
Materials.....	1.6	2.4	1.4	2.3	4.3	2.9	2.0	1.8	1.8	2.7	2.4
Purchased services.....	0.4	0.6	0.8	0.3	0.5	0.2	0.1	0.4	0.6	0.3	0.4
Durable goods.....	5.2	8.5	7.7	6.4	8.8	7.6	6.9	6.7	7.1	7.3	7.2
Value Added.....	2.2	3.7	3.5	1.8	3.3	3.7	3.1	2.7	3.1	2.9	3.1
Intermediate Inputs.....	3.1	4.8	4.2	4.6	5.5	3.9	3.9	4.0	4.0	4.3	4.2
Energy.....	0.0	0.1	0.1	-0.1	0.1	0.2	-0.0	-0.1	0.1	0.0	0.1
Materials.....	2.4	3.6	3.0	4.2	4.8	3.5	3.6	3.6	3.0	3.9	3.6
Purchased services.....	0.7	1.0	1.0	0.6	0.6	0.2	0.3	0.5	0.9	0.4	0.6
Nondurable goods.....	1.2	3.0	1.6	-0.0	4.8	1.3	1.1	0.1	1.9	1.4	1.6
Value Added.....	0.3	1.7	1.2	-0.2	0.4	-1.1	1.1	-0.0	1.1	0.0	0.4
Intermediate Inputs.....	0.9	1.3	0.4	0.1	4.4	2.5	-0.0	0.1	0.9	1.4	1.2
Energy.....	-0.1	0.0	0.2	-0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0
Materials.....	0.9	1.1	-0.4	0.3	3.8	2.3	0.1	-0.3	0.5	1.2	1.0
Purchased services.....	0.1	0.2	0.6	0.0	0.4	0.1	-0.2	0.3	0.3	0.1	0.2
<b>Private services-producing industries .....</b>	<b>4.2</b>	<b>4.1</b>	<b>4.4</b>	<b>5.1</b>	<b>5.1</b>	<b>5.7</b>	<b>5.4</b>	<b>5.6</b>	<b>4.2</b>	<b>5.4</b>	<b>5.0</b>
Value Added.....	1.5	2.3	2.1	3.0	3.4	3.8	3.4	3.4	2.0	3.4	2.9
Intermediate Inputs.....	2.7	1.8	2.3	2.1	1.7	1.9	2.0	2.2	2.2	2.0	2.0
Energy.....	0.1	0.1	0.1	-0.1	0.1	0.3	-0.0	-0.1	0.1	0.0	0.1
Materials.....	0.6	0.5	0.4	0.5	0.5	0.8	0.6	0.5	0.5	0.6	0.6
Purchased services.....	2.0	1.3	1.8	1.7	1.0	0.8	1.5	1.8	1.6	1.3	1.4

**Table 7 (continued).--Contributions to Percent Changes in Chain-Type Quantity Indexes  
for Gross Output by Industry Group, 1992-2000**  
[Percent and percentage points]

Industry Group	1993	1994	1995	1996	1997	1998	1999	2000	average annual rate, 1992-95	average annual rate, 1995-00	average annual rate, 1992-00
Transportation and public utilities.....	3.2	4.4	4.6	5.5	3.7	5.5	6.0	4.7	4.1	5.1	4.7
Value Added.....	2.2	3.0	2.8	3.0	0.2	1.2	4.4	3.4	2.6	2.5	2.5
Intermediate Inputs.....	1.0	1.4	1.8	2.5	3.5	4.3	1.6	1.4	1.4	2.5	2.1
Energy.....	0.2	-0.1	-0.1	-0.2	0.5	0.8	-0.5	-0.4	0.0	-0.0	0.0
Materials.....	0.2	0.3	0.2	0.2	1.0	2.2	-0.1	-0.0	0.2	0.6	0.5
Purchased services.....	0.6	1.1	1.7	2.6	2.0	1.4	2.2	1.9	1.1	1.9	1.6
Transportation.....	3.1	6.5	4.1	5.3	3.4	4.5	3.9	3.2	4.6	4.1	4.3
Value Added.....	2.0	4.5	1.5	4.2	1.2	1.9	2.2	2.5	2.6	2.3	2.4
Intermediate Inputs.....	1.1	2.0	2.6	1.2	2.2	2.7	1.7	0.9	1.9	1.7	1.8
Energy.....	0.2	0.4	0.2	-0.8	0.8	1.4	-0.6	-1.7	0.3	-0.4	-0.1
Materials.....	-0.0	0.2	0.2	0.2	0.2	0.8	0.4	0.6	0.1	0.4	0.3
Purchased services.....	1.0	1.5	2.1	1.9	1.2	0.6	1.9	2.3	1.5	1.6	1.6
Communications.....	4.9	6.0	8.9	10.7	7.8	10.6	13.7	9.3	6.6	10.4	8.9
Value Added.....	4.9	3.2	4.0	3.9	0.9	3.6	6.2	5.8	4.0	4.5	4.4
