Metro Report

Economic Report to the Metro Council

2000-2030 Regional Forecast

- Employment
- Population
- Housing
- Income

for Portland-Vancouver Metropolitan Area

Released: March 2002
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Proposed Final DRAFT

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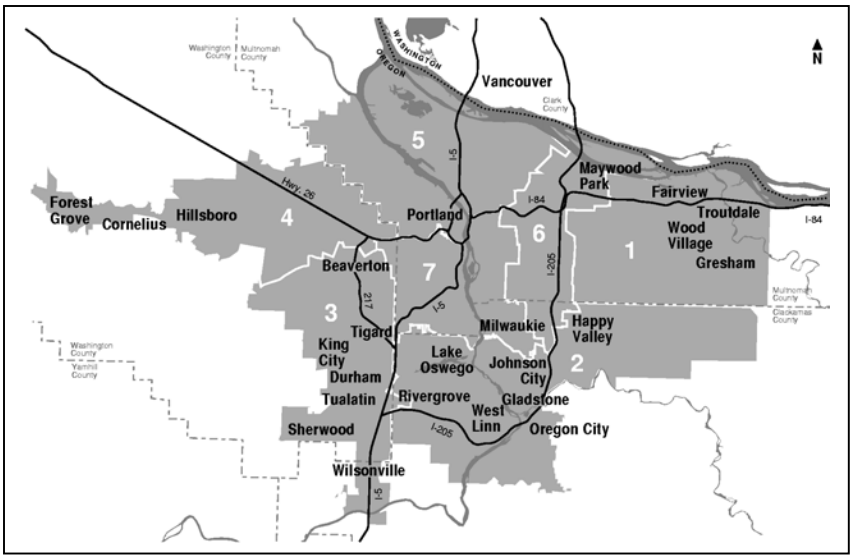
METRO
People Places
Open Spaces



Metro

Planning that protects the nature of our region

"It's better to plan for growth than ignore it."

Planning is Metro's top job. Metro provides a regional forum where cities, counties and citizens can resolve issues related to growth – things such as protecting streams and open spaces, transportation and land-use choices and increasing the region's recycling efforts. Open spaces, salmon runs and forests don't stop at city limits or county lines. Planning ahead for a healthy environment and stable economy supports livable communities now and protects the nature of our region for the future.

Metro serves 1.3 million people who live in Clackamas, Multnomah and Washington counties and the 24 cities in the Portland metropolitan area. Metro provides transportation and land-use planning services garbage disposal and recycling and waste reduction programs.

Metro manages regional parks and greenspaces and the Oregon Zoo. It also oversees operation of the Oregon Convention Center, Civic Stadium, the Portland Center for the Performing Arts and the Portland Metropolitan Exposition (Expo) Center, all managed by the Metropolitan Exposition-Recreation Commission.

For more information about Metro or to schedule a speaker for a community group, call (503) 797-1510 (public affairs) or (503) 797-1540 (council).

Metro's web site:

www.metro-region.org

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(Note: DRI-WEFA produces a fourth scenario known as the “cyclical projection”. This scenario is not used in the production of the Metro Regional Forecast)

Executive Summary
2000-2030 Regional Forecast

The National View: Winter 2002

- It's official – the U.S. is in a recession since March 2001, according to the private economic think tank: National Bureau of Economic Research.
- There's little worry of inflation. Interest rates are low; but so are consumer confidence and business activity. The National Association of Purchasing Manager's Index (NAPM) still points to contraction. Low confidence and downbeat industrial output spell negative GDP growth for the U.S for the first part of 2002.
- After a year, the recession may be coming to an end. . .

1. Consumer confidence is on the rise – but still under pre-recession levels
2. NAPM index is on the rise too – the level is presently near 50 – indicative of positive growth just around the corner
3. Surplus capacity utilization and industrial production are showing early signs of acceleration
4. Very favorable interest rates for stimulating additional domestic investments which could lead to a recovery in computers and software production
5. Timely tax cuts prior to 9/11 and huge federal spending are stimulating GDP

Favorable Economic Factors

- Early & deep interest rate cuts
- Unusually well timed Federal spending initiatives and tax cuts
- Low fuel prices
- Decline in U.S. imports
- Steady housing demand
- Strong consumer auto purchases

Unfavorable Economic Factors

- Vulnerable capital goods cycle – weak domestic investment outlook
- Global recession
- Weak U.S. exports
- Weak state & local budgets
- Poor business profits
- Inventories overstocked

The Regional Perspective.

- The region is in its worst condition in over a decade.
- The average number of unemployed rose to near 60,000 with peak unemployment reaching 75,000 in November and December 2001.
- The manufacturing sector is in full retreat – that's not good news for a region that has proportionally more industrial jobs than other areas of the country.
- Regional mainstays high tech, transportation equipment, machinery, metals, and food processors, are hurting. Quarterly job figures in manufacturing are off 6 percent from over a year ago on a seasonalized annual basis.
- A weak Pacific Rim has also hurt regional exports. Japan is in its 3rd recession in a decade.
- Despite weak economic fundamentals, population and migration are still holding up well. Population rose 1.5 percent last year, which is below historical norms, but that figure is still high compared with growth in the early half of the 1980's.

When can we expect the Portland region to rebound?

- The good news is: Probably by mid-summer. But at the start the rebound will be slow…so the region probably won't feel like its out of the recession until the first quarter of 2003.
- The U.S. should be well on its way to a recovery, so the region can count on a boost from higher U.S. business activity. High-tech will be on its way up, and that should help fuel regional growth.
- A mild recovery overseas – especially in Japan – will aid in bolstering exports and the regional economy, too.

Executive Summary – *continued*

2000-2030 Regional Forecast

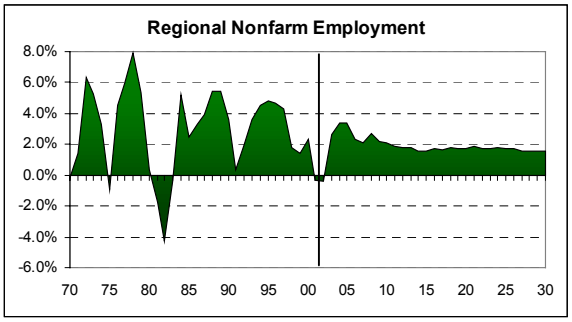
Regional Long-term Forecast Outlook: 2000 to 2030

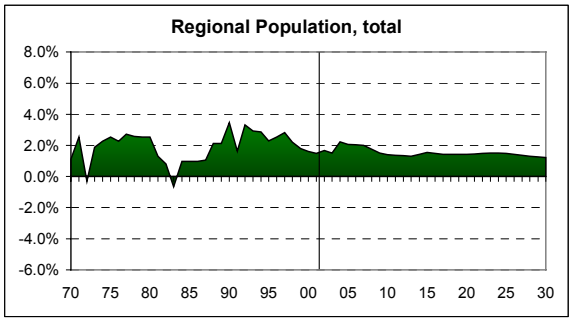
- Regional forecast presumes policy neutral position. Policies in effect today will be in force in the future. Regulation of the land supply assumed to not restrict underlying market growth trends.
- Population growth in last half of 1990's grew more rapidly than expected. Nearly 40,000 more residents by 2000 than previous 1995-2020 Regional Forecast[1].
- 20 year population expected to rise 1.6% A.P.R. as compared to 2.0 percent annual average since 1970.
- Population in 2022 expected to hit 2.65 million residents living in the region. 5 county region expected to reach 3 million mark by 2030.

	Population change in decade	Avg. Growth in decade
1850-60	16,046	9.2%
1860-70	13,811	6.4%
1870-80	25,123	6.3%
1880-90	69,510	8.5%
1890-00	39,891	2.8%
1900-10	157,733	7.0%
1910-20	71,192	2.0%
1920-30	83,767	1.9%
1930-40	50,538	1.0%
1940-50	210,702	3.4%
1950-60	116,332	1.5%
1960-70	194,697	2.1%
1970-80	248,584	2.1%
1980-90	179,969	1.3%
1990-00	396,554	2.4%
2000-10	359,451	1.8%
2010-20	337,200	1.4%
2020-30	384,200	1.4%

- Population table (left) shows growth tapering off during the forecast to 1.4 % per year between 2010 to 2030.
- Migration represents one-half of future population growth.
- Despite more people in this forecast, the number of households or the housing unit need forecast is actually 30,000 lower than the previous regional forecast.
- Household size was revised upwards by Census. Future household sizes expected to hold up higher than in previous forecast assumption.
- Population growth helps fuel population-dependent industries reach 4 and 4.5 percent growth rates in mid-1990's.
- Employment growth in near term expected to rebound and as a result so too will population (see charts below).
- Long-run employment prospects are expected to be favorable for the region. Job growth expected to exceed U.S. growth rates.
- Manufacturing jobs are expected to grow at an average of 0.8 percent a year – fueled primarily by high tech developments. Nonmanufacturing jobs expected to average 2.0 percent a year. Total is 1.9 percent average annual growth as compared to 3.0 percent during the last 30 years.

Annual Growth Rate Charts





[1] Source: Metro Data Resource Center, **2015 Regional Forecast**, January 1996

Executive Summary – *continued*
2000-2030 Regional Forecast
for Various Geographies

Exhibit 1

5-County Regional Forecast Tables
(Multnomah, Clackamas, Washington, Yamhill and Clark counties)

	Total Employment (thousands)			Wage & Salary Jobs (thousands)			Self-Employed (thousands)		
	High	Mid	Low	High	Mid	Low	High	Mid	Low
2000	1,210.2	1,210.2	1,210.2	958.0	958.0	958.0	252.2	252.2	252.2
2005	1,344.3	1,314.2	1,290.0	1,068.5	1,043.5	1,023.9	275.9	270.7	266.1
2010	1,518.3	1,477.2	1,431.0	1,202.4	1,168.7	1,138.0	315.9	308.5	293.0
2015	1,677.3	1,625.2	1,525.7	1,321.6	1,273.1	1,209.3	355.7	352.0	316.5
2020	1,873.4	1,788.9	1,609.1	1,459.8	1,387.7	1,267.8	413.6	401.2	341.3
2025	2,115.9	1,972.7	1,709.4	1,627.7	1,515.5	1,335.8	488.2	457.2	373.6
2030	2,399.9	2,151.6	1,814.2	1,823.8	1,641.5	1,406.0	576.1	510.1	408.2

