Chapter 6: The LIFT Model

In Chapter 2, the concept of an Interindustry Macroeconomic (IM) model was introduced. Chapters 3-5 described industry income equations that will be included in an IM model of the U.S. economy. This chapter describes that specific IM model. The model is the Long-term Interindustry Forecasting Tool (LIFT), which was developed at the University of Maryland under the direction of Clopper Almon.[1] LIFT models industry-level and macroeconomic activity of the U.S. economy using annual data, and it is designed to provide projections over the long-run, ten to fifteen years into the future. This chapter gives an overview of the model and its principal behavioral properties. The part of the model that determines real, or product, activity is described first. The second section of the chapter focuses on the price-income side of the model, and the chapter concludes with a discussion of how the "Accountant" part of the model reconciles the real and income parts of the model.

The "Real" Side of LIFT (Product determination)

As noted in Chapter 2, an IM model is structured on the input-output equations that determine output and prices based, in part, on

[1] The current LIFT model represents the cumulative effort of a number of researchers over the past twenty years. The description of the model here is based on descriptions by McCarthy (1991), Almon (1991, 1986a, 1986b), and Monaco, R.M. (1984).

interindustry requirements. Recall

$$q = (I-A)^{-1} * f \quad (6.1)$$

$$p = v * (I-A)^{-1} \quad (6.2)$$

where

q = vector of product output,
A = matrix of input-output coefficients,
I = identity matrix,
f = vector of final demand by products,
p = vector of product prices,
v = vector of value added per unit of output.

The Real side of the model is based on equation 6.1, which determines product output as a function of interindustry demand and final demand. To forecast product output, final demand by product is calculated. Final demand consists of Personal Consumption Expenditures, Investment in Producer Durable Equipment, Investment in Residential and Nonresidential Structures, Exports, and Government Purchases of Goods and Services, less demand met by Imports and Changes in Inventories.

Table 6.1 lists the equations that comprise the Real side of LIFT. The largest component of final demand is Personal Consumption Expenditures (PCE), and it is determined by a two-step process. PCE by product is determined by a system of behavioral equations. Then, total PCE is determined as the difference between disposable income and savings.[2] The initial product results are then

[2] Specifically, PCE = income - savings, where savings includes interest paid by consumers to business. The amount of savings is determined by an equation for the savings rate, which is described below.

scaled so that total PCE sums to the solution of the income less savings identity. In practice, the degree of scaling is modest (less than one percent), indicating that the product equations give solutions consistent with the constraint that consumption equals income less savings. It also should be noted that the scaling is based on income-sensitivity of products, not merely on the share of each product in total consumption. If the income identity implies that total consumption is higher than what is predicted by the product equations, for example, the consumption of Automobiles will be affected relatively more than the consumption of Food.

PCE by product is determined by equations that combine cross-section and time-series analysis.[3] The cross-section analysis measures the effect on consumption of income distribution and demographic variables, such as age structure of the population, percent

Table 6.1: LIFT Product Side

Component	Sectors	Influences
Output by product sector	78	q = Aq + f
Personal Consumption* by NIPA expenditure category	80	Disposable income Size distribution of income Change in disposable income

[3] See Devine for description of estimation.

		Time trend Relative prices Age structure of population Other demographic variables
Equipment Investment by investing industry cost	55	Change in product outputs Change in relative prices of user of capital, labor, and energy Stock of equipment by industry
Construction by type	31	Output, Income, or Expenditure Interest rates Stocks of structures Demographic variables
Inventory Change by product sector	78	Product output Interest rates and inflation Stocks of inventories
Imports by product sector	78	Domestic demand by product Domestic/foreign product prices Exchange rates
Exports by product sector	78	Foreign demand by product Foreign/domestic product prices Exchange rates
Labor Productivity by product sector	78	Output cycles by sector Time trends
Length of Work Year by product sector	78	Change in output Time trend
Employment work year by product sector	78	Labor productivity, output,
Consumption, Equipment are bridged and Construction by product sector	78	Final demands by category to producing sectors with unique bridge matrices
Government Purchases by product sector	78	Exogenous