Intermediate Inputs.....	-0.0	2.8	4.9	6.7	6.9	7.0	7.5	3.4	2.6	5.6	4.3
Energy.....	-0.0	0.0	0.1	0.0	0.1	0.1	0.1	-0.0	0.0	0.1	0.0
Materials.....	0.1	0.8	1.5	1.7	2.1	2.7	2.2	1.6	0.8	1.8	1.3
Purchased services.....	-0.1	2.0	3.4	5.0	4.7	4.3	5.2	1.9	1.8	3.7	2.9
Electric, gas, and sanitary services.....	1.8	0.3	1.3	0.7	0.0	1.1	-0.0	1.0	1.2	0.6	0.8
Value Added.....	0.0	1.1	3.3	0.3	-1.9	-2.5	5.9	1.5	1.4	0.7	0.9
Intermediate Inputs.....	1.8	-0.7	-2.0	0.4	1.9	3.7	-5.6	-0.3	-0.4	-0.1	-0.2
Energy.....	0.4	-0.8	-0.6	0.4	0.6	0.7	-1.0	1.6	-0.3	0.4	0.2
Materials.....	0.5	0.1	-1.0	-1.1	0.9	3.8	-3.4	-2.8	-0.2	-0.7	-0.5
Purchased services.....	0.9	-0.1	-0.4	1.3	0.4	-0.7	-1.2	1.4	0.1	0.2	0.2
Wholesale trade.....	5.4	6.1	5.8	5.1	6.9	6.5	7.0	5.1	5.7	6.1	6.0
Value Added.....	1.2	4.4	0.2	6.3	6.9	9.3	2.8	2.0	1.9	5.2	4.2
Intermediate Inputs.....	4.2	1.7	5.6	-1.1	0.0	-2.7	4.2	3.1	3.7	0.8	1.8
Energy.....	0.2	0.1	0.3	-0.3	0.0	-0.1	0.1	-0.1	0.2	-0.1	0.0
Materials.....	1.1	0.5	1.5	0.1	0.5	-0.7	1.4	1.3	1.0	0.6	0.7
Purchased services.....	2.9	1.1	3.8	-1.0	-0.5	-1.9	2.6	1.9	2.5	0.3	1.1
Retail trade.....	4.6	5.8	3.4	4.5	4.1	6.0	6.6	6.5	4.6	5.6	5.2
Value Added.....	1.4	3.9	2.5	4.5	5.4	4.9	3.6	4.8	2.6	4.5	3.9
Intermediate Inputs.....	3.2	1.9	0.9	0.1	-1.3	1.2	2.9	1.7	2.0	1.0	1.3
Energy.....	0.2	0.1	0.1	-0.1	-0.0	0.3	0.2	-0.0	0.1	0.1	0.1
Materials.....	1.1	0.6	0.1	-0.0	-0.2	0.6	1.3	0.8	0.6	0.5	0.5
Purchased services.....	1.9	1.2	0.8	0.2	-1.0	0.3	1.5	0.9	1.2	0.4	0.7
Finance, insurance and real estate.....	5.4	2.6	3.7	4.9	6.2	4.1	4.9	6.5	3.9	5.3	4.8
Value Added.....	1.7	0.9	2.2	2.0	3.7	4.2	3.6	3.6	1.6	3.5	2.9
Intermediate Inputs.....	3.8	1.6	1.6	2.9	2.4	-0.1	1.3	2.9	2.2	1.8	1.9
Energy.....	0.0	0.0	0.0	0.0	0.1	-0.0	0.0	0.0	0.0	0.0	0.0
Materials.....	0.4	0.2	-0.1	0.3	0.3	-0.1	0.1	0.1	0.2	0.1	0.1
Purchased services.....	3.3	1.4	1.6	2.5	2.1	-0.0	1.2	2.8	2.0	1.7	1.7
Services.....	3.1	4.0	4.9	5.4	4.6	6.8	4.7	5.1	4.0	5.3	4.8
Value Added.....	1.2	1.8	2.3	2.2	2.7	2.6	2.8	3.2	1.8	2.7	2.4
Intermediate Inputs.....	1.9	2.2	2.7	3.2	1.9	4.3	2.0	2.0	2.2	2.6	2.4
Energy.....	0.1	0.1	0.2	0.0	0.1	0.3	0.0	-0.1	0.1	0.1	0.1
Materials.....	0.6	0.7	0.7	1.1	0.9	1.6	0.7	0.9	0.7	1.0	0.9
Purchased services.....	1.2	1.4	1.8	2.1	0.9	2.4	1.2	1.1	1.4	1.5	1.4
<b>Government</b> .....	<b>0.6</b>	<b>0.6</b>	<b>0.3</b>	<b>0.5</b>	<b>1.2</b>	<b>1.5</b>	<b>1.4</b>	<b>2.1</b>	<b>0.5</b>	<b>1.3</b>	<b>1.0</b>
Value Added.....	-0.2	0.3	0.1	0.3	1.4	1.1	1.2	2.2	0.1	1.2	0.8
Intermediate Inputs.....	0.8	0.3	0.2	0.2	-0.2	0.4	0.2	-0.1	0.4	0.1	0.2
Energy.....	0.2	0.1	0.1	-0.1	0.0	0.1	0.0	-0.1	0.1	-0.0	0.0
Materials.....	0.3	0.1	0.1	0.1	-0.1	0.2	0.1	0.0	0.2	0.1	0.1
Purchased services.....	0.3	0.1	0.1	0.2	-0.2	0.1	0.1	0.0	0.1	0.1	0.1