	Population, total (thousands)			Household, total (thousands)			Personal Income (million $ 1996)		
	High	Mid	Low	High	Mid	Low	High	Mid	Low
2000	1,874.5	1,874.5	1,874.5	725.4	725.4	725.4	53,088	53,088	53,088
2005	2,087.8	2,049.2	1,991.4	811.1	799.6	785.9	59,154	57,131	56,400
2010	2,299.6	2,233.9	2,079.6	894.1	876.7	840.1	65,982	64,429	65,650
2015	2,453.6	2,394.1	2,120.3	956.3	946.9	876.7	76,568	72,874	72,250
2020	2,701.4	2,571.1	2,177.2	1,049.8	1021.6	915.1	90,101	84,819	76,714
2025	3,026.2	2,768.2	2,275.2	1,171.6	1104.2	966.4	105,294	98,272	80,641
2030	3,391.5	2.955.3	2,385.8	1,308.7	1178.8	1,022.6	123,614	110,939	82,264

	Per Capita Income ($ 1996)			Portland CPI (1982-84=100)			Median Home Price (nominal $)		
	High	Mid	Low	High	Mid	Low	High	Mid	Low
2000	28,320	28,320	28,320	178.0	178.0	178.0	166,000	166,000	166,000
2005	28,300	27,900	28,300	211.0	208.2	205.9	199,200	195,200	186,900
2010	28,700	28,800	31,600	246.8	243.6	223.6	274,700	256,100	222,700
2015	31,200	30,400	34,100	284.9	277.7	253.9	328,800	308,300	242,800
2020	33,400	33,000	35,200	335.9	314.4	298.3	403,500	365,000	252,500
2025	34,800	35,500	35,400	400.1	356.8	355.1	520,700	434,800	273,200
2030	36,400	37,500	34,500	481.4	406.0	425.5	682,300	510,600	301,200

Table Notes:
- Total employment includes wage & salary jobs, proprietors and other self-employed individuals.
- Personal income includes wages and salary, other labor income, transfer payments, dividends, interest and rent, farm and nonfarm proprietors income, and residents adjustment less social insurance contributions.
- Portland CPI is the Bureau of Labor Statistics all items urban consumer price index for the Portland-Vancouver metropolitan area
- Median Home Price derived from RMLS median sales price statistics

Executive Summary – *continued*
2000-2030 Regional Forecast
for Various Geographies

Exhibit 2

4-County Forecast Table

(Multnomah, Clackamas, Washington, and Clark counties)

	Total Employment	Total Population	Total Household
2000	1,172,900	1,789,460	696,669
2005	1,273,400	1,956,300	759,600
2010	1,433,100	2,134,300	832,800
2015	1,577,300	2,287,000	899,600
2020	1,736,900	2,455,700	970,500
2025	1,916,000	2,643,700	1,049,000
2030	2,089,800	2,821,000	1,118,900

Table Notes:

- Total employment includes wage and salary plus proprietors. Excludes military employment.

Exhibit 3

Metro UGB Forecast Table

(data tables include Multnomah, Clackamas, Washington, and Clark county)

	Total Employment 1/	Total Population 2/	Total Household 3/
2000	953,134	1,305,574	520,395
2005	1,028,500	1,419,000	563,200
2010	1,148,300	1,540,000	613,000
2015	1,256,500	1,643,800	658,400
2020	1,376,200	1,758,500	706,700
2025	1,510,500	1,886,300	760,000
2030	1,640,900	2,006,900	807,600

Table Notes (source: Metro Urban Growth Report, August 2002):

A capture rate represents a Metro policy determination to accommodate with the Metro UGB a fraction of expected regional growth. There are two pertinent capture rates assumed in the UGR: 1) households (housing units) and 2) employment (jobs). The numerator represents the number of households or jobs in the Metro UGB. The denominator represents a four-county total. The ratio is the capture rate for the future.

1. Assumes a 75 percent job capture rate
2. Assumes a 68 percent population capture rate
3. Assumes a 68 percent household capture rate

Exhibit 4

Metro UGB Employment, Population and Household Demand Table

	Total Employment	Total Population	Total Household
2000	953,134	1,305,574	520,395
2022 1/2	1,428,134	1,821,300	732,600
Change	475,000	515,700	212,200

Table Notes: "Change" values have been rounded

- Figures in Exhibit 4 are interpolated from the forecast data shown in Exhibit 3.
- The total employment figures include self-employed and also do not yet subtract out the effects of redevelopment and infill. (An adjusted change without self-employed totals 355,000 jobs.)

2000-2030 Regional Forecast

Introduction

Purpose.
In order to maintain a sound and vibrant regional economy, planning for future land needs is essential. State law mandates that Urban Growth Boundaries (UGB) in Oregon are periodically updated, and the inventory of buildable residential land inside UGB's are replenished up to a 20 year supply at the time of periodic review. And as a matter of general practice, Metro also maintains an inventory of up to 20 years of industrial and commercial land at its periodic review of the Metro UGB. The basis for future land need and demand is derived from a regional forecast of employment and household change.

The regional forecast is, in part, the supporting evidence for Metro's UGB decision which is due to be finalized in December 2002. This demand, represented by the current regional forecast, provides the technical information for a baseline estimate of a 20 year need for both residential and employment land[2]. Metro is now in the process of completing its studies and analyses for its 2002-2022 periodic review UGB decision[3].

The Metro regional forecast presents the technical underpinnings for estimates of future employment and future residential land need. National economic assumptions drive a regional forecast that is derived from a regional economic model of the Portland-Vancouver region. Overall regional control totals for aggregate demand for employment land are derived from sector-by-sector employment forecasts. Commercial and industrial land demand (need) are derived from sector level employment forecasts and by projections of employment density and floor-to-area-ratios (FAR) for each sector[4].

Future residential land demand (need) is determined from housing unit forecasts created from the Metro regional forecast. Future regional population is estimated using an age-cohort model, with the final result a forecast of population by age. U.S. Census "middle-series" age-specific birth and age-specific mortality rates are the initial basis for projecting natural population growth. These age-specific rates are benchmarked to regional vital statistics data to create composite regional age-specific birth and death rates used in estimating natural increases in regional population[5]. The migration component is

[2] Additional high and low growth scenarios for the region will accompany this baseline forecast to cover a range of uncertainty in the forecast.
[3] Additional information is needed from other tasks under periodic review to make a final determination of UGB land need, e.g., alternatives analysis, Metroscope data on capture rates and refill rates, policy inputs with respect to matters of urban form, regional transportation plan assumptions.
[4] FAR projections and employment density assumptions are derived by Metro's other economic model – Metroscope. In fact, Metroscope is a comprehensive land use allocation model that interacts with Metro's regional transportation model as well as the regional economic model.
[5] Regional birth and death rates fluctuate a tad from year-to-year. We chose as initial rates a set of composite rates that minimized the difference between actual and model fitted births and deaths between 1990 and 2000. We adjusted the national fertility and mortality assumptions to correspond to regional

estimated net of in- and outflows and is linked to the employment forecast. The completed population forecast is then converted to an estimate of the number of households and dwelling units. A vacancy rate of 5 percent is assumed for converting the number of households to dwelling units.

The Context of this Forecast and Past Regional Forecasts.

The last officially adopted regional forecast and growth allocation was completed in 1995 and the results published in a two volume set: *The 2015 Regional Forecast*, and *The 2015 Regional Forecast and Urban Development Patterns*, January 1996 and February 1996, respectively. This Economic Report updates the first of these documents.

A regional forecast was prepared in December 2000 and presented to the Metro Council. That forecast was never officially adopted and remains as an "unpublished report".[6]

This Report summarizes our recent review of the Portland-Vancouver metropolitan area as of February 2002. This review includes development of a new regional economic forecast consistent with a winter 2002, long-term U.S macroeconomic outlook. The U.S. outlook is prepared by DRI-WEFA. The Regional Forecast is the sole responsibility of Metro and not WEFA.

The regional forecast is developed by Metro Staff using an econometric model of the five county regional area (Multnomah, Clackamas, Washington, Yamhill in Oregon and Clark county Washington). The forecast results are reviewed by a panel of regional economic observers and peer reviewers. Comments from professional reviewers are factored into consideration in the final draft of the Regional Forecast.

Policy and Economic Assumptions.

No economic forecast can be prepared free of policy assumptions. Implicitly we maintain an assumption of status quo for regional and state policies. In terms of economic assumptions, the DRI-WEFA U.S. forecast sets the overall tone of anticipated macroeconomic conditions for the next 20 year period. The Metro regional forecast implicitly adopts these assumptions for the Metro region for its next 20 year growth cycle[7].

Before estimating future employment and population increases, a set of overarching conditions are presumed to be pre-set assumptions for the region and the U.S. These assumptions are often overlooked, but are fundamental to the forecast. For example, the

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differences in these rates. These differences were not large, but we felt it was reasonable to make the adjustments in order to better replicate regional trends.

[6] Metro Data Resource Center, Economic Report to the Metro Council – 2000-2025, December 2000

[7] Although business cycles are not dead and there have been at least 10 downturns in the Metro region, the current regional forecast plays out the present recession and attempts to forecast regional growth at its long-run expected growth rate. In the near term, population and economic growth in the region is slow or negative. Subsequently, as the U.S. economy emerges from the current 2001-2 recession, the region is expected to do so as well, but with a one-quarter lag. The recovery will initially show about a year or two of above average growth rates as the region climbs out of recession, but after this initial growth peak, the regional forecast gradually tapers off to the region's long-run average growth path. This growth path is determined by the national forecast obtained from DRI-WEFA as well as demographic trends.

regional forecast assumes that Americans are free to go where they please without undue restrictions (this has implications on migration trends and business start ups), that Americans are protected by the U.S. Constitution and the rule of law (this implies that people and businesses can reasonably expect certain behavior from others and can plan for the future on this basis), that America's fundamental economic system continues to be based on a system of free enterprise (this presupposes a sense of economic stability and conditions as opposed to a socialist regime that has a different set of economic implications), that Americans have the right to the pursuit of happiness. These fundamentals we hold to be true in the regional forecast as well as the U.S. forecast. Additional macroeconomic assumptions with respect to fiscal policy, monetary policy, and so forth are also explicitly folded into the national forecast. And, in the course of assuming the national forecast, these national assumptions become implicit policies for the region too.

At the regional level we assume a policy-neutral set of conditions over the course of the next 20 years. In other words, the policies that are in force today are presumed to be similar in the future. In terms of regional planning for the UGB, this means that future regional land use policies are assumed to be more of the same. In other words, future policies will have similar impact to that which exists today.

The region in the past, and arguably in the present, has enjoyed land demand and supply conditions that pretty much do not suffer from peculiar economic distortions. Additionally, the forecast presumes that the market for all goods and services in the region is no more constrained than that of the rest of the nation. What this translates into for the regional forecast is that regardless of future policies, the regional markets (whether for labor, land or goods and services) in the Metro region are able to determine market equilibriums, and the condition of these markets are competitive with other cities on the west coast. In short, the regional forecast presumes future policies will do no harm to observable economic trends[8]. The State's periodic review process and Metro code are intended to provide periodic replenishment of the available land inventory by balancing the desire for economic vitality with land and environmental conservation.