* Total PCE is determined as the difference between disposable income and savings. See the section below on macroeconomic equations in LIFT.

of families with two earners, and regional location of population. The cross-section results are combined with time-series analysis of relative prices, income changes, and trends. The equations are estimated as a system so that relative price effects are symmetric across goods that are substitutes and complements. The response of consumption to relative prices is one of the important behavioral links in the model between real and price activity. An increase in oil prices, for instance, will affect not only the consumption of fuel, but also the consumption of a complementary good, such as Automobiles, and a substitute good, such as Local public transportation. A change in relative prices therefore leads to a change in the structure of demand.

Investment in Producer Durable Equipment (PDE) is determined using a generalized Leontief cost function.[4] Net investment by industry is determined as a function of demand, measured by a distributed lag of changes in output, and the relative prices of capital, labor and energy. Constraints are used to insure that own-price elasticities are negative and that cross-price elasticities between labor and capital are positive and symmetric. The use of changes in output as a measure of demand implies that the equations resemble typical accelerator models. Replacement investment is then determined based on the current and lagged levels of the capital stock, as well as on assumed depreciation rates. Finally, gross investment by industry is simply the sum of replacement and net investment.

Investment in Residential Structures is determined for four types of residential construction: One-unit structures, Two-or-more unit structures, Mobile homes, and Additions and alterations to residences. The equations specify investment as a function of income or consumption, interest rates, stock of structures, and demographic variables. Investment in Nonresidential structures is divided into nineteen private categories and eleven public categories. Private

[4] See Meade (1990) for full development of the PDE equations used in LIFT.

investment, in structures such as Industrial factories, Offices, Mining exploration shafts and wells, and Petroleum pipelines, is determined by demand, measured by industry output, interest rates, and the stock of structures. For the most part, government investment in structures, such as Highways, Sewer systems, and Schools, is set exogenously and is not determined by behavioral equations.

The LIFT model is part of a linked system of IM models for seven countries.[5] Product exports and imports in LIFT are determined by exchange rates, relative foreign-to-domestic prices and other product-specific variables that result from solving the linked International System.[6] Exports depend on foreign demand by product, for example, where demand is determined by economic conditions facing our trading partners. Imports of specific products are determined by domestic demand for each product, as well as relative foreign to domestic prices. Price sensitivity of exports and imports is another important behavioral link between the real and price sides of LIFT. An increase in the price of Electrical machinery in this country, in response to higher costs of plastic and metal, for instance, not only will affect PCE of Electronics, but also the exports of Electrical machinery, and the demand for imported machinery. The sensitivity of consumption, exports, and imports to the price change will determine the net effect on the output of the Electrical machinery industry. A fall in demand for Electrical machinery implies a fall in the profit margin for the industry, which in turn means that the product price will fall (based on the definition of product price by the input-output dual equation). The fall in price will help stimulate demand for Electrical machinery again, both domestically and abroad, and bring about a recovery in the Electrical machinery industry.

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[5] The seven countries linked at the time of this work are the U.S., Japan, the Federal Republic of Germany, France, Italy, Canada, and Belgium. Models of Mexico, Austria, and South Korea have since been added to the system, while models of Spain, Poland and the United Kingdom are being prepared. See Nyhus (1991).

[6] The export and import equations were estimated by Nyhus (1975), and are described in greater detail in Chapter 7 below.

Once final demand by product is determined, output is defined by the input-output equation. The last calculation on the Real side of the model is employment by producing sector. The demand for employment is based not only on production levels (output), but also on labor productivity (output per hour). Labor productivity by producing sector is estimated as a function of changes in output and simple trends. The equations reflect the fact that the influence of demand changes is not symmetric over the business cycle. Labor hoarding occurs at the beginning of a downturn, while hiring increases very slowly at the beginning of a recovery.[7] Since productivity is defined as output per hour worked, an equation is needed to determine the average hours worked per year. The yearly hours equations also depend on changes in output and time trends. Employment is then determined by combining labor productivity, the length of the work year, and output.