Note. --For information on the calculation of the contributions to percent change, see footnote 6 in the text. Percentage point contributions may not sum to the percent change for "All Industries" and "Private Industries" because value added's contribution for these industry groups includes the statistical discrepancy.

**Table 8.--Chain-Type Price Indexes for Gross Output, Value Added, and  
Intermediate Inputs by Industry Group, 1992-2000**  
[Index numbers; 1996 =100.00]

Industry Group	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>All Industries</b> .....	91.78	93.93	95.80	98.40	100.00	101.25	101.17	102.30	105.28
Value Added <sup>1</sup> .....	91.84	94.05	96.01	98.10	100.00	101.95	103.20	104.65	107.04
Intermediate Inputs .....	91.95	93.63	95.19	98.48	100.00	100.77	98.92	100.02	103.50
Energy .....	92.90	93.67	93.52	93.26	100.00	99.25	89.31	93.94	107.37
Materials .....	93.79	94.96	96.06	99.98	100.00	98.68	94.09	93.84	96.44
Purchased services .....	89.77	92.13	94.46	97.48	100.00	103.24	105.47	107.70	111.08
<b>Private industries</b> .....	92.12	94.17	95.94	98.51	100.00	101.12	100.85	101.81	104.73
Value Added <sup>1</sup> .....	92.25	94.61	96.55	98.50	100.00	101.43	102.50	103.36	105.86
Intermediate Inputs .....	91.97	93.64	95.21	98.51	100.00	100.76	98.90	99.98	103.42
Energy .....	92.88	93.69	93.59	93.36	100.00	99.26	89.40	94.01	107.27
Materials .....	93.84	95.00	96.08	100.01	100.00	98.65	93.99	93.72	96.29
Purchased services .....	89.76	92.13	94.46	97.49	100.00	103.25	105.48	107.69	111.07
<b>Private goods-producing industries</b> .....	94.01	95.25	96.39	98.84	100.00	99.55	96.82	97.07	100.50
Value Added .....	95.97	97.16	97.89	98.04	100.00	99.73	99.10	99.21	102.65
Intermediate Inputs .....	92.71	93.97	95.38	99.38	100.00	99.44	95.33	95.68	99.10
Energy .....	93.77	94.72	94.82	94.65	100.00	99.80	91.67	95.33	104.74
Materials .....	93.33	94.44	95.77	100.18	100.00	98.54	93.48	93.17	96.01
Purchased services .....	90.02	91.96	93.98	97.28	100.00	102.93	103.53	105.98	110.79
Agriculture, forestry, and fishing .....	87.90	90.59	90.68	92.03	100.00	96.70	92.75	89.94	91.95
Value Added .....	85.44	88.40	87.28	89.20	100.00	90.50	88.00	82.94	81.64
Intermediate Inputs .....	89.96	92.40	93.61	94.44	100.00	102.34	97.03	96.36	101.74
Energy .....	93.40	91.83	92.94	90.57	100.00	101.13	89.01	100.24	119.26
Materials .....	89.19	92.37	93.10	94.48	100.00	101.49	95.49	93.17	97.59
Purchased services .....	92.09	92.65	95.94	95.47	100.00	106.32	106.45	109.91	115.90
Mining .....	89.49	89.17	85.71	86.13	100.00	101.87	87.14	94.66	130.38
Value Added .....	91.58	87.43	83.46	84.67	100.00	101.67	83.73	92.26	133.55
Intermediate Inputs .....	87.70	92.05	89.26	88.46	100.00	102.18	92.55	98.38	127.43
Energy .....	97.08	96.40	96.06	95.62	100.00	98.62	90.77	93.71	104.77
Materials .....	87.04	92.72	91.14	88.11	100.00	103.48	96.39	99.32	127.11
Purchased services .....	83.67	88.44	82.45	85.14	100.00	101.81	87.29	99.06	138.18
Construction .....	87.78	90.72	93.86	97.61	100.00	103.16	106.25	110.39	115.32
Value Added .....	86.27	89.16	92.65	96.90	100.00	104.18	109.15	115.02	122.25
Intermediate Inputs .....	89.75	92.75	95.47	98.56	100.00	101.84	102.45	104.10	105.66
Energy .....	89.41	89.66	89.32	90.96	100.00	96.26	81.86	90.22	110.45
Materials .....	89.64	93.14	96.06	99.10	100.00	101.28	101.52	102.70	103.65
Purchased services .....	90.04	91.53	93.68	97.02	100.00	104.01	106.51	109.60	112.78
Manufacturing .....	95.64	96.57	97.74	100.19	100.00	99.11	96.19	95.78	97.74
Value Added .....	99.72	100.76	101.43	100.34	100.00	99.45	99.11	97.70	98.24
Intermediate Inputs .....	93.35	94.23	95.66	100.11	100.00	98.93	94.59	94.74	97.49
Energy .....	93.41	94.86	94.94	94.97	100.00	99.91	92.24	95.26	103.59
Materials .....	94.13	94.73	96.00	100.91	100.00	97.97	92.50	92.12	94.57
Purchased services .....	90.16	92.05	94.46	98.01	100.00	102.66	103.84	105.71	108.80
Durable goods .....	99.96	101.02	102.31	102.45	100.00	98.26	94.73	92.47	90.73
Value Added .....	104.40	105.42	105.73	102.10	100.00	97.32	93.03	89.71	87.20
Intermediate Inputs .....	97.20	98.30	100.17	102.66	100.00	98.84	95.77	94.20	92.95
Energy .....	93.66	94.95	95.03	94.92	100.00	99.94	93.42	95.69	103.99
Materials .....	99.03	99.91	101.71	104.11	100.00	97.94	94.17	91.81	89.44
Purchased services .....	90.78	92.67	95.17	98.50	100.00	102.24	102.71	103.91	106.33
Nondurable goods .....	90.84	91.64	92.68	97.62	100.00	100.13	97.99	100.04	107.23
Value Added .....	93.84	94.90	96.00	98.05	100.00	102.38	108.15	109.94	115.83
Intermediate Inputs .....	89.33	90.00	91.02	97.41	100.00	99.03	93.25	95.42	103.20
Energy .....	93.22	94.78	94.86	95.01	100.00	99.89	91.23	94.90	103.26
Materials .....	89.06	89.41	90.18	97.54	100.00	98.01	90.62	92.59	101.19
Purchased services .....	89.46	91.35	93.65	97.44	100.00	103.16	105.17	107.88	111.80
<b>Private services-producing industries</b> .....	90.96	93.51	95.67	98.30	100.00	102.07	103.29	104.67	107.29
Value Added .....	90.83	93.63	96.03	98.68	100.00	102.08	103.80	104.95	107.08
Intermediate Inputs .....	91.23	93.33	95.07	97.67	100.00	102.06	102.43	104.20	107.66
Energy .....	92.32	93.03	92.81	92.55	100.00	98.92	88.01	93.18	108.73
Materials .....	95.51	96.83	97.11	99.47	100.00	99.00	95.64	95.46	97.26
Purchased services .....	89.68	92.18	94.59	97.55	100.00	103.33	105.99	108.15	111.18