The economic trends for the region are based in part on past economic relationships, clusters, inter-industry linkages and the outlook for the nation. Our attempts to peer into a mist-shrouded future are based on these assumptions. The economic relationships between the U.S. economy, world economy and regional economy are intertwined and implicitly included in the regional forecast by virtue of the economic equations formulated in the regional economic model. Economic clusters that exist in the region are also considered. Inter-industry linkages, that is the relationships among different sectors of the region, are folded into the calculations of the regional forecast by inter-industry demand variables (behaves as an input-output parameter among industry sectors).

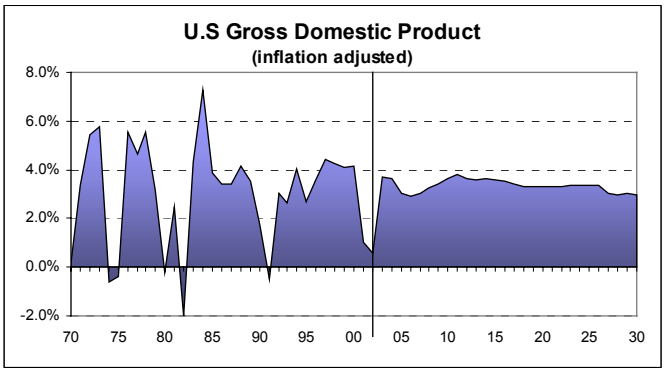
The future forecast for the region is based on an outlook of global and national conditions that are expected to materialize over the next 20 years, as well as economic relationships

[8] Policies today may encourage economic trends such as economic development. Other policies today may tend to redirect or dampen economic growth, but are in place to mitigate externalities that an open and competitive market may not have the mechanisms to properly control, such as environmental externalities.

that have formed over the past decades. The set of U.S. and worldwide assumptions derive from the DRI-WEFA U.S. forecast. To highlight, the regional outlook includes these most recent updates:

- U.S. Census 2000 population data (updated from 1991-99 Portland State University intercensal estimates)
- New immigration trend information for the 1990's
- Updated demographic assumptions of future households, migration, birth and death rates
- Revised employment data from the state employment departments
- New and revised U.S. Bureau of Economic Analysis income and wage data
- 9/11 economic impacts
- Macroeconomic recession assumptions from DRI-WEFA
- Global macroeconomic and industry detailed growth assumptions from DRI-WEFA

The DRI-WEFA national forecast is a trended forecast. This means that after the current recession is played out for the U.S., an expected growth rate is assumed by DRI-WEFA that presumably models an average growth path which bisects the peaks and valleys associated with recessions and a business cycle. The chart (right) of real U.S. GDP from DRI-WEFA exemplifies the trended approach of the national and regional forecast.



Alternate Regional Forecasts.

Three regional population and job growth scenarios are packaged together in this regional outlook report. This report includes a baseline (mid-growth scenario), high (optimistic scenario) and low (pessimistic scenario) growth projections. A baseline growth forecast is prepared first. This baseline regional forecast represents a middle growth scenario and is representative of the region's most likely economic and population trends. The baseline regional forecast is characterized by playing out the current business cycle and with regional growth tapering off in later years. Future growth beyond this point assumes a trend projection based on "averaging out" peak growth periods with future downturns in order to model the region's fundamental economic growth path.

The baseline assumes that the economy suffers no major mishaps between now and the end of the forecast horizon in 2030. The baseline scenario is based on economic and demographic characteristics that represents neither an extremely high or low set of assumptions. This trended scenario assumes the absence of major economic disruptions. Such disruptions include large oil price shocks, unanticipated policy swings, or excessively rapid changes in supply or demand.

Separate high and low regional growth scenarios are prepared for the region. These alternative growth forecasts are constructed based on respective high and low growth national forecasts taken from DRI-WEFA's national model of U.S. growth. Additionally, more optimistic or pessimistic regional demographic parameters are assumed in coordination with the corresponding alternate growth scenario. For example, the high growth regional scenario assumes greater migration rates than the baseline or low growth scenario. The high and low growth regional forecasts produced in conjunction with the baseline provides an alternate range of growth projections that the region could achieve given the range of assumptions. The alternative forecasts bracket growth and offers a different timeline for when a certain level of growth could be achieved given each set of assumptions.

Both the optimistic and pessimistic growth scenarios have been constructed in a way that assumes economic and demographic factors on the extreme ends of the spectrum. In the case of the optimistic scenario, demographic factors were adjusted to reflect faster population growth parameters than the baseline assumption set. Economic factors were assumed to change more rapidly than in the baseline trend projection. Output is projected to climb much faster and economic variables exhibit more rapid growth.

Conversely, the pessimistic scenario switches the demographic factors to a slower setting. For example, birth rates are lower, life expectancy is lower, and net migration is much less than the baseline. Economic variables were reset to weaker settings. Productivity and output are assumed to increase at a slower rate than either the baseline and the optimistic scenario.

In terms of the economic growth path that eventually might materialize, we characterize the range between the high and low scenarios as approximately accounting for 90 percent of all possible outcomes. Therefore, there is only a 10 percent chance of growth exceeding or underperforming beyond the growth bands of the respective optimistic and pessimistic scenarios.

Forecast Methodology Summary.

The Metro Regional Forecast is prepared using a state-of-the-art econometric model with over 100 endogenous equations and 200 exogenous and identity/accounting equations and variables. Stochastic behavioral equations describe each significant industry category in the manufacturing and nonmanufacturing sectors. Income equations for every major income category are modeled. Wage equations for aggregate groupings of industries project future wage rates. Inter-industry linkages between different parts of the regional economy are expressed with feedbacks and interactions that represent the mix of regional economic relationships and growth patterns. The equations for employment, income, wages and population are compiled together to describe the growth rate anticipated for the Portland-Vancouver area economy.

Specifically, inter-industry demand variables (IDV) are employed in each employment equation to reflect the implicit input-output associations which exist among each regional industry. Industries with significant traded demand, typically sectors in manufacturing

and some traded-sector nonmanufacturing classifications (e.g., transportation & warehousing and creative services) include additional industry demand drivers, for example, variables that proxy specified industry-level national demand. Non-traded industries, typically classified in nonmanufacturing sectors, include demand variables triggered by growth in population and income related variables. Productivity assumptions and projected wage rate increases are employed in each industry employment equation to reflect the labor force and price variations that co-determine employment demand from the factor input side. Employment equations represent the heart of the Metro Regional Economic Model and describe in the greatest possible detail the structure of the regional economy.

Population change is estimated by five-year age groups. A cohort-component method of projecting future population changes in the region is employed. Population statistics are projected for individual five-year age cohorts. The Metro Regional Economic Model includes estimates of fertility and the number of births. Mortality rates are also assumed and the number of deaths in each age cohort is estimated in each forecast year. The difference between births and deaths from these projections represents the expected natural increase in the regional population. Adding in a forecast of migration (net of inflows and outflows of residents) by age cohort, we are able to arrive at an estimate of population in future years. A net-migration forecast is prepared using a stochastic equation which models the relationship identified between migration and relative economic growth comparisons. Essentially, migration levels increase when economic growth in the region increase on a relative basis significantly faster than the economies of California, Washington and the U.S. population growth in the region is tied directly into the Regional Forecast by the amount of migration and the ability of the region to draw in migrants based on the strength of regional economic growth.

Future growth assumptions also include economic growth projections for the U.S. and the global economy. National variables include components of gross domestic product (consumption and investment trends), fiscal and monetary variables, exchange rates, inflation, productivity, housing variables, and labor force data. These future year growth expectations provide the backdrop for Metro's Regional Economic Forecast.

Report Organization.

The regional forecast begins in year 2002 through 2030. Year 2001 data through the 3rd quarter represents the last actual data point with the 4th quarter still a preliminary estimate. The geographic coverage of the Regional Forecast is a five-county Portland-Vancouver metropolitan area that includes Multnomah, Clackamas, Washington and Yamhill counties in Oregon plus Clark county, Washington. For purposes of comparison and additional geographic coverage, less detailed "satellite models" also forecast individually the employment, income, and population for Columbia, Yamhill, and the Salem MSA (Marion and Polk counties). These other county projections are separate from the detailed Portland-Vancouver MSA (five counties). Subtracting the Yamhill county forecast from the five-county Regional Forecast, an officially adopted Regional Forecast with just the four-county area is employed for Urban Growth reporting purposes.

The U.S. economic forecast and most other assumptions in this report are based on data released through the month of October 2001. Regional and national statistics which are usually tabulated on a monthly or quarterly frequency have been seasonally adjusted using the Census X-11 method. U.S. historical data are also through the 3rd quarter.

Regional income data which comes annually from the U.S. Bureau of Economic Analysis (BEA) reflect historical data through 1999. Monthly current employment statistics (CES) from the State of Oregon include data through October 2001. Annual population statistics are updated to 2001 based on Census 2000 enumerations and county population estimates derived from Portland State University, Center for Population Research and Census (CPRC) and Washington State Office of Financial Management (OFM). Other historical data series (e.g., self employment, wages and components of personal income) used in this report are at least through 1999.

Detailed statistical information describing the baseline regional forecast is tabulated in the Appendix of this report. The main text of this report provides a summary description of the assumptions, results and conclusions contained in the baseline regional forecast.

Details of the high and low growth regional forecast scenarios are also included in the Appendix which compares the three alternative forecast scenarios for selected economic variables.

DRI-WEFA's detailed explanation of its U.S. long-term economic outlook is also found in the Appendix of this report. A brief description of the DRI-WEFA U.S. forecast is incorporated into the main text of the report. Additional forecast tables are included in the appendix which offer more detailed information about the U.S. macroeconomic trend and the optimistic and pessimistic national scenarios. Excerpts of the DRI-WEFA 25-year focus of the U.S. economy is included.

Additional forecast years beyond 2030 were prepared as part of this regional forecast, but the reliability of these projections is significantly diminished from the prior year projections. The later forecast years, beyond 2030, were developed as a convenience for extreme long-range facility planning efforts and to address questions about potential future growth patterns in 2040 and 2060.