The Price-Income Side of LIFT

As noted above, forecasting product prices implies forecasting value added by industry, such as labor compensation, corporate profits, and so on. The main components of the price-income side, and their determinants in the model, are outlined in Table 6.2. Product prices are defined by the input-output identity, equation 6.2, and they depend on value added by product. Value added by product is calculated by distributing the results from the industry income equations to product

Table 6.2 LIFT Price-Income Side

[7] Because of these changes in productivity over the business cycle that have been observed historically, aggregate measures of employment make poor leading indicators of cycles. Employment could rather be thought of as a coincident, or even lagging, indicator of cyclical turning points.

COMPONENT	Sectors	INFLUENCES
Prices by product sector	78	p = pA + v
Value added by product sector	78	Value added by industry distributed to products based on product-to-industry bridge
Value added by industry:		
Labor Compensation	46	Industry wage * employment
Manufacturing wage	1	Labor productivity 5-year lag of money growth Price shocks Unemployment rate
Nonmanufacturing wage	1	Manufacturing wage rate Unemployment rate
Relative wages industry/aggregate	46	Unemployment, inflation Industry output Industry exports,imports
Return to capital by industry (See Table 6.3)	46	Corporate profits + Proprietor income + Net interest + Depreciation allowances + Inventory value adjustment + Business transfer payments
Rental income for 1 industry	1	Average share of nominal GNP Inflation Transitory nominal GNP
Indirect business taxes Total of all industries	1	Lagged IBT as share of GNP Growth in real GNP
by industry	46	Share of total IBT Change in output share
Government subsidies (largely Agricultural susidies)	46	Exogenous

sectors using the product-to-industry bridge described in Chapter 2. The industry income equations determine the three main components of value added: labor compensation, return to capital, and returns to government.

Labor compensation in the model is determined by a combination of aggregate and industry equations. The aggregate manufacturing and non-manufacturing wage rates are calculated using equations that depend on labor productivity, demand, money growth, and price shocks. The equations embody the short-run Phillip's curve trade-off between unemployment and inflation. They also are based on long-run neutrality of money, as excess changes in the growth of the money supply eventually lead to proportional changes in nominal wages.[8] By using an aggregate equation to establish the link between monetary inflation and wages, a change in inflation does not impose a permanent change on industry relative wages. Specifically, the aggregation wage rate for manufacturing is determined by:

$$wmfg - prod - smm2 = .69 * shock + 11.33 * tight \qquad (6.3)$$

where

wmfg = percent change in manufacturing hourly labor compensation,
prod = three-year moving average of labor productivity,
smm2 = smoothed excess money growth over a five-year period:

$$smm2 = .2x_t + .3x_{t-1} + .2x_{t-2} + .1x_{t-3} + .1x_{t-4} + .1x_{t-5}$$

x = percentage change in ratio of money supply (M2) to real GNP

shock = price shock variable: inflation rate lagged one year less smoothed excess money growth lagged one year,
tight = tightness of the labor market as measured by the first difference in the two-year moving average of the inverse of the unemployment rate.

The aggregate wage rate for non-manufacturing is then a function of the manufacturing wage rate and changes in the overall unemployment rate.

[8] See Monaco, R.M. for development of the aggregate wage equations.