**Table 8 (continued).--Chain-Type Price Indexes for Gross Output, Value Added, and Intermediate Inputs by Industry Group, 1992-2000**  
[Index numbers; 1996 =100.00]

Industry Group	1992	1993	1994	1995	1996	1997	1998	1999	2000
Transportation and public utilities.....	94.94	97.08	98.03	98.66	100.00	102.17	102.72	103.01	106.97
Value Added.....	96.90	99.47	100.87	101.27	100.00	102.94	107.17	105.37	105.56
Intermediate Inputs.....	92.29	93.87	94.21	95.15	100.00	101.18	97.35	100.09	108.59
Energy.....	91.98	91.95	91.15	89.83	100.00	98.40	84.26	90.92	113.34
Materials.....	91.84	94.41	92.17	91.76	100.00	100.01	90.14	92.84	105.94
Purchased services.....	92.27	93.93	95.73	97.89	100.00	102.31	103.61	105.42	109.13
Transportation.....	96.00	97.80	98.20	100.00	100.00	102.98	104.88	107.12	111.39
Value Added.....	99.91	102.38	102.10	103.69	100.00	105.16	111.92	112.70	111.67
Intermediate Inputs.....	92.06	93.20	94.27	96.29	100.00	100.76	97.77	101.47	111.05
Energy.....	87.90	86.71	85.17	86.40	100.00	94.60	72.70	85.59	128.10
Materials.....	92.34	94.50	96.31	99.11	100.00	100.49	100.65	100.50	101.05
Purchased services.....	92.87	94.44	96.06	98.14	100.00	102.18	103.38	105.51	110.41
Communications.....	96.21	97.55	99.34	99.83	100.00	101.01	101.61	100.16	99.18
Value Added.....	96.81	98.08	99.94	99.98	100.00	101.39	103.15	100.81	99.02
Intermediate Inputs.....	95.10	96.58	98.22	99.56	100.00	100.46	99.54	99.19	99.16
Energy.....	92.62	93.78	94.20	95.17	100.00	99.16	90.44	95.20	107.86
Materials.....	104.66	105.92	106.46	105.03	100.00	95.32	88.58	83.89	77.90
Purchased services.....	92.57	94.11	96.04	98.11	100.00	101.98	103.08	104.17	106.25
Electric, gas, and sanitary services.....	92.29	95.51	96.45	95.64	100.00	102.25	100.73	100.27	110.91
Value Added.....	93.77	97.62	100.38	99.84	100.00	101.92	105.73	101.24	105.56
Intermediate Inputs.....	89.46	91.77	90.05	88.81	100.00	102.78	93.86	99.31	120.55
Energy.....	96.53	97.58	97.50	93.26	100.00	102.25	96.43	95.94	100.42
Materials.....	85.43	88.44	83.86	82.46	100.00	102.37	85.93	95.86	138.32
Purchased services.....	88.33	90.75	93.13	95.89	100.00	104.08	106.59	109.94	114.58
Wholesale trade.....	93.39	95.52	98.68	102.23	100.00	98.10	93.97	94.39	97.00
Value Added.....	93.18	95.60	99.50	103.64	100.00	97.04	91.65	99.16	95.16
Intermediate Inputs.....	94.05	95.52	97.15	99.57	100.00	100.35	99.35	100.01	101.21
Energy.....	90.80	91.68	91.66	92.17	100.00	98.22	86.20	92.60	109.43
Materials.....	102.25	103.21	103.47	105.31	100.00	95.42	90.42	87.00	82.83
Purchased services.....	91.20	92.91	95.19	98.00	100.00	102.52	104.15	106.08	108.61
Retail trade.....	94.62	96.89	98.42	99.73	100.00	100.28	100.16	100.92	101.76
Value Added.....	96.84	99.34	100.54	100.84	100.00	99.35	98.80	98.96	98.69
Intermediate Inputs.....	90.87	92.74	94.84	97.82	100.00	102.02	102.79	104.79	107.90
Energy.....	93.17	94.49	94.70	95.77	100.00	99.47	92.25	95.54	103.96
Materials.....	92.32	93.70	95.29	98.85	100.00	100.16	99.66	99.70	101.15
Purchased services.....	89.61	91.89	94.57	97.46	100.00	103.53	106.27	109.38	112.86
Finance, insurance and real estate.....	87.95	90.90	93.35	96.89	100.00	103.55	106.19	107.06	108.72
Value Added.....	87.94	90.70	93.12	96.72	100.00	103.23	105.32	105.67	107.00
Intermediate Inputs.....	87.93	91.27	93.77	97.22	100.00	104.12	107.74	109.63	111.90
Energy.....	93.28	95.31	95.75	95.67	100.00	100.51	95.02	96.90	103.09
Materials.....	91.96	93.27	94.38	98.64	100.00	101.72	103.20	104.41	106.32
Purchased services.....	87.27	90.91	93.64	97.09	100.00	104.49	108.61	110.58	112.79
Services.....	89.51	92.13	94.55	97.55	100.00	102.72	105.26	108.15	111.78
Value Added.....	87.64	90.81	93.62	96.82	100.00	103.63	107.71	111.61	116.05
Intermediate Inputs.....	92.82	94.41	96.12	98.76	100.00	101.24	101.37	102.72	105.13
Energy.....	92.05	93.30	93.63	94.11	100.00	99.03	89.70	94.53	107.37
Materials.....	98.33	99.05	99.50	102.00	100.00	98.04	95.35	94.11	92.65
Purchased services.....	90.69	92.65	94.93	97.78	100.00	102.69	104.68	106.95	110.47
Government.....	88.26	91.36	94.23	97.19	100.00	102.75	105.00	108.21	111.94
Value Added.....	88.09	91.28	94.26	97.28	100.00	102.83	105.35	108.58	112.07
Intermediate Inputs.....	90.78	92.54	93.88	96.00	100.00	101.67	100.43	103.37	110.11
Energy.....	93.21	93.34	92.29	91.49	100.00	99.07	87.66	92.62	109.27
Materials.....	89.80	92.31	94.45	97.30	100.00	101.91	102.96	104.86	109.28
Purchased services.....	90.41	92.25	94.08	97.13	100.00	102.95	105.24	108.24	112.04