Economic Report
to the
Metro Council

2000-2030

Portland-Vancouver Metropolitan Area
Economic & Demographic Projections

- Employment
- Population & Households
- Income & Wages

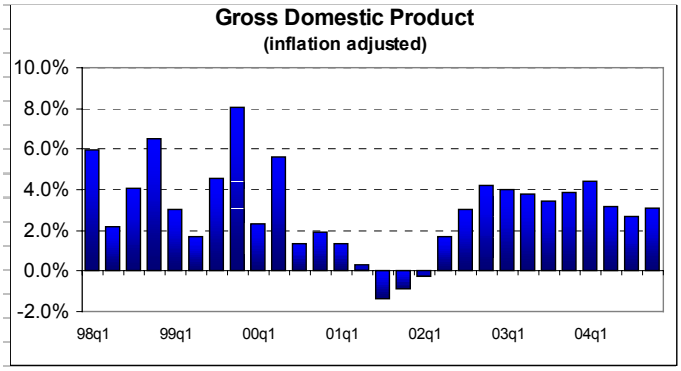
The Regional Forecast information contained herein is based on U.S. macroeconomic assumption obtained from DRI-WEFA from its winter 2002 U.S. Economy economic outlook. The U.S. economic outlook includes DRI-WEFA's estimate of the effects from September 11th on U.S. growth. The DRI-WEFA U.S. outlook is provided to Metro as is. The Regional Forecast is then developed based on the assumptions in the WEFA U.S. Outlook and Metro's econometric model (MARIO – Metro Area Region Integrated-Industry Outlook model). MARIO translates the national assumptions through a modeled economic structure of the Portland-Vancouver OR-WA metropolitan area to produce the 2000-2030 Regional Forecast. The Regional Forecast is then reviewed by an independent panel of regional forecasters, demographers, city planners and economic observers. The Metro Data Resource Center bears responsibility for the content of the Regional Forecast. All information is based on data sources believed to be accurate and reliable; however, users are cautioned that economic conditions may change and unforeseen circumstances may materially impact the accuracy of the Regional Forecast in future years.

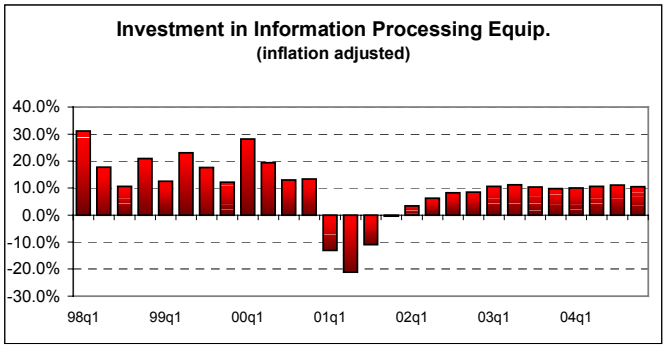
METRO

2000-2030 Regional Forecast

U.S. Economy in Review.

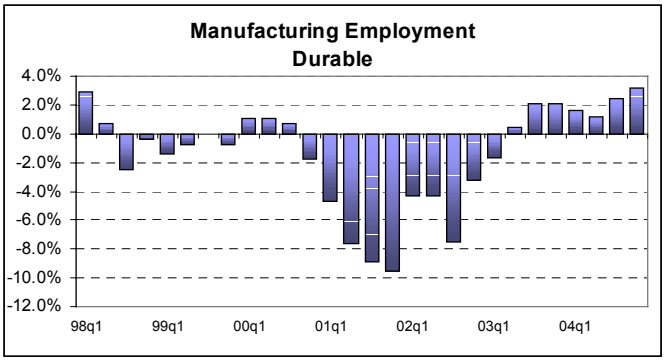
It's official! – the National Bureau of Economic Research (NBER) last November determined that the U.S. economy peaked in business activity in March 2001. With that announcement[9], the current U.S. recession began and the longest uninterrupted expansion since World War II ended – exactly 10 years after it had begun (March 1991).





Inflation-adjusted GDP estimates finally confirm the NBER's declaration. In the fourth quarter of 2001, real GDP in the U.S. fell 1.3 percent. Signs of a slowdown were appearing long before. Producers began cutting production in 2000Q4. Investments in domestic plant and equipment began declining in 2001Q1. Employment cuts soon followed as one after another economic driver stalled. Weak consumer confidence and fears of more unemployment caused consumers to retrench as consumption fell to 1.0 percent growth in the fourth quarter.

Every recession in the U.S. starts out differently and this one has been no different. The primary reason for the decline in U.S. output can be traced to the steep deceleration in manufacturing and investment spending.



- Steep draw-downs in retail and industrial inventories combined with cutbacks in industrial production
- Severe fall-offs in capital investments
- Struggling economies in Japan, Canada and Mexico hit U.S. shores just as the nation's own domestic industries began to decline

[9] The Business-Cycle Peak of March 2001, Business Cycle Dating Committee, NBER, Nov. 26, 2001. The NBER bases its recession determination on industrial production, employment, real income, and wholesale-retail trade activity when as a group these indicators show "significant decline".

Now a worldwide recession and Japan in its third recession in 10 years have severely hampered U.S. exports. A relatively strong U.S. dollar has not helped U.S. exports, which have fallen more steeply than imports.

The impact of this recession has been uneven across different geographic regions of the country and industry sectors. The Pacific Northwest has been hit the hardest by this recession. Employment in nonmanufacturing sectors has held steady with only narrow declines in many industries. Oregon's unemployment rate (7.3%) is the worst in the U.S.

U.S. unemployment in total has risen only modestly since the recession – to 5.8 percent from 4.0 percent a year ago. The manufacturing sector has endured the brunt of the current recession. On an annualized basis, U.S. manufacturing jobs fell 6.3 percent in the last quarter. High-technology manufacturing employment is down almost 10 percent. Transportation equipment is off nearly 6 percent. For the most part, durable producers are hurting much more than nondurable manufacturers.

Unlike previous recessions, many other national variables remain in good standing. Interest rates have been falling as the Federal Reserve (FED) and Chairman Alan Greenspan had attempted to stave off the recession with earlier cuts in interest rates. Since mid-2000, there have been 11 consecutive interest rate cuts. More recently, the FED has signaled a change in its interest rate bias to a neutral position – neither expecting to cut nor raise rates in the immediate future.

Along with a favorable interest rate climate, inflation has remained in check for much of the latter decade thanks to a balanced budget and an acceleration in productivity. Low real energy prices have also aided in taming inflation.

Favorable Economic Factors	Unfavorable Economic Factors
■ Early & deep interest rate cuts	■ Vulnerable capital goods cycle
■ Unusually well-timed Federal spending initiatives and tax cuts	■ Global recession
■ Low fuel prices	■ Steep drop in U.S. exports
■ Decline in U.S. imports	■ Weak state & local budgets
■ Steady housing demand	■ Poor business profits
■ Strong consumer auto purchases	■ Inventory draw downs

Housing demand and consumer purchases of automobiles – now a strength – could easily become a negative factor. Higher housing prices could easily tilt U.S. housing production down. And auto purchases could be at risk if consumers decide to not buy as many cars as rebate incentives evaporate.

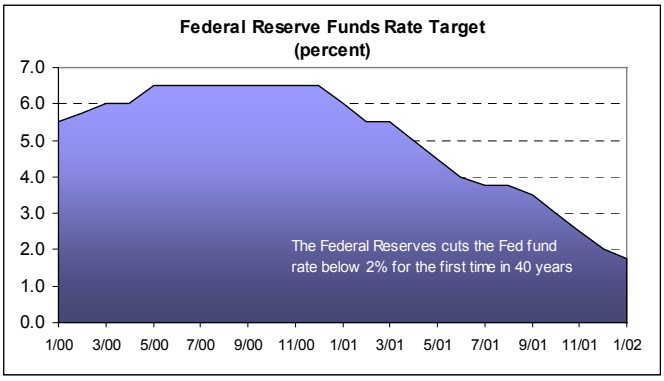
On the other hand, businesses will soon have to restock store shelves and bolster their inventories as economic spirits begin to lift. Inventory growth would accelerate GDP.

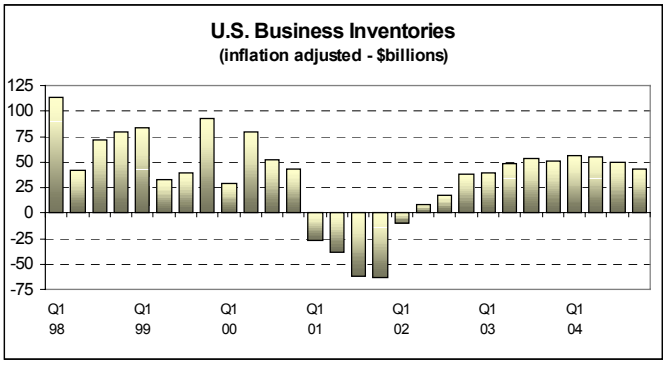
National Forecast Overview.

The main question for most everyone has been "when can we expect the U.S. economy to rebound?". Estimates by most economic observers believe a turn-around could begin as soon as the start of summer, while others think it might not happen until early autumn. Most recessions have, on average, a peak to trough timeline of between 12 and 15 months. If indeed the U.S. economy fell into recession in March 2001, the U.S. should begin climbing out of its doldrums in the next few months –which would place the recovery in about June 2002.

Monetary conditions are in place for a recovery, but there are concerns that the rebound could be weaker than normal and slower to develop. However, over the long-run, U.S. economic growth is expected to be robust – more in line with growth during the 1990's than the low growth, low productivity, high interest, and inflationary 1970's and 80's. A couple of factors will tend to undercut a sharp recovery in the near term.

- Housing starts and sales have remained at relatively high levels, so expectations are mild for a strong run-up in additional housing starts. Low interest rates help, but the FED is unlikely to cut any deeper anytime soon.
- U.S. domestic auto sales have remained relatively strong throughout the downturn. Price rebates have stimulated strong demand despite the recession. A sharp rise in auto purchases in late-2001 may restrain auto sales growth in the near future, just as a recovery is beginning.



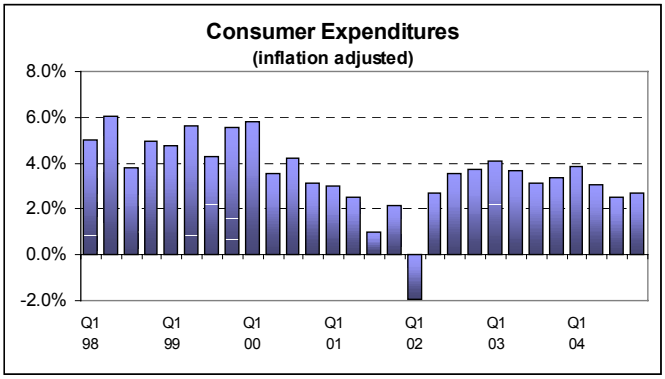


As a consequence, these two large sectors of the economy are not expected to offer much bounce to an early recovery. The U.S. will have to look to other sectors of the economy for leadership during the recovery.