Table 6.3 LIFT Return to Capital by Industry

COMPONENT	#	INFLUENCES
Corporate Profits by industry	46	Change in material costs Change in labor costs Change in demand (output, unemployment, interest rates, other)
Proprietor Income 4 largest industries equaling 80% of Total	4	Change in material costs Change in labor costs Change in demand Trend
All other proprietor income by industry	1 42	Change in Labor Compensation Share of All other Change in output share
Net Interest Payments Total domestic payments	1	Current AAA-bond rate Smoothed average rate Business debt
by industry	45	Share of Total domestic payments Change in output share
Rest of World Payments	1	Change in net factor income
Capital Consumption Allowances Corporate & Noncorporate Totals determined by same specification, but with different equations	1	Depreciation of equipment Depreciation of structures
by industry	46	Industry share of total Change in output share
Inventory Valuation Adjustment Corporate & Noncorporate Totals determined by same specification, but with different equations	1	Inflation
by industry	46	Share of total IVA Change in output share

Business Transfer Payments	1	Share of nominal GNP
Total		Lagged real interest rate
		Unemployment rate
by industry	46	Share of total Business Transfers
		Change in output share

Once the aggregate wage rates are calculated, industry wage rates are calculated using relative wage equations that depend on industry-specific variables, such as output, exports, and imports, as well as macroeconomic variables such as unemployment and inflation. Labor compensation by industry then is calculated as the product of total employment and the wage rate.

After labor income, the bulk of the remaining value added consists of return to capital by industry. In this study, each type of capital income is solved for using a behavioral equation, and the results are summed to calculate total return to capital. The equations for return to capital, which were developed in Chapters 3-5, are summarized in Table 6.3.

The Accountant in LIFT

The third important section of the LIFT model is called the Accountant, since it calculates many of the aggregate variables of the National Income and Product Accounts. The three main tasks of the Accountant are (1) calculate aggregate income and product variables, as well as prices, as the sum of the industry detail provided by the Real and Price-income sides of the model; (2) determine personal disposable income; and (3) calculate interest rates and financial variables.

The first task of the Accountant involves summing the industry detail provided by the rest of the model. Total GNP is calculated in both real and nominal terms by summing product demands, as well as product demand multiplied by

prices. Implicit aggregate price deflators also are calculated.

The LIFT model includes a detailed personal tax model that uses estimates of income distribution as well as legislated tax-rate schedules to calculate the amount of personal income taxes. These taxes play a role in determining not only personal disposable income, but also government revenues. After determining personal disposable income, the Accountant side of LIFT also calculates the amount of personal savings using an equation for the savings rate. The savings rate is a function of the unemployment rate, the percent change in income, automobile purchases as a share of PCE, interest payments as a share of income, personal contributions to social insurance as a share of income, and inflation. Specifically:

$$savrat = 15.6 - 1.0 * un[1] - 1.0 * auto - 1.0 * ipbrat + .56 * pctdi + .33 * pctpri - .49 * shssc \quad (6.4)$$

where

savrat = savings as a percent of disposable income,
un[1] = unemployment rate, lagged on year,
auto = automobile purchases as a share of disposable income,
ipbrat = interest paid by consumers as a share of disposable income,
pctdi = percent change in real disposable income,
pctpri = percent change in implicit GNP deflator (inflation),
shssc = personal contributions for social insurance as a share of disposable income.

The relationship between the savings rate and the unemployment rate provides one of the key macroeconomic features of LIFT. As the unemployment rate increases, due to a slowdown in real growth, the savings rate falls. As consumers spend a relatively larger share of their income, demand is stimulated, which helps offset the initial fall in demand. As noted earlier, total PCE is determined implicitly by the savings rate equation and the identity that disposable income less savings equals consumption.

The third type of calculation performed by the Accountant involves the

financial sector. Long and short-term interest rates are modeled as a function of changes in the money supply, inflation, and changes in demand. Interest rates are used by equations on the product side of the model that determine investment in structures, as well as some consumer items (such as Housing and Automobiles). In addition, interest rates affect income variables, such as Net interest payments and Personal interest income, as well as the Net interest expense of government expenditures.