1. Includes the statistical discrepancy. The statistical discrepancy equals gross domestic product measured as the sum of expenditures less gross domestic income. The statistical discrepancy does not apply to gross output or to intermediate inputs. As a result, the gross output index may not be bounded by the indexes for intermediate inputs and value added.

**Table 9.--Percent Changes in Chain-Type Price Indexes for Gross Output,  
Value Added, and Intermediate Inputs by Industry Group, 1992-2000  
[Percent]**

Industry Group	1993	1994	1995	1996	1997	1998	1999	2000	average annual rate, 1992-95	average annual rate, 1995-00	average annual rate, 1992-00
<b>All Industries</b> .....	2.3	2.0	2.7	1.6	1.3	-0.1	1.1	2.9	2.3	1.4	1.7
Value Added <sup>1</sup> .....	2.4	2.1	2.2	1.9	1.9	1.2	1.4	2.3	2.2	1.8	1.9
Intermediate Inputs .....	1.8	1.7	3.4	1.5	0.8	-1.8	1.1	3.5	2.3	1.0	1.5
Energy .....	0.8	-0.2	-0.3	7.2	-0.8	-10.0	5.2	14.3	0.1	2.9	1.8
Materials .....	1.3	1.2	4.1	0.0	-1.3	-4.7	-0.3	2.8	2.2	-0.7	0.3
Purchased services .....	2.6	2.5	3.2	2.6	3.2	2.2	2.1	3.1	2.8	2.6	2.7
<b>Private industries</b> .....	2.2	1.9	2.7	1.5	1.1	-0.3	1.0	2.9	2.3	1.2	1.6
Value Added .....	2.6	2.1	2.0	1.5	1.4	1.1	0.8	2.4	2.2	1.5	1.7
Intermediate Inputs .....	1.8	1.7	3.5	1.5	0.8	-1.8	1.1	3.4	2.3	1.0	1.5
Energy .....	0.9	-0.1	-0.2	7.1	-0.7	-9.9	5.2	14.1	0.2	2.8	1.8
Materials .....	1.2	1.1	4.1	-0.0	-1.4	-4.7	-0.3	2.7	2.1	-0.8	0.3
Purchased services .....	2.6	2.5	3.2	2.6	3.2	2.2	2.1	3.1	2.8	2.6	2.7
<b>Private goods-producing industries</b> .....	1.3	1.2	2.5	1.2	-0.4	-2.7	0.3	3.5	1.7	0.3	0.8
Value Added .....	1.2	0.8	0.2	2.0	-0.3	-0.6	0.1	3.5	0.7	0.9	0.8
Intermediate Inputs .....	1.4	1.5	4.2	0.6	-0.6	-4.1	0.4	3.6	2.3	-0.1	0.8
Energy .....	1.0	0.1	-0.2	5.7	-0.2	-8.1	4.0	9.9	0.3	2.0	1.4
Materials .....	1.2	1.4	4.6	-0.2	-1.5	-5.1	-0.3	3.0	2.4	-0.8	0.4
Purchased services .....	2.2	2.2	3.5	2.8	2.9	0.6	2.4	4.5	2.6	2.6	2.6
Agriculture, forestry, and fishing .....	3.1	0.1	1.5	8.7	-3.3	-4.1	-3.0	2.2	1.5	-0.0	0.6
Value Added .....	3.5	-1.3	2.2	12.1	-9.5	-2.8	-5.8	-1.6	1.4	-1.8	-0.6
Intermediate Inputs .....	2.7	1.3	0.9	5.9	2.3	-5.2	-0.7	5.6	1.6	1.5	1.5
Energy .....	-1.7	1.2	-2.6	10.4	1.1	-12.0	12.6	19.0	-1.0	5.7	3.1
Materials .....	3.6	0.8	1.5	5.8	1.5	-5.9	-2.4	4.8	1.9	0.7	1.1
Purchased services .....	0.6	3.6	-0.5	4.8	6.3	0.1	3.2	5.5	1.2	4.0	2.9
Mining .....	-0.4	-3.9	0.5	16.1	1.9	-14.5	8.6	37.7	-1.3	8.6	4.8
Value Added .....	-4.5	-4.5	1.5	18.1	1.7	-17.6	10.2	44.8	-2.6	9.5	4.8
Intermediate Inputs .....	5.0	-3.0	-0.9	13.0	2.2	-9.4	6.3	29.5	0.3	7.6	4.8
Energy .....	-0.7	-0.3	-0.5	4.6	-1.4	-8.0	3.2	11.8	-0.5	1.8	1.0
Materials .....	6.5	-1.7	-3.3	13.5	3.5	-6.8	3.0	28.0	0.4	7.6	4.8
Purchased services .....	5.7	-6.8	3.3	17.4	1.8	-14.3	13.5	39.5	0.6	10.2	6.5
Construction .....	3.3	3.5	4.0	2.4	3.2	3.0	3.9	4.5	3.6	3.4	3.5
Value Added .....	3.3	3.9	4.6	3.2	4.2	4.8	5.4	6.3	3.9	4.8	4.5
Intermediate Inputs .....	3.4	2.9	3.2	1.5	1.8	0.6	1.6	1.5	3.2	1.4	2.1
Energy .....	0.3	-0.4	1.8	9.9	-3.7	-15.0	10.2	22.4	0.6	4.0	2.7
Materials .....	3.9	3.1	3.2	0.9	1.3	0.2	1.2	0.9	3.4	0.9	1.8
Purchased services .....	1.7	2.3	3.6	3.1	4.0	2.4	2.9	2.9	2.5	3.1	2.9
Manufacturing .....	1.0	1.2	2.5	-0.2	-0.9	-3.0	-0.4	2.0	1.6	-0.5	0.3
Value Added .....	1.0	0.7	-1.1	-0.3	-0.6	-0.3	-1.4	0.6	0.2	-0.4	-0.2
Intermediate Inputs .....	0.9	1.5	4.7	-0.1	-1.1	-4.4	0.2	2.9	2.4	-0.5	0.5
Energy .....	1.5	0.1	0.0	5.3	-0.1	-7.7	3.3	8.7	0.6	1.8	1.3
Materials .....	0.6	1.3	5.1	-0.9	-2.0	-5.6	-0.4	2.7	2.3	-1.3	0.1
Purchased services .....	2.1	2.6	3.8	2.0	2.7	1.1	1.8	2.9	2.8	2.1	2.4
Durable goods .....	1.1	1.3	0.1	-2.4	-1.7	-3.6	-2.4	-1.9	0.8	-2.4	-1.2
Value Added .....	1.0	0.3	-3.4	-2.1	-2.7	-4.4	-3.6	-2.8	-0.7	-3.1	-2.2
Intermediate Inputs .....	1.1	1.9	2.5	-2.6	-1.2	-3.1	-1.6	-1.3	1.8	-2.0	-0.6
Energy .....	1.4	0.1	-0.1	5.3	-0.1	-6.5	2.4	8.7	0.4	1.8	1.3
Materials .....	0.9	1.8	2.4	-3.9	-2.1	-3.8	-2.5	-2.6	1.7	-3.0	-1.3
Purchased services .....	2.1	2.7	3.5	1.5	2.2	0.5	1.2	2.3	2.8	1.5	2.0
Nondurable goods .....	0.9	1.1	5.3	2.4	0.1	-2.1	2.1	7.2	2.4	1.9	2.1
Value Added .....	1.1	1.2	2.1	2.0	2.4	5.6	1.7	5.4	1.5	3.4	2.7
Intermediate Inputs .....	0.8	1.1	7.0	2.7	-1.0	-5.8	2.3	8.2	2.9	1.2	1.8
Energy .....	1.7	0.1	0.2	5.3	-0.1	-8.7	4.0	8.8	0.6	1.7	1.3
Materials .....	0.4	0.9	8.2	2.5	-2.0	-7.5	2.2	9.3	3.1	0.7	1.6
Purchased services .....	2.1	2.5	4.0	2.6	3.2	1.9	2.6	3.6	2.9	2.8	2.8
<b>Private services-producing industries</b> .....	2.8	2.3	2.7	1.7	2.1	1.2	1.3	2.5	2.6	1.8	2.1
Value Added .....	3.1	2.6	2.8	1.3	2.1	1.7	1.1	2.0	2.8	1.6	2.1
Intermediate Inputs .....	2.3	1.9	2.7	2.4	2.1	0.4	1.7	3.3	2.3	2.0	2.1
Energy .....	0.8	-0.2	-0.3	8.1	-1.1	-11.0	5.9	16.7	0.1	3.3	2.1
Materials .....	1.4	0.3	2.4	0.5	-1.0	-3.4	-0.2	1.9	1.4	-0.4	0.2
Purchased services .....	2.8	2.6	3.1	2.5	3.3	2.6	2.0	2.8	2.8	2.7	2.7