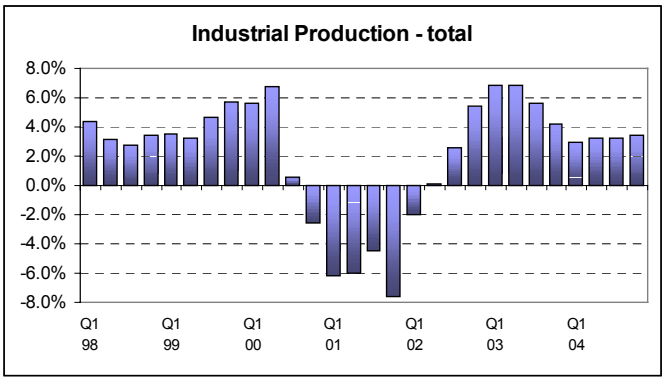
And so. . .once again, consumers will have to step it up in order to boost U.S. GDP. Nascent signs are emerging to suggest the consumers are ready and willing, but there are worries that high consumer debt levels may hamper a stronger recovery.

Consumers will have to lead, before conditions ripen enough for producers to gain the confidence to gear up production.

A couple of other factors favor a recovery in the near future. The first was the "economic stimulus" in the fall of 2001. Though this "tax rebate" was not initially billed as an economic stimulus, the refunds came at a very serendipitous time in the business cycle. For all intents and purposes, its timing and size has acted as a positive stimulus.



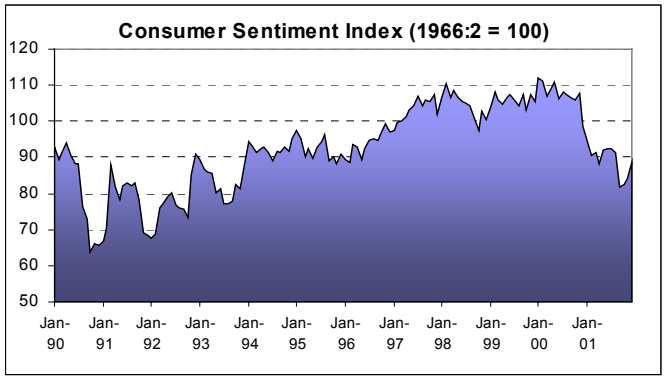
Second, in hindsight it is clear producers and retailers saw a recession in the making in late 2000. Inventory accumulation began slowing in 2000, and by 2001 everyone was slashing inventories. As we begin 2002, manufacturers and retailers alike will have to rebuild their depleted inventories, which should add an additional bump of about ½ percent to domestic GDP growth. Stronger consumer demand in the second quarter will provide all the signal needed to boost inventories.

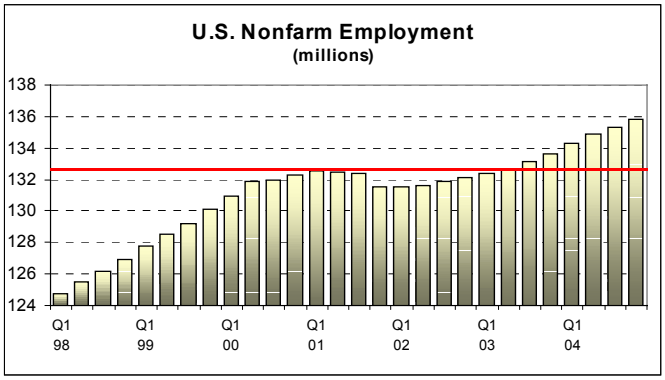


The U.S. macroeconomic forecast predicts consumer spending will bounce back in the second quarter of 2002 and accelerate to 4.1 percent by the 2003 Q1. Investments in fixed plant and equipment will lag behind consumption by another quarter before accelerating up to 11 percent by the end of 2003.

A one quarter lag in nonresidential fixed investments is further reflected in industrial production, where output will not ramp up until the third quarter of 2002. Industrial production peaks in 2003 before settling into a trend growth path between 2 and 3 percent growth per year.

Consumer confidence will be a key indicator of where the U.S. economy is in the business cycle. Consumer confidence hit bottom in September with the terrorist attacks on New York and Washington D.C. Since October the University of Michigan consumer sentiment index has been steadily rising, with a relatively large percentage jump in December 2001.

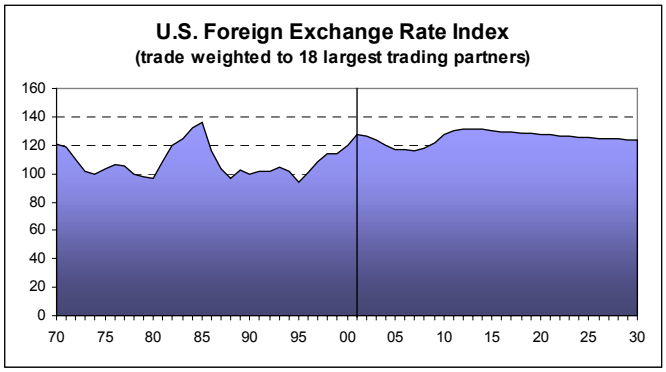


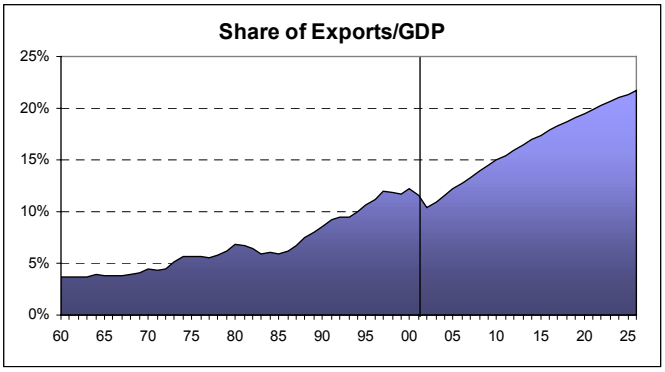


As this index continues to rise, and with expectations for employment gains just over the horizon, the U.S. recovery should begin to be felt as soon as summer arrives. However, it may still be a long wait – perhaps 2003 - before a complete thawing and the U.S. economy returns to warmer conditions. Economic conditions surely will begin to improve, but employment growth won't likely return to anywhere near pre-recession levels until mid-2003.

Global Setting.

World trade is important to the U.S. economy. U.S exports currently contribute about 12 percent to the total Gross Domestic Product. Over the long-haul, the national forecast calls for exports to grow faster than other components of GDP. By 2030 the share of exports to U.S. GDP rises above 22 percent. International trade very much is expected to favor the U.S..





The U.S. carries a significant current account deficit, due to its own export deficit. However, due to the strength of the U.S. economy and the confidence this generates with respect to the rest of the world, the value of the U.S. dollar is expected remain relatively strong. This tends to dampen exports, but not by an inordinate amount, and exports are still expected to grow. The rest of the world will continue to expand and to drive up demand for U.S. goods, especially services. In the long-run, a flat or somewhat declining exchange rate will tend to help U.S. manufacturers export their goods to the world.

DRI-WEFA World Economy Forecast.

This section reprinted from DRI-WEFA Global Forecast, February 2002.

DRI-WEFA World Market Overview

Recovery is in the air, at least in North America and Europe. Parts of Asia will follow along, but much of the region is struggling with the consequences of not following through on economic reforms. The region also has its share of political crises, many related to the war on terrorism. China, Russia, and most of the other former states of the Soviet Union continue unscathed from the high-tech collapse that pushed Europe and North America into recession. Japan and much of Latin America will continue to struggle with largely domestic political and economic problems.

Projected Growth Rates of Real GDP

(Percent)

	2001	2002	2003	Average 2004-06
United States	1.1	1.0	4.0	3.0
Canada	1.4	1.1	3.9	3.3
Japan	-0.4	-1.1	1.8	2.1
W. European Big 4 (a)	1.6	1.3	3.2	2.5
Mexico	-0.3	1.8	4.6	5.6
S. American 7 (b)	0.6	-0.4	2.7	4.0
Middle-Income Asia (c)	5.4	5.5	6.5	6.8
World	1.4	1.4	3.7	3.4

a. France, Germany, Italy, and the United Kingdom.
b. Argentina, Brazil, Chile, Columbia, Ecuador, Peru, and Venezuela.
c. China, India, Indonesia, Malaysia, Philippines, Thailand, Fiji, Maldives, Papua New Guinea, and Vanuatu.

Canada: **Turning Around**. The Canadian economy is probably now in the early stages of recovery from a mild recession. While recent indicators have been decidedly mixed, the first quarter of 2002, unlike the previous two quarters, is expected to show slight positive growth. Fiscal and monetary policies will be supplementary to the recovering U.S. economy as drivers of recovery in Canada. While the interest rate reductions of 2001 will provide stimulus over the next few quarters, the reductions have not been as significant in Canada as in the United States. It will probably be the third quarter before growth will be back up to potential, and 2005 before the output gap is eliminated. The Canadian economy is expected to grow 1.1% in 2002 and 3.9% in 2003.

Eurozone: **Gaining Confidence**. There are increasing signs that Eurozone economic activity is beginning to pick up gradually. Nevertheless, GDP may have contracted modestly in the fourth quarter of 2001, following minimal growth in the previous two quarters, as the negative economic repercussions of the September 11 terrorist attacks on the United States had an increased impact. Even before the attacks, the slowdowns in the U.S. economy, in particular, and elsewhere in the global economy had already had a substantial dampening effect on Eurozone activity. Following the terrorist attacks, the slowdowns in the manufacturing and service sectors intensified, while business and consumer confidence weakened further. Encouragingly, though, the latest data are generally showing modest improvement, and confidence is growing, showing that the downturn has bottomed out. Indeed, the service sector now appears to be expanding again.
On the assumption that the U.S. economy starts to recover in early 2002, we believe Eurozone activity should pick up modestly as the first half of 2002 progresses. Growth should gain increasing momentum in the second half, supported by low inflation and interest rates, modest real wage increases, and some fiscal stimulus in several countries. Inventories have also been reduced significantly. Even so, Eurozone GDP growth will be limited to 1.3% in 2002, after an estimated 1.6% expansion in 2001. Growth is then projected to accelerate to 3.0% in 2003.