Exogenous variables

In addition to the equations described for the Real, Price-income, and Accountant parts of the model, LIFT includes a number of exogenous variables. The exogenous variables can be grouped into four main categories: demographic, price, public policy, and interindustry coefficients. (See Table 6.4) The demographic assumptions include population and its age distribution, as well as the civilian labor force. Some product prices are set exogenously, especially the price of crude petroleum and some mining sectors. LIFT also uses a host of monetary and fiscal policy assumptions. The supply of money (M2) is exogenous, as are exchange rates with our trading partners. In addition, Government spending is exogenous, although the parts of spending that depend on economic conditions do respond to the model. For example, the unemployment insurance transfer payments are calculated by combining an assumed rate times the number of people unemployed as determined by the model in any year. Likewise, an assumption is made for real old-age benefits per capita, and the model determines the current-dollar level of payments in any year based on inflation and demographics.

The final type of assumption concerns the coefficient matrices in LIFT. First, of course, is the input-output coefficient matrix, or A-matrix, that describes inter-industry relationships. As noted in Chapter 2, the LIFT model uses projections of

input-output coefficients that reflect changes in technology and interindustry relationships that occur over time. LIFT also includes bridge matrices to convert Investment in PDE by industry to products, Construction investment by type to products, and Personal Consumption Expenditures by type to product sectors. The coefficients for the Construction matrix are estimated and projected using the same procedure as for the A-matrix coefficients, while the consumption bridge is based on coefficients from the last year of historical data and is fixed over the forecast. The bridge matrix for PDE is a special case, in that the B-matrix coefficients are designed to be endogenous to the model.[9] The coefficients are estimated as a function of a trend as well as cyclical variables. The cyclical variables capture the idea that certain products are more likely to be purchased as part of an industry's total equipment purchases during an expansion, while others are more likely to be purchased on a continuing basis. For example, total investment in PDE by the Air transportation industry is predicted by a behavioral equation. The B-matrix coefficients are used to distribute total equipment investment between Airplanes, Computers, and Furniture (among other products). Computers and Furniture are more likely to be purchased on an ongoing basis, as part of general maintenance and upkeep, while the decision to purchase Airplanes is more likely to be affected by cyclical trends in demand.

Conclusions

The purpose of this chapter was to provide an overview of the LIFT model, including the newly estimated income equations described in Chapter 3-5. In the following chapters, the properties of the LIFT model are described, by analyzing

[9] The B-matrix coefficients are estimated as part of the sister model to LIFT called the Detailed Output Model (DOM). DOM expands the 78 product sectors of LIFT to 430 sectors. The B-matrix is estimated at the level of detail of 430 (products) x 55 (industries). The DOM coefficients are aggregated to the 78x55 structure of LIFT and, in effect, are exogenous to the LIFT model.

forecasts done with the model.

```
;                   Table 6.4:   Exogenous Assumptions for the
;                   Long-term Interindustry Forecasting Tool (LIFT)
;
;
;
;Demographic Assumptions
;-----------------------
;
lhtc   ; Teen-age Cilvian Labor Force
lfc    ; Civilian Labor Force
hhead  ; Percent of Household Head Age 25-35
pt     ; Population
pop1   ;  Age  0- 4 years
pop2   ;  Age  5-14 years
pop3   ;  Age 15-19 years
pop4   ;  Age 20-29 years
pop5   ;  Age 30-39 years
pop6   ;  Age 40-49 years
pop7   ;  Age 50-64 years
pop8   ;  Age 65+
sage   ; School age population
dthrat ; Death Rate
hhld   ; Number of Households (thousands)
twoern ; Percent of Households with Two Earners
multjb ; Multiple Job Adjustment
domemp ; Domestic Servants (employment)
emptim ; Adjustment to Time for Labor Productivity
;
;
;
;Monetary Policy Assumptions
;---------------------------
;
m2                ; Supply of M2
(m2/m2[1]-1.0)*100. ; annual percent change
;
;(or -- if m2 is endogenous)
nbr     ; Non-borrowed reserves
reqres  ; Required Reserves Ratio
mbase   ; Monetary Base
mmult   ; Money Multiplier (m2/mbase)
;
;
;
;Federal Government Assumptions
;------------------------------
;
;Employment/Compensation of Employees
efdent              ; Employees of Federal Enterprises (thousands)
;
emp91m+emp91c+emp91n ; Total Federal Employment
emp91m+emp91c        ;  Defense Employment
emp91m               ;    Military Employment
emp91c              ;    Civilian Employment
emp91n              ;  Non-defense Employment
```