**Table 9 (continued).--Percent Changes in Chain-Type Price Indexes for Gross Output, Value Added, and Intermediate Inputs by Industry Group, 1992-2000 [Percent]**

Industry Group	1993	1994	1995	1996	1997	1998	1999	2000	average annual rate, 1992-95	average annual rate, 1995-00	average annual rate, 1992-00
Transportation and public utilities.....	2.3	1.0	0.6	1.4	2.2	0.5	0.3	3.8	1.3	1.6	1.5
Value Added.....	2.7	1.4	0.4	-1.3	2.9	4.1	-1.7	0.2	1.5	0.8	1.1
Intermediate Inputs.....	1.7	0.4	1.0	5.1	1.2	-3.8	2.8	8.5	1.0	2.7	2.1
Energy.....	-0.0	-0.9	-1.5	11.3	-1.6	-14.4	7.9	24.7	-0.8	4.8	2.6
Materials.....	2.8	-2.4	-0.4	9.0	0.0	-9.9	3.0	14.1	-0.0	2.9	1.8
Purchased services.....	1.8	1.9	2.3	2.2	2.3	1.3	1.7	3.5	2.0	2.2	2.1
Transportation.....	1.9	0.4	1.8	-0.0	3.0	1.8	2.1	4.0	1.4	2.2	1.9
Value Added.....	2.5	-0.3	1.6	-3.6	5.2	6.4	0.7	-0.9	1.2	1.5	1.4
Intermediate Inputs.....	1.2	1.1	2.1	3.9	0.8	-3.0	3.8	9.4	1.5	2.9	2.4
Energy.....	-1.4	-1.8	1.4	15.7	-5.4	-23.2	17.7	49.7	-0.6	8.2	4.8
Materials.....	2.3	1.9	2.9	0.9	0.5	0.2	-0.2	0.6	2.4	2.4	1.1
Purchased services.....	1.7	1.7	2.2	1.9	2.2	1.2	2.1	4.6	1.9	2.4	2.2
Communications.....	1.4	1.8	0.5	0.2	1.0	0.6	-1.4	-1.0	1.2	-0.1	0.4
Value Added.....	1.3	1.9	0.0	0.0	1.4	1.7	-2.3	-1.8	1.1	-0.2	0.3
Intermediate Inputs.....	1.6	1.7	1.4	0.4	0.5	-0.9	-0.4	-0.0	1.5	-0.1	0.5
Energy.....	1.2	0.5	1.0	5.1	-0.8	-8.8	5.3	13.3	0.9	2.5	1.9
Materials.....	1.2	0.5	-1.3	-4.8	-4.7	-7.1	-5.3	-7.1	0.1	-5.8	-3.6
Purchased services.....	1.7	2.1	2.2	1.9	2.0	1.1	1.1	2.0	2.0	1.6	1.7
Electric, gas, and sanitary services.....	3.5	1.0	-0.8	4.6	2.3	-1.5	-0.5	10.6	1.2	3.0	2.3
Value Added.....	4.1	2.8	-0.5	0.2	1.9	3.7	-4.2	4.3	2.1	1.1	1.5
Intermediate Inputs.....	2.6	-1.9	-1.4	12.6	2.8	-8.7	5.8	21.4	-0.2	6.3	3.8
Energy.....	1.1	-0.1	-4.4	7.2	2.2	-5.7	-0.5	4.7	-1.1	1.5	0.5
Materials.....	3.5	-5.2	-1.7	21.3	2.4	-16.1	11.6	44.3	-1.2	10.9	6.2
Purchased services.....	2.7	2.6	3.0	4.3	4.1	2.4	3.1	4.2	2.8	3.6	3.3
Wholesale trade.....	2.3	3.3	3.6	-2.2	-1.9	-4.2	0.4	2.8	3.1	-1.0	0.5
Value Added.....	2.6	4.1	4.2	-3.5	-3.0	-5.6	0.4	3.5	3.6	-1.7	0.3
Intermediate Inputs.....	1.6	1.7	2.5	0.4	0.3	-1.0	0.7	1.2	1.9	0.3	0.9
Energy.....	1.0	-0.0	0.6	8.5	-1.8	-12.2	7.4	18.2	0.5	3.5	2.4
Materials.....	0.9	0.3	1.8	-5.0	-4.6	-5.2	-3.8	-4.8	1.0	-4.7	-2.6
Purchased services.....	1.9	2.5	3.0	2.0	2.5	1.6	1.9	2.4	2.4	2.1	2.2
Retail trade.....	2.4	1.6	1.3	0.3	0.3	-0.1	0.8	0.8	1.8	0.4	0.9
Value Added.....	2.6	1.2	0.3	-0.8	-0.6	-0.6	0.2	-0.3	1.4	-0.4	0.2
Intermediate Inputs.....	2.1	2.3	3.1	2.2	2.0	0.8	1.9	3.0	2.5	2.0	2.2
Energy.....	1.4	0.2	1.1	4.4	-0.5	-7.3	3.6	8.8	0.9	1.7	1.4
Materials.....	1.5	1.7	3.7	1.2	0.2	-0.5	0.0	1.5	2.3	0.5	1.1
Purchased services.....	2.5	2.9	3.1	2.6	3.5	2.6	2.9	3.2	2.8	3.0	2.9
Finance, insurance and real estate.....	3.4	2.7	3.8	3.2	3.5	2.5	0.8	1.5	3.3	2.3	2.7
Value Added.....	3.1	2.7	3.9	3.4	3.2	2.0	0.3	1.3	3.2	2.0	2.5
Intermediate Inputs.....	3.8	2.7	3.7	2.9	4.1	3.5	1.8	2.1	3.4	2.9	3.1
Energy.....	2.2	0.5	-0.1	4.5	0.5	-5.5	2.0	6.4	0.8	1.5	1.3
Materials.....	1.4	1.2	4.5	1.4	1.7	1.4	1.2	1.8	2.4	1.5	1.8
Purchased services.....	4.2	3.0	3.7	3.0	4.5	3.9	1.8	2.0	3.6	3.0	3.3
Services.....	2.9	2.6	3.2	2.5	2.7	2.5	2.7	3.4	2.9	2.8	2.8
Value Added.....	3.6	3.1	3.4	3.3	3.6	3.9	3.6	4.0	3.4	3.7	3.6
Intermediate Inputs.....	1.7	1.8	2.8	1.3	1.2	0.1	1.3	2.3	2.1	1.3	1.6
Energy.....	1.4	0.4	0.5	6.3	-1.0	-9.4	5.4	13.6	0.7	2.7	1.9
Materials.....	0.7	0.5	2.5	-2.0	-2.0	-2.8	-1.3	-1.6	1.2	-1.9	-0.7
Purchased services.....	2.2	2.5	3.0	2.3	2.7	1.9	2.2	3.3	2.5	2.5	2.5
<b>Government</b> .....	3.5	3.1	3.1	2.9	2.7	2.2	3.1	3.4	3.3	2.9	3.0
Value Added.....	3.6	3.3	3.2	2.8	2.8	2.5	3.1	3.2	3.4	2.9	3.1
Intermediate Inputs.....	1.9	1.4	2.3	4.2	1.7	-1.2	2.9	6.5	1.9	2.8	2.4
Energy.....	0.1	-1.1	-0.9	9.3	-0.9	-11.5	5.7	18.0	-0.6	3.6	2.0
Materials.....	2.8	2.3	3.0	2.8	1.9	1.0	1.8	4.2	2.7	2.4	2.5
Purchased services.....	2.0	2.0	3.2	3.0	3.0	2.2	2.9	3.5	2.4	2.9	2.7

1. Includes the statistical discrepancy. The statistical discrepancy equals gross domestic product measured as the sum of expenditures less gross domestic income. The statistical discrepancy does not apply to gross output or to intermediate inputs. As a result, the gross output index may not be bounded by the indexes for intermediate inputs and value added.

**Table 10.--Contributions to Percent Changes in Chain-Type Price Indexes  
for Gross Output by Industry Group, 1992-2000  
[Percent and percentage points]**