Mexico: **Both Victim and Beneficiary of Spillover**. The Mexican economy suffered a sharp deterioration in 2001, primarily the result of adverse external conditions. The U.S. recession buffeted Mexico's exporting sector, which had been the one of the country's most dynamic. Meanwhile, declining oil prices also hurt, as the government found itself unable to increase fiscal spending to stimulate the faltering economy. In addition to negative external factors, Congress approved only a partial fiscal reform that will not give the government the extra resources it needs. We do not expect any of the aforementioned factors to improve significantly in the first half of 2002, and some will remain negative through the entire year. Nevertheless, the recovery of the U.S. economy in the second half of 2002 will allow the Mexican economy—and especially its exporting sector—to rebound. As a result, GDP should expand 2.0% in 2002, a clear improvement from the 0.4% contraction in 2001.

DRI-WEFA Forecast Summary of the U.S. Economy.

This section reprinted from DRI-WEFA U.S. Executive Summary, January 2002.

	2001:2	2001:3	2001:4	2002:1	2002:2	2002:3	2000	2001	2002	2003	2004	2005
Composition of Real GDP (Annual percent change)												
Gross Domestic Product	0.3	-1.3	-0.9	-0.2	1.7	3.0	4.1	1.0	0.6	3.7	3.7	3.0
Final Sales	0.7	-0.5	-0.8	-2.2	1.0	2.8	4.3	2.0	0.0	3.4	3.7	3.1
Gross National Product	0.3	-1.3	-0.8	0.2	1.9	3.1	4.1	1.1	0.8	3.4	3.4	3.0
Total Consumption	2.5	1.0	2.2	-1.9	2.7	3.6	4.8	2.8	1.4	3.7	3.3	2.9
Durable Goods	7.0	0.9	19.4	-24.6	6.7	5.1	9.5	5.6	-1.0	7.6	5.0	2.9
Nondurable Goods	0.3	0.6	-1.8	0.8	2.0	4.2	4.7	1.5	1.1	3.6	3.4	2.9
Services	2.8	1.2	0.9	2.0	2.3	3.0	4.0	2.9	2.0	3.0	2.9	2.9
Nonres. Fixed Investment	-14.6	-8.5	-8.9	-4.2	-4.9	2.9	9.9	-2.8	-5.2	5.5	8.5	6.1
Equipment and Software	-15.4	-8.8	-6.1	-2.9	-3.8	6.5	11.1	-4.5	-3.7	8.3	10.5	7.7
Computers	-30.3	-26.8	3.1	4.6	9.6	8.4	39.1	-2.2	-1.0	16.3	19.1	20.0
Software	-3.7	4.3	2.3	6.9	10.7	9.7	12.1	2.8	6.3	10.6	10.6	10.7
Communications Equipment	-41.2	-25.8	-2.5	-2.4	-3.9	9.8	28.7	-18.4	-7.8	5.2	8.9	8.0
Light Vehicles	-2.6	-17.1	7.9	-6.9	-17.8	8.1	0.6	-7.7	-4.8	8.9	7.4	2.7
Other	-12.6	-4.1	-15.0	-7.4	-8.4	3.5	4.5	-3.8	-7.2	6.3	10.2	5.5
Private Nonres. Structures	-12.2	-7.5	-16.2	-7.9	-7.8	-6.4	6.2	2.2	-9.4	-2.3	2.6	1.2
Buildings and Other	-19.1	-0.8	-19.3	-6.1	-3.6	-5.2	5.1	-2.0	-8.5	-2.5	3.8	1.3
Residential Fixed Investment	5.9	2.4	-2.7	-7.8	-3.2	0.4	0.8	1.6	-2.3	0.5	0.7	1.8
Exports	-11.9	-18.8	-21.7	-8.4	-1.3	4.7	9.5	-5.3	-9.0	9.2	9.7	8.1
Imports	-8.4	-13.0	-6.0	-1.5	6.3	9.5	13.4	-2.6	-1.2	8.1	6.7	5.5
Federal Government	1.8	3.6	3.8	6.2	7.6	5.3	1.7	2.2	5.0	3.0	2.0	1.4
State and Local Governments	6.6	-1.3	2.5	2.4	2.6	3.0	3.2	3.6	2.2	1.7	1.7	1.7

Source: U.S. Economic Outlook, DRI-WEFA, January 2002

The approaching new year is a good time to look at what may go right in the economic arena during 2002. One sector worth looking at is high technology. Spending on high-tech equipment ran out of control in 2000, and we project only a slow recovery in 2002. The good news is that, even at its low, high-tech spending will still account for 47% of total spending on equipment and software and 4% of GDP. This direct spending—still much higher than in most other countries and higher than in the United States until the late-1990s boom—will continue to crank out productivity gains. A lot of recent (and future) innovations from Web access, e-commerce, and medical/biotech, for example, are free or priced below user value. That is bad news for innovator profits, and for "real" growth (which does not capture ideas), but the innovations generate a nice consumer surplus for users that in many cases also boosts productivity.

Cyclically, housing is much stronger now than during the average recession, and the inventory correction will be over sooner because it started sooner. We estimate that reversal of the inventory shrinkage will add 0.6 percentage point to GDP growth in 2002. Travel is already showing some early rebound, with dining out, sporting events, and flying all showing gains. As people make more reasonable risk calculations, consumer spending will rise further from today's depressed levels. Leisure industry employment could show an early turnaround, beating overall employment, which generally lags.

The federal government's boost to the economy is large and unusually well-timed. The large tax cuts voted before September 11 have now been enhanced by billions in new spending. The failure of Congress to enact a stimulus bill will do little to hold back the recovery. While the parties' contending bills would have provided some temporary income support to the unemployed, the added growth would be small, and unnecessary, in our baseline forecast.

The interest rate cuts began early, and rates are now down to extremely low levels. Inflation seems neither too hot nor too cold, meaning it is low enough for undistorted economic decisions and financial market confidence, but high enough to ease relative price adjustments.

Adding it all up, the U.S. economy is not out of the business cycle trough just yet, with the new year expected to bring a third consecutive quarterly decline in real GDP. By year-end 2002, though, real GDP should be forging ahead at a 4% annualized rate.

Long-range U.S. Macroeconomic Outlook.

Recessions make up only a small "blip" in economic trends. There have been 10 recessions since World War II. On average, U.S. recessions have lasted between 12 to 15 months, with the most severe lasting as long as 18 months. Even with recessions sprinkled over the last 55 years, real GDP rose an average of 3.5 percent a year. Despite fears of global terrorism and the tragic aftermath of 9/11, the current recession will have very little impact over the long-run. The U.S. economy is expected to bounce back, perhaps a little more tired and more cautious, but eventually it will have vigor and vitality to similar before the recession.

A recession, although hurtful to selected segments of the economy that bear the brunt of its force, is not always a bad thing. Recessions serve to root out weak firms and sagging industries. They weed out poor business practices and reveal ill-conceived business ventures. In the end, it leaves the economy stronger and better able to forge ahead, populated with healthier companies.

In peering into a hazy long range horizon necessary for regional planning, it is useful to view economic and population forecasting not in terms of 'Did the forecast accurately predict all growth?', but rather, to think instead about **when** we might achieve a certain level of growth, plus or minus 2 or 3 years. This turns forecasting on a different axis, and allows planning to proceed, without getting diverted by questions about the "right number". Planning may be viewed as the accommodation of growth up to a certain range, with policies that speed into implementation sooner when growth is faster and growth management strategies deferred when the economy is growing more slowly.

The current U.S. recession is expected to bottom-out in the 2nd or 3rd quarter of 2002. U.S. Gross Domestic Product (GDP) is anticipated to accelerate through 2003-04, before moderating and tapering off to a more sustainable long run rate – absent of any additional business cycles. The DRI-WEFA national forecast calls for long-term inflation adjusted U.S. GDP to settle into an annual growth rate of between 3.0 and 3.5 percent.

The fundamental underpinnings for the long run growth path of the U.S. depend on the projected growth rate of the labor force and increases in productivity.

U.S. long-run growth fundamentals:

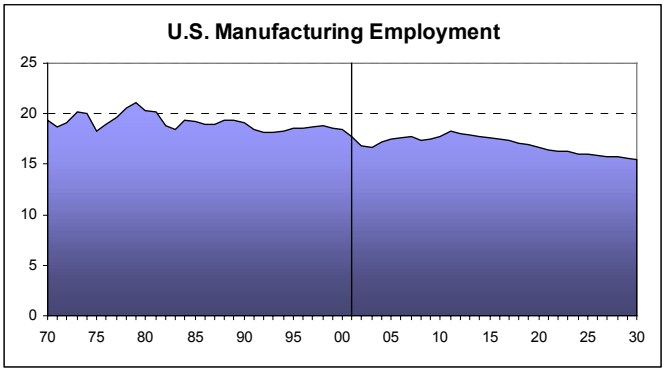
	Annual Average Growth Rates	
	History (1970-00)	25 Year Forecast
Gross Domestic Product	3.1 percent	3.2 percent
Productivity	1.0 percent	2.1 percent
Labor Force	1.7 percent	1.2 percent

Source: DRI-WEFA, Winter 2002 U.S. Economy outlook as derived by Metro Data Resource Center

The national forecast from DRI-WEFA calls for annual productivity rates to double, increasing to 2.1% from its historical rate of 1.0%. Productivity increases are assumed, as more and more U.S. and international firms continue to take advantage of automation and information processing resources. The current U.S. forecast view continues to incorporate significant amounts of "New Economy" growth into the long run macroeconomic forecast. Unlike the technology wave in prior decades, which replaced manual and less efficient means of producing goods and services, this second wave of information technology is creating innovation of a different sort. In the new economy paradigm, new technology assumes the form of new ideas and new products, which lift the overall wealth of the nation.

The significant increases in industrial plant and equipment growth forecasted for the investment in the computers and software category support this view. Over the long haul, the national outlook for high-technology investments is very robust – with an annualized growth rate of 6.8 percent per year. This is slower than the break-neck pace of high-technology investments of the 1990's, which saw rates shoot up to 22 percent and average over 16 percent a year. This projected investment in high-technology and other innovation will help to bolster productivity in the long run. This allows the nation to create more goods and services at lower costs.

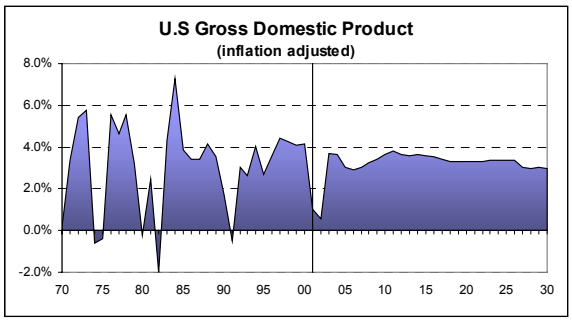
At the same time, employment in high-technology represents a bright spot in the manufacturing sector. Most other manufacturing industries are expected to slowly shed employment as more labor intensive production processes are shipped overseas. In addition, corporate outsourcing is expected to continue along its present path as more employment functions are re-classified into services. Higher productivity rates allow firms to do more with fewer people. With the exception of the current recession, employment growth in the technology sector continues to see expansion on the order of under 0.5 percent per year. For the whole of manufacturing, employment over the long-haul is expect to decline an average of -0.6 percent annually.