;
wndc ; Wages and salaries, Non-defense employees (constant$)

```
;                       Exogenous Assumptions for the
;                  Long-term Interindustry Forecasting Tool (LIFT)
;
;Federal Government (continued)
;Purchases of Goods and Services
;Macro Fixes
gfdp+gfndp          ; Total Federal Purchases, constant$
gfdp               ;   Defense purchases, excl COE
gfndp              ;   Non-defense purchases, excl COE
;
;Industry Fixes
def38              ; Defense purchases of Communication Equipment
def44              ; Defense purchases of Aerospace
def45              ; Defense purchases of Ships and boats
def43+def46          ; Defense purchases of Motor vehicles, Trans Equip
def71              ; Defense purchases of Non-competitive Imports
                  (bases abroad)
;
ndf1               ; Non-defense purchases of Agriculture
ndf70              ; Non-defense purchases of Government Enterprises
;
gia                ; Grants in Aid to State & Local Govt, current$
;
pctgov             ; Percentage of Debt held by Government Accounts
doshi              ; Domestic Share of Federal Interest Payments
floan              ; Direct Federal Loans Outstanding
rtbf               ; Federal Share of Indirect Business Taxes
;
;Transfer Payments
trpcoas            ; Social Security Payments per person (constant$)
trchmi             ; Old-age Hospital & Medical Benefits per person
                  (constant $)
uipc2              ; Unemployment Insurance Benefits per person
                  (constant$)
;
socrat             ; Legislated Social Security Payroll Tax Rate
rtpfi              ; Federal Tax Rate on Personal Income
;
;
;State and Local Government Assumptions
;-------------------------------------
;
;Employment/Compensation of Employees
esdent             ; Employees of State & Local Enterprises (thousands)
;
emp94e+emp94o       ; Total State & Local Employment
emp94e             ;   Education Employment
emp94o             ;   Non-education Employment
;
wslec              ; Wages and salaries, S&L Education (constant$)
wsloc              ; Wages and salaries, S&L Non-education (constant$)
;
;Purchases of Goods and Services
gsloe              ; S&L Expenditures (excl COE): Education
                            (constant$)
```

```
gsloo             ; S&L Expenditures (excl COE):
                                Non-education(constant$)
;
rtcsl             ; S&L Tax Rate on Corporate Profit Income
rtpsli            ; S&L Income Tax Rate on Personal Income
sldebt             ; State & Local Surplus  (billions $)

;                         Exogenous Assumptions for the
;                    Long-term Interindustry Forecasting Tool (LIFT)
;
;Rates for Contributions to Social Insurance and Other Labor Income
;-------------------------------------------------------------------
;
;Contributions to Federal Insurance Fund by:
rcofp      ; Private Employers
rcoffe     ; Federal Enterprises
rcoffi     ; Federal Industry
rcofse      ; State & Local Enterprises
rcofsi     ; State & Local Industry
;
;Contributions to State & Local Insurance Fund by:
rcolp      ; Private Employers
rcolse     ; State and Local Enterprises
rcolsi     ; State and Local Industry
;
;Contributions to Other Labor Income by:
rcoop      ; Private Employers
rcoofe     ; Federal Enterprises
rcoofi     ; Federal Industry