Industry Group	1993	1994	1995	1996	1997	1998	1999	2000	average annual rate, 1992-95	average annual rate, 1995-00	average annual rate, 1992-00
<b>All Industries .....</b>	<b>2.3</b>	<b>2.0</b>	<b>2.7</b>	<b>1.6</b>	<b>1.3</b>	<b>-0.1</b>	<b>1.1</b>	<b>2.9</b>	<b>2.3</b>	<b>1.4</b>	<b>1.7</b>
Value Added.....	1.4	1.2	1.3	1.1	1.1	0.7	0.8	1.3	1.3	1.0	1.1
Intermediate Inputs.....	0.8	0.7	1.4	0.7	0.3	-0.8	0.5	1.4	1.0	0.4	0.6
Energy.....	0.0	-0.0	-0.0	0.2	-0.0	-0.2	0.1	0.3	0.0	0.1	0.0
Materials.....	0.3	0.2	0.9	0.0	-0.3	-1.0	-0.1	0.5	0.5	-0.2	0.1
Purchased services.....	0.5	0.5	0.6	0.5	0.6	0.4	0.4	0.6	0.5	0.5	0.5
<b>Private industries .....</b>	<b>2.2</b>	<b>1.9</b>	<b>2.7</b>	<b>1.5</b>	<b>1.1</b>	<b>-0.3</b>	<b>1.0</b>	<b>2.9</b>	<b>2.3</b>	<b>1.2</b>	<b>1.6</b>
Value Added.....	1.4	1.1	1.1	0.8	0.8	0.6	0.5	1.3	1.2	0.8	1.0
Intermediate Inputs.....	0.8	0.8	1.6	0.7	0.3	-0.8	0.5	1.5	1.0	0.4	0.7
Energy.....	0.0	-0.0	-0.0	0.2	-0.0	-0.2	0.1	0.3	0.0	0.1	0.0
Materials.....	0.3	0.3	0.9	-0.0	-0.3	-1.1	-0.1	0.6	0.5	-0.2	0.1
Purchased services.....	0.5	0.5	0.6	0.5	0.7	0.5	0.4	0.7	0.5	0.5	0.5
<b>Private goods-producing industries .....</b>	<b>1.3</b>	<b>1.2</b>	<b>2.5</b>	<b>1.2</b>	<b>-0.4</b>	<b>-2.7</b>	<b>0.3</b>	<b>3.5</b>	<b>1.7</b>	<b>0.3</b>	<b>0.8</b>
Value Added.....	0.5	0.3	0.1	0.8	-0.1	-0.3	0.0	1.4	0.3	0.4	0.3
Intermediate Inputs.....	0.8	0.9	2.5	0.4	-0.3	-2.5	0.2	2.1	1.4	-0.0	0.5
Energy.....	0.0	0.0	-0.0	0.1	-0.0	-0.2	0.1	0.2	0.0	0.1	0.0
Materials.....	0.5	0.6	2.1	-0.1	-0.7	-2.4	-0.1	1.4	1.1	-0.4	0.2
Purchased services.....	0.2	0.3	0.4	0.3	0.3	0.1	0.3	0.5	0.3	0.3	0.3
Agriculture, forestry, and fishing.....	3.1	0.1	1.5	8.7	-3.3	-4.1	-3.0	2.2	1.5	-0.0	0.6
Value Added.....	1.7	-0.6	1.0	5.3	-4.5	-1.3	-2.6	-0.7	0.7	-0.8	-0.3
Intermediate Inputs.....	1.4	0.7	0.5	3.3	1.2	-2.8	-0.4	3.0	0.8	0.8	0.8
Energy.....	-0.1	0.0	-0.1	0.3	0.0	-0.4	0.4	0.5	-0.0	0.2	0.1
Materials.....	1.4	0.3	0.6	2.5	0.6	-2.5	-1.0	2.0	0.8	0.3	0.4
Purchased services.....	0.1	0.3	-0.0	0.5	0.6	0.0	0.3	0.5	0.1	0.4	0.3
Mining.....	-0.4	-3.9	0.5	16.1	1.9	-14.5	8.6	37.7	-1.3	8.6	4.8
Value Added.....	-2.5	-2.5	0.8	11.1	1.0	-10.6	6.2	27.0	-1.4	5.2	2.7
Intermediate Inputs.....	2.2	-1.4	-0.4	5.0	0.9	-3.8	2.5	11.7	0.1	3.4	2.2
Energy.....	-0.1	-0.0	-0.0	0.3	-0.1	-0.5	0.2	0.7	-0.0	0.2	0.1
Materials.....	1.5	-0.4	-0.7	2.7	0.7	-1.5	0.6	5.8	0.1	1.8	1.1
Purchased services.....	0.8	-0.9	0.4	2.0	0.2	-1.8	1.7	5.1	0.1	1.4	0.9
Construction.....	3.3	3.5	4.0	2.4	3.2	3.0	3.9	4.5	3.6	3.4	3.5
Value Added.....	1.8	2.1	2.6	1.8	2.4	2.7	3.2	3.9	2.1	2.6	2.4
Intermediate Inputs.....	1.5	1.3	1.4	0.6	0.8	0.3	0.6	0.6	1.4	0.6	0.9
Energy.....	0.0	-0.0	0.0	0.0	-0.0	-0.1	0.0	0.1	0.0	0.0	0.0
Materials.....	1.4	1.1	1.1	0.3	0.4	0.1	0.4	0.3	1.2	0.3	0.6
Purchased services.....	0.2	0.2	0.4	0.3	0.4	0.2	0.3	0.3	0.3	0.3	0.3
Manufacturing.....	1.0	1.2	2.5	-0.2	-0.9	-3.0	-0.4	2.0	1.6	-0.5	0.3
Value Added.....	0.4	0.2	-0.4	-0.1	-0.2	-0.1	-0.5	0.2	0.1	-0.2	-0.1
Intermediate Inputs.....	0.6	1.0	2.9	-0.1	-0.7	-2.8	0.1	1.8	1.5	-0.3	0.3
Energy.....	0.0	0.0	0.0	0.1	-0.0	-0.2	0.1	0.2	0.0	0.0	0.0
Materials.....	0.3	0.7	2.5	-0.4	-1.0	-2.8	-0.2	1.3	1.2	-0.6	0.0
Purchased services.....	0.2	0.3	0.4	0.2	0.3	0.1	0.2	0.4	0.3	0.2	0.3
Durable goods.....	1.1	1.3	0.1	-2.4	-1.7	-3.6	-2.4	-1.9	0.8	-2.4	-1.2
Value Added.....	0.4	0.1	-1.4	-0.8	-1.0	-1.7	-1.4	-1.1	-0.3	-1.2	-0.9
Intermediate Inputs.....	0.7	1.2	1.5	-1.6	-0.7	-1.9	-1.0	-0.8	1.1	-1.2	-0.3
Energy.....	0.0	0.0	-0.0	0.1	-0.0	-0.1	0.0	0.2	0.0	0.0	0.0
Materials.....	0.4	0.8	1.1	-1.9	-1.0	-1.8	-1.2	-1.2	0.8	-1.4	-0.6
Purchased services.....	0.2	0.3	0.4	0.2	0.3	0.1	0.1	0.3	0.3	0.2	0.2
Nondurable goods.....	0.9	1.1	5.3	2.4	0.1	-2.1	2.1	7.2	2.4	1.9	2.1
Value Added.....	0.4	0.4	0.7	0.7	0.8	1.9	0.6	1.9	0.5	1.1	0.9
Intermediate Inputs.....	0.5	0.7	4.6	1.8	-0.6	-3.9	1.5	5.3	1.9	0.8	1.2
Energy.....	0.1	0.0	0.0	0.2	-0.0	-0.3	0.1	0.2	0.0	0.1	0.0
Materials.....	0.2	0.4	4.1	1.3	-1.0	-3.9	1.1	4.6	1.6	0.4	0.8
Purchased services.....	0.3	0.3	0.5	0.3	0.4	0.2	0.3	0.5	0.3	0.3	0.3
<b>Private services-producing industries .....</b>	<b>2.8</b>	<b>2.3</b>	<b>2.7</b>	<b>1.7</b>	<b>2.1</b>	<b>1.2</b>	<b>1.3</b>	<b>2.5</b>	<b>2.6</b>	<b>1.8</b>	<b>2.1</b>
Value Added.....	2.0	1.6	1.8	0.8	1.3	1.1	0.7	1.3	1.8	1.1	1.4
Intermediate Inputs.....	0.8	0.7	1.0	0.9	0.8	0.1	0.6	1.2	0.8	0.7	0.7
Energy.....	0.0	-0.0	-0.0	0.2	-0.0	-0.2	0.1	0.3	0.0	0.1	0.1
Materials.....	0.1	0.0	0.2	0.0	-0.1	-0.3	-0.0	0.2	0.1	-0.0	0.0
Purchased services.....	0.7	0.7	0.8	0.7	0.9	0.7	0.5	0.7	0.7	0.6	0.7

**Table 10 (continued).--Contributions to Percent Changes in Chain-Type Price Indexes  
for Gross Output by Industry Group, 1992-2000**  
[Percent and percentage points]