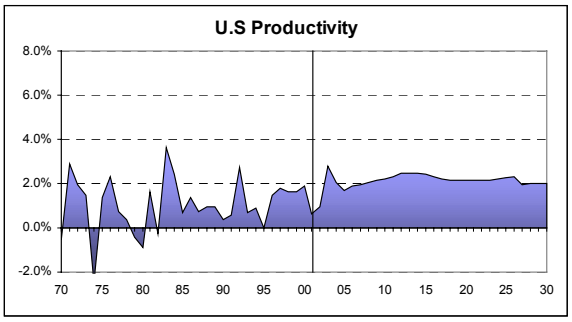


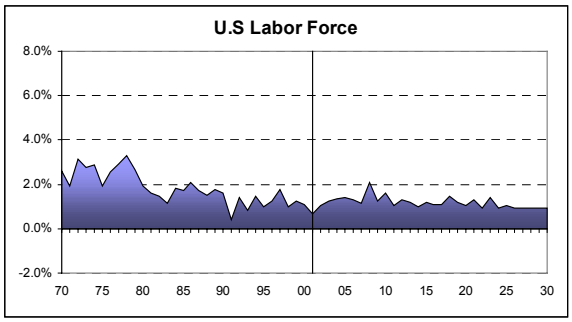
The next fundamental is the growth in the labor force. The U.S. labor force is not expected to grow as rapidly in the next 30 years as it has in the last. This slower rate of increase tends to dampen potential GDP growth. One factor which offsets the potential decline is immigration from abroad, which is expected to be higher than previously assumed. Retention of older workers in the workforce also serves to ameliorate the effect of the slowing of labor force growth.

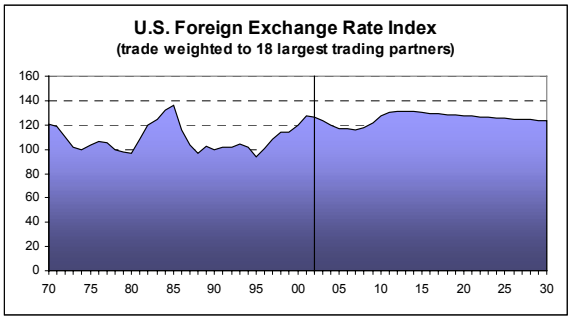
An economy's growth rate can fluctuate year-to-year with the rise and fall of the business cycle, but the long range trend of GDP growth is not likely to waver too far from its

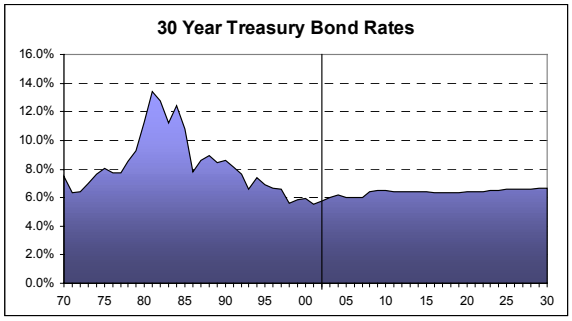
expected trend. Changes in monetary or fiscal policy, an unforeseen global recession, changes in capacity utilization, investments and inventory fluctuations are likely to cause economic growth to change as some of these factors play out in the current economic malaise. But these variables are transitory and will tend to fade into the background in the long-run. Determinants of the long-run are primarily the labor force and its productivity.

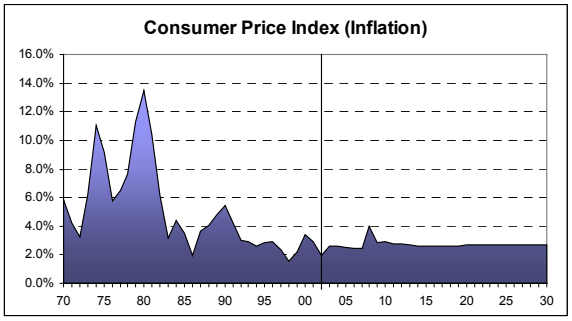


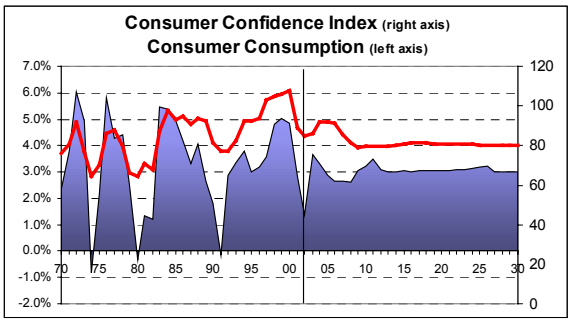


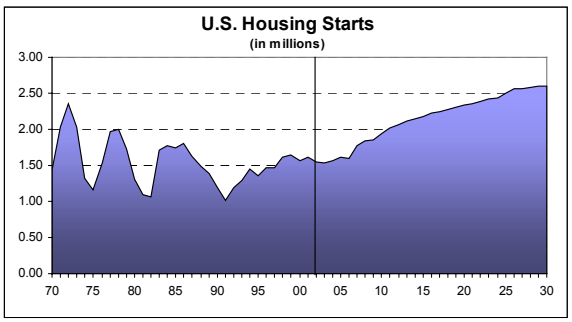










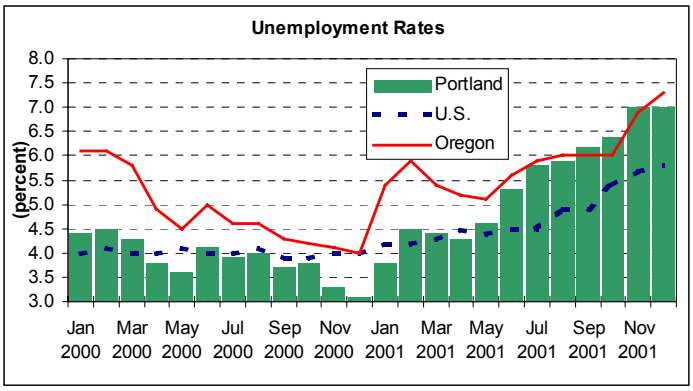


Portland-Vancouver Economic Forecast

(5 counties – Multnomah, Clackamas, Washington, Yamhill and Clark)

Recent Trends.

Economic conditions in the region during the past year have been much worse than the U.S. as a whole. In fact, Oregon brings up the rear in state unemployment rates with an unemployment rate of 7.5 percent[10]. And it's not just Oregon; the entire Northwest is suffering. In Washington State unemployment hit 7.1 percent. Things were so bad in November 2001 that for a brief while the Portland metro regional unemployment topped the State's unemployment rate.



Nonfarm employment growth slowed in 1998-99, before seeing a modest rebound in 2000. In 2001, the previous year's brief growth spurt turned negative. Employment news has not been this bad since 1991. Total nonfarm employment lost ground in 2001 as annual job figures for the region fell 0.34 percentage points (or a net loss of 3,200 jobs). The average number of unemployed rose to near 60,000, with peak unemployment soaring to 75,000 unemployed workers in November and December 2001.

The last four years of economic expansion – dating back to 1991 – have been much more turbulent than the previous six. Regional nonfarm job growth slowed for consecutive years in 1998 and 1999, with growth reaching only 1.8 and 1.4 percent, respectively. The roots for this region's economic slowdown can be traced to the world-wide high-technology slump happening then. The region's higher proportion of manufacturing – especially its concentration of high technology – made the region more susceptible to the so-called "Asian Flu". And the region's proportionally greater exposure to the Pacific Rim caused growth in the late 1990's to decelerate.

In 2000 employment growth exhibited a mini-rebound across the board. Manufacturing jobs edged up 1.5 percent and nonmanufacturing rose 2.5 percent. As 2001 drew nearer, it seemed at first possible that the region would be able to skirt the latest recession, as it had in 1990-91, but events unraveled and the terrorist attacks on September 11th were the last straw for an economy that was on the brink of a downturn. Even by mid-2001, most economic pundits were still hopeful that a regional bounce could be possible by September. Those hopes were destroyed.

[10] Seasonally adjusted. Source: Local Area Unemployment Statistics, Bureau of Labor Statistics, www.bls.gov/web/lauhsthl.htm

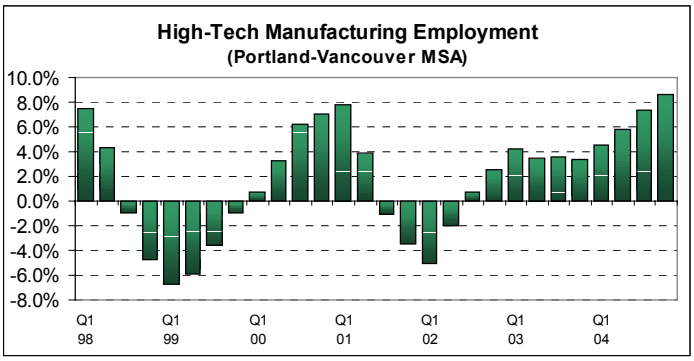
The greatest weaknesses in the region's current economic state lies in its manufacturing sector. Employment declines appeared across almost every major industry group. Overall manufacturing jobs fell by 2.3 percent in 2001 with the steepest declines in transportation equipment, machinery, metals, and food processing.

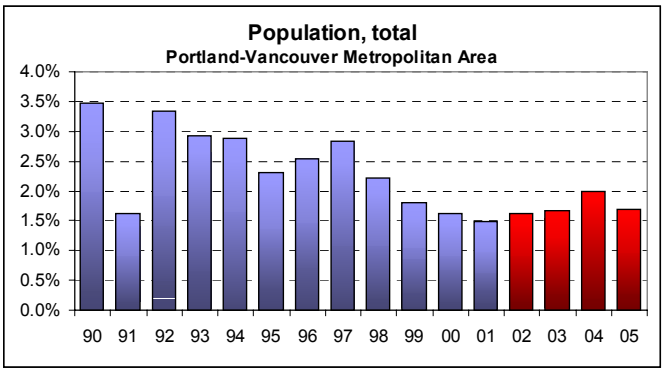
Regional Expectations.