rcoose      ; State & Local Enterprises
rcoosi     ; State & Local Industry
;
;Income Assumptions
;------------------
;
cayf    ; Capital Consumption Adjustment: Farm Proprietor Income
caybp   ; Capital Consumption Adjustment: Non-Farm Proprietor Income
;
cayc    ; Capital Consumption Adjustment: Corporate Profit Income
cayri   ; Capital Consumption Adjustment: Rental Income
;
trpfrn  ; Net Personal Transfer Payments to Foreigners
;
;Foreign Trade Assumptions
;-------------------------
;
exscl     ; Exchange Rate Scalar  (and 7 exchange rates by country)
fdm1-fdm75; Foreign demand by product
;
caninc ; Canadian Income
gerinc ; German Income
japinc ; Japan Income
;
;Rest of World Sector
rowemp ; Employment (macro variable)
```

```
wag46  ; Relative Wage
pdm75  ; Domestic Price
fpe75  ; Foreign Export Price
fpi75  ; Foreign Import Price
gco    ; Gross Capital Outflows
;
exp6   ; Exports of Crude Petroleum
;
pdm71  ; Domestic Price of Non-competive Imports
;
fpe21  ; Foreign Export Price: Shoes
fpe35  ; Foreign Export Price: Computers
fpe49  ; Foreign Export Price: Non-merchandise (sectors 49-78)

;                       Exogenous Assumptions for the
;                 Long-term Interindustry Forecasting Tool (LIFT)
;
;Foreign trade (continued)
;
fpi21  ; Foreign Import Price: Shoes
fpi35  ; Foreign Import Price: Computers
fpi6   ; Foreign Import Price: Crude Petroleum
pdm6   ; Domestic Price:       Crude Petroleum
fpi49  ; Foreign Import Price: Non-merchandise  (sectors 49-78)
;
;
;
;Investment-Related Assumptions
;------------------------------
;
;Producer Durable Equipment
rraaa   ; Real Interest Rate (raaa)
tlife   ; Investment Depreciation Lifetime for Tax purposes
ctax    ; Corporate Tax Rate
vtaxcr  ; Investment Tax Credit
;
cap56   ; PDE for Personal Automobiles
cap57   ; PDE for Sales of Used Equipment
;
;Construction
difscl  ; Disintermediation Scalar (construction)
disint  ; Disintermediation Dummy
;
cst20   ; Public Construction: Highways and Streets
cst21   ; Public Construction: Military Facilities
cst22   ; Public Construction: Conservation
cst23   ; Public Construction: Sewer Systems
cst24   ; Public Construction: Water Supply Facilities
cst25   ; Public Construction: Residences
cst26   ; Public Construction: Industrial
cst27   ; Public Construction: Educational
cst28   ; Public Construction: Hospitals
cst29   ; Public Construction: Other Public Buildings
cst30   ; Public Construction: Miscellaneous
;
```

;
;
;Personal Consumption Expenditures Assumptions
;---
;
pce49   ; Domestic servants
;
;
;
;Inventory Change Assumptions
;---------------------------
;
ven1   ; Agriculture
ven43   ; Motor Vehicles
ven9   ; Food and Tobacco
ven41   ; Electrical Equipment
ven44   ; Aerospace
ven47   ; Instruments
ven48   ; Misc Manufacturing
;
;

;   Exogenous Assumptions for the
;   Long-term Interindustry Forecasting Tool (LIFT)
;
;
;Prices and Income by Industry Assumptions
;--
;
;Crude Petroleum
pdm6   ; Domestic Price
fpi6   ; Foreign Import Price
;
;Computers
pdm35 ; Domestic Price
fpi35 ; Foreign Import Price
fpe35 ; Foreign Export Price
;
;Shoes
fpi21 ; Foreign Import Price
fpe21 ; Foreign Export Price
;
;Non-merchandise Trade
fpi49 ; Foreign Import Price (sectors 49-78)
fpe49 ; Foreign Export Price (sectors 49-78)
;
pdm71 ; Domestic Price of Non-competitive Imports
pdm74 ; Domestic Price of Scrap & Used
;
;
;