Industry Group	1993	1994	1995	1996	1997	1998	1999	2000	average annual rate, 1992-95	average annual rate, 1995-00	average annual rate, 1992-00
Transportation and public utilities.....	2.3	1.0	0.6	1.4	2.2	0.5	0.3	3.8	1.3	1.6	1.5
Value Added.....	1.5	0.8	0.2	-0.7	1.7	2.3	-0.9	0.1	0.9	0.5	0.6
Intermediate Inputs.....	0.7	0.2	0.4	2.1	0.5	-1.7	1.2	3.7	0.4	1.1	0.9
Energy.....	-0.0	-0.1	-0.1	0.7	-0.1	-0.9	0.5	1.4	-0.1	0.4	0.2
Materials.....	0.3	-0.2	-0.0	0.9	0.0	-1.0	0.3	1.4	-0.0	0.3	0.2
Purchased services.....	0.4	0.5	0.5	0.5	0.6	0.3	0.5	1.0	0.5	0.5	0.5
Transportation.....	1.9	0.4	1.8	-0.0	3.0	1.8	2.1	4.0	1.4	2.2	1.9
Value Added.....	1.3	-0.1	0.8	-1.8	2.6	3.3	0.4	-0.5	0.6	0.8	0.7
Intermediate Inputs.....	0.6	0.6	1.0	1.9	0.4	-1.4	1.8	4.5	0.7	1.4	1.2
Energy.....	-0.1	-0.1	0.1	1.2	-0.4	-1.8	1.1	3.2	-0.0	0.7	0.4
Materials.....	0.1	0.1	0.2	0.1	0.0	0.0	-0.0	0.0	0.2	0.0	0.1
Purchased services.....	0.6	0.6	0.7	0.7	0.8	0.4	0.7	1.6	0.6	0.8	0.8
Communications.....	1.4	1.8	0.5	0.2	1.0	0.6	-1.4	-1.0	1.2	-0.1	0.4
Value Added.....	0.9	1.3	0.0	0.0	0.9	1.0	-1.3	-1.0	0.7	-0.1	0.2
Intermediate Inputs.....	0.5	0.6	0.5	0.2	0.2	-0.4	-0.2	-0.0	0.5	-0.0	0.2
Energy.....	0.0	0.0	0.0	0.0	-0.0	-0.0	0.0	0.1	0.0	0.0	0.0
Materials.....	0.1	0.0	-0.1	-0.4	-0.4	-0.6	-0.5	-0.7	0.0	-0.4	-0.3
Purchased services.....	0.4	0.5	0.6	0.5	0.6	0.4	0.4	0.7	0.5	0.4	0.5
Electric, gas, and sanitary services.....	3.5	1.0	-0.8	4.6	2.3	-1.5	-0.5	10.6	1.2	3.0	2.3
Value Added.....	2.5	1.7	-0.3	0.1	1.2	2.2	-2.5	2.7	1.3	0.7	0.9
Intermediate Inputs.....	1.0	-0.7	-0.5	4.4	1.1	-3.5	2.3	7.9	-0.1	2.5	1.5
Energy.....	0.1	-0.0	-0.5	0.8	0.2	-0.7	-0.1	0.5	-0.1	0.2	0.1
Materials.....	0.6	-1.0	-0.3	3.4	0.4	-2.9	2.1	7.5	-0.2	2.0	1.1
Purchased services.....	0.2	0.2	0.3	0.4	0.4	0.3	0.3	0.4	0.2	0.3	0.3
Wholesale trade.....	2.3	3.3	3.6	-2.2	-1.9	-4.2	0.4	2.8	3.1	-1.0	0.5
Value Added.....	1.8	2.8	2.8	-2.3	-2.0	-3.8	0.3	2.4	2.5	-1.2	0.2
Intermediate Inputs.....	0.5	0.6	0.8	0.1	0.1	-0.3	0.2	0.4	0.6	0.1	0.3
Energy.....	0.0	-0.0	0.0	0.2	-0.0	-0.2	0.1	0.3	0.0	0.1	0.0
Materials.....	0.1	0.0	0.2	-0.5	-0.4	-0.4	-0.3	-0.4	0.1	-0.4	-0.2
Purchased services.....	0.4	0.5	0.6	0.5	0.6	0.3	0.4	0.5	0.5	0.4	0.4
Retail trade.....	2.4	1.6	1.3	0.3	0.3	-0.1	0.8	0.8	1.8	0.4	0.9
Value Added.....	1.7	0.8	0.2	-0.5	-0.4	-0.4	0.1	-0.2	0.9	-0.3	0.2
Intermediate Inputs.....	0.7	0.8	1.1	0.8	0.7	0.3	0.6	1.0	0.9	0.7	0.8
Energy.....	0.0	0.0	0.0	0.1	-0.0	-0.2	0.1	0.2	0.0	0.0	0.0
Materials.....	0.2	0.2	0.5	0.2	0.0	-0.1	0.0	0.2	0.3	0.1	0.1
Purchased services.....	0.5	0.6	0.6	0.5	0.7	0.5	0.6	0.6	0.5	0.6	0.6
Finance, insurance and real estate.....	3.4	2.7	3.8	3.2	3.5	2.5	0.8	1.5	3.3	2.3	2.7
Value Added.....	2.1	1.8	2.5	2.2	2.1	1.3	0.2	0.8	2.2	1.4	1.7
Intermediate Inputs.....	1.2	0.9	1.3	1.0	1.5	1.3	0.6	0.7	1.1	0.9	1.0
Energy.....	0.0	0.0	-0.0	0.0	0.0	-0.0	0.0	0.0	0.0	0.0	0.0
Materials.....	0.1	0.0	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1
Purchased services.....	1.1	0.9	1.1	0.9	1.4	1.3	0.6	0.6	1.0	0.8	0.9
Services.....	2.9	2.6	3.2	2.5	2.7	2.5	2.7	3.4	2.9	2.8	2.8
Value Added.....	2.3	2.0	2.2	2.1	2.3	2.5	2.2	2.5	2.2	2.4	2.3
Intermediate Inputs.....	0.6	0.7	1.0	0.5	0.5	0.0	0.5	0.9	0.8	0.5	0.6
Energy.....	0.0	0.0	0.0	0.1	-0.0	-0.1	0.1	0.2	0.0	0.0	0.0
Materials.....	0.1	0.0	0.3	-0.2	-0.2	-0.3	-0.1	-0.2	0.1	-0.2	-0.1
Purchased services.....	0.5	0.6	0.7	0.6	0.7	0.5	0.6	0.9	0.6	0.6	0.6
<b>Government.....</b>	<b>3.5</b>	<b>3.1</b>	<b>3.1</b>	<b>2.9</b>	<b>2.7</b>	<b>2.2</b>	<b>3.1</b>	<b>3.4</b>	<b>3.3</b>	<b>2.9</b>	<b>3.0</b>
Value Added.....	3.4	3.0	3.0	2.6	2.6	2.3	2.9	3.0	3.2	2.7	2.9
Intermediate Inputs.....	0.1	0.1	0.2	0.3	0.1	-0.1	0.2	0.5	0.1	0.2	0.1
Energy.....	0.0	-0.0	-0.0	0.1	-0.0	-0.2	0.1	0.2	-0.0	0.0	0.0
Materials.....	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1
Purchased services.....	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1

Note. --For information on the calculation of the contributions to percent change, see footnote 8 in the text. Percentage point contributions may not sum to the percent change for "All Industries" and "Private Industries" because value added's contribution for these industry groups includes the statistical discrepancy.

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