The conditions that created the recession in the region may provide the possibility as well as the initial surge for a strong rebound in 2003 and 2004. However, until then, the regional economy will have to wait. We anticipate the recession to continue to exert its power over employment and regional growth through much of 2002. Prospects for a rapid rebound in 2002 are quite slim for the region, as a rebound for the nation is not expected until mid-2002. We anticipate a recovery for the region after the U.S., and growth rates to rebound more sharply as compared to the U.S.

This recession has been one that has been marked by a slumping high-technology industry. Negative returns triggered by the collapse in Internet companies and rapid decline in information processing and software investments started what will be a three year decline in the non-electrical machinery and "second-dip" in the region's electronics and instrument industry. High-technology, which had been a mainstay for the region's rapid rise during the mid-1990's, has become this region's Achilles heel. For this reason, the regional economy has dipped lower than that of the U.S., but we anticipate a stronger resurgence in the region's high-tech sector than for the nation as a whole.

Moreover, this region's greater dependence on manufacturing firms to supply employment opportunities has turned into a manufacturers recession, with retail and other service sector industries being dragged down by the producer sector's weaknesses. As the region recovers, what was once a source of weakness will again become a source of strength for the region's future.





Despite current weakness in the economy, regionwide population estimates through this period have been surprisingly strong. Population growth had been slowing since 1998 with the regional economy winding down.

Forecast Summary for the Portland-Vancouver Region

(percentage growth rates)	1999	2000	2001	2002	2003	2004	2005	Annual Avg 2006-22
Population	1.8	1.6	1.5	1.6	1.7	2.0	1.7	1.5
Crude Birth Rate (per 1,000)	14.64	14.66	15.17	15.00	14.83	14.78	14.75	14.3
Crude Death Rate (per 1,000)	7.24	7.35	7.47	7.48	7.49	7.46	7.47	8.5
Labor Force Participation Rate (%)	69.0	69.1	69.1	68.9	68.6	68.4	68.4	69.7
Personal Income, nominal	5.6	7.5	3.5	2.0	6.4	6.3	6.5	5.5
Wage Disbursements	6.4	7.8	2.7	1.4	5.2	6.7	6.8	5.3
Social Insurance Contrib.	6.7	4.7	1.8	0.9	4.8	6.3	6.2	5.6
Other Labor Income	3.5	4.8	2.5	1.1	5.4	5.9	6.5	6.1
Transfer Payments	5.0	4.8	8.6	12.5	11.6	2.1	0.0	6.3
Proprietors' Income	7.4	4.1	2.0	2.2	8.1	4.4	4.8	6.5
Div., Interest & Rent	3.6	9.3	3.6	-1.6	5.5	8.1	5.1	5.3
Housing Price – Median avg.	2.6	3.8	2.3	0.6	3.2	4.7	5.8	4.0
CPI all items – Portland	3.3	3.1	2.7	3.2	3.6	3.3	3.2	2.7
Total Employment	1.7	2.5	0.6	-0.4	2.4	3.2	3.2	2.0
Proprietors	2.9	6.5	0.8	-0.4	1.7	2.5	2.4	2.6
Nonfarm – Wage & Salary, total	1.4	2.4	-0.3	-0.4	2.7	3.5	3.4	1.9
Manufacturing, total	-2.5	1.5	-2.3	-1.3	2.7	3.6	3.5	0.7
Food Processing	-6.3	-1.5	-4.9	-1.7	0.6	1.3	0.3	-1.2
Textile & Apparels	-10.9	-10.7	3.8	-0.7	6.2	5.0	1.5	-3.0
Lumber & Wood	-4.6	1.5	-2.2	0.8	-0.3	-1.8	0.4	-2.8
Paper	-2.9	9.6	-1.3	-0.6	0.1	1.4	0.8	-1.1
Printing	4.6	1.8	-0.3	3.4	2.9	2.3	2.0	0.6
Metals	-2.3	-1.0	-4.6	-2.7	3.1	2.8	2.3	-0.3
Machinery	-10.4	-4.5	-6.4	0.0	3.2	3.1	4.1	1.3
Electronic Equipment	-1.3	8.4	5.0	-1.3	3.5	6.4	5.9	1.3
Transport. Equipment	7.2	-3.4	-20.7	-5.4	3.6	3.0	3.5	0.8
Other Nondurables	-6.3	-0.6	-5.4	-3.8	1.2	2.7	4.1	2.3
Other Durables	2.2	1.1	3.2	-1.7	3.4	2.7	2.7	1.6
Nonmanufacturing	2.2	2.5	0.0	-0.2	2.6	3.3	3.4	2.1
Construction	-0.5	0.6	-1.4	0.4	4.0	3.2	3.6	1.6
Trans., Comm., Util.	2.2	2.2	-1.1	-0.5	1.2	2.7	2.9	1.5
Wholesale Trade	-2.1	-0.3	-2.5	-0.9	4.1	4.3	3.9	1.6
Retail Trade	3.0	2.0	0.0	-0.4	2.0	4.0	4.0	1.8
Fin., Ins., R.E.	-0.7	-2.6	0.1	-0.1	0.3	2.3	3.4	1.4
Health Services	1.5	-0.1	1.8	2.1	3.5	3.4	3.0	2.6
Other Services	3.6	5.2	0.7	-0.5	4.6	4.9	3.9	2.8
State & Local Gov.	5.4	5.2	1.1	-0.6	0.2	-.01	1.9	1.5
Federal Gov. - Civilian	-1.7	5.5	-3.6	1.4	-0.5	-0.7	-0.2	0.9

With the recession upon the region, population still grew 1.6 percent in 2000 and 1.5 percent in 2001. The last time population growth came anywhere close to 1 percent was back in the mid-1980's – which was a particularly weak period for the region. Stimulus from relatively moderate population increases in the last two years has helped bolster regional employment in industries that are strongly dependent on population growth, such as retail, services and government. This relatively strong employment growth, compared

to our neighboring states, has in turn attracted more than 300,000 new residents since 1990[11].

Comparison of Population and Employment Demand Projections.

(5 counties – Multnomah, Clackamas, Washington, Yamhill and Clark)

	POPULATION				EMPLOYMENT		
	Old Forecast	New Forecast	Diff.		Old Forecast	New Forecast	Diff.
2000	1,837,600	1,874,450	36,850	**2000**	1,147,300	1,208,900	61,600
2005	1,993,300	2,049,200	55,900	**2005**	1,274,900	1,320,600	45,700
2010	2,152,800	2,233,900	81,100	**2010**	1,406,400	1,483,800	77,400
2015	2,315,400	2,394,600	79,200	**2015**	1,537,900	1,631,700	93,800
2020	2,475,000	2,571,100	96,100	**2020**	1,673,700	1,795,400	121,700
2025		2,768,200		**2025**		1,979,200	
2030		2,955,300		**2030**		2,158,100	

Employment figures includes proprietors or self employed workers.

	Manufacturing Emp.*				Non-manufacturing Emp.*		
	Old Forecast	New Forecast	Diff.		Old Forecast	New Forecast	Diff.
2000	138,900	145,500	6,600	**2000**	780,600	812,500	31,900
2005	145,300	154,700	9,400	**2005**	870,000	888,800	18,800
2010	149,700	165,900	16,200	**2010**	961,700	1,002,700	41,000
2015	153,600	168,900	15,300	**2015**	1,015,200	1,104,200	89,000
2020	157,300	172,800	15,500	**2020**	1,142,600	1,214,900	72,300
2025		177,200		**2025**		1,338,200	
2030		182,900		**2030**		1,458,500	

* Employment figures in these two table above include only wage and salary jobs.

	HOUSEHOLDS				PER CAPITA INCOME ($1996)		
	Old Forecast	New Forecast	Diff.		Old Forecast	New Forecast	Diff.
2000	736,000	725,400	-10,600	**2000**	26,600	28,400	1,800
2005	812,100	799,600	-12,500	**2005**	28,100	27,900	-200
2010	891,500	876,700	-14,800	**2010**	29,300	28,800	-500
2015	972,000	946,900	-25,100	**2015**	30,500	30,400	-100
2020	1,052,000	1,021,600	-30,400	**2020**	31,800	33,000	1,200
2025		1,104,200		**2025**		35,500	
2030		1,177,800		**2030**		37,500	

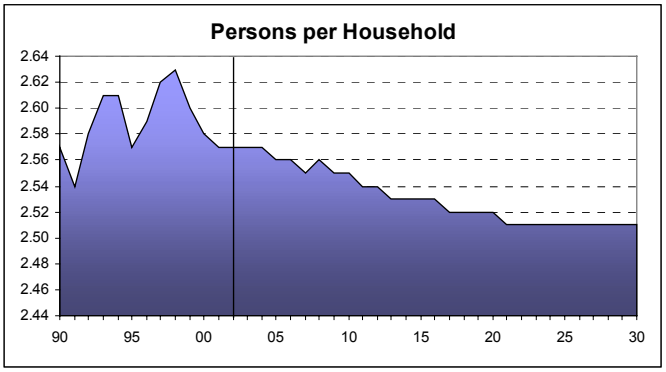
Source: 1995-2015 Regional Forecast (old forecast used in Sept. 1999 Urban Growth Report)
2000-2030 Regional Forecast (new forecast for Dec. 2002 Urban Growth Report)

Regional Population Trends.

The latest Census figures for population in the Portland region have been released, and now show almost 37,000 more residents in 2000 than originally estimated. Higher levels of in-migration account for this larger population total. Migrants tend to be younger and of working age, which in turn raises the employment totals. The demographic composition of the region's population is also not exactly as we had anticipated. The downward trend in household size (i.e., persons per household) seems to have stabilized during the decade of the 1990's, instead of falling as previously expected. The region's

[11] We estimate from population figures from the Census and Portland State University that the change in population for 1990 to 2000 was close to 450,000 persons, and migration accounted for about 300,000 of those residents, representing two-thirds of the region's population increase.

average household size in 1990 was 2.57 people. Today, it is estimated to be near that same level. However, the new forecast returns to the longer run secular trend of declining household sizes, but assumes a less precipitous drop-off. As a consequence, the number of new households formed in the future as a result of regionwide population growth is actually less than previously predicted. Household sizes by 2020 are expected to stabilize at around 2.5 persons per household, as compared to 2.4 persons per household in the previous regional forecast.



Population growth from decade to decade has fluctuated up and down with major migrations of Americans, coming west over the Oregon Trail in the mid-1800's and moving to the north and west soon after World War II. More recently, in the 1990's people moved to the Portland area in search of a better place to live or a greater number of job opportunities. This was especially true for high-tech workers.

	Population at end of period	Avg. Growth in decade
1850-60	16,046	9.2%
1860-70	29,857	6.4%
1870-80	54,980	6.3%
1880-90	124,490	8.5%
1890-00	164,381	2.8%
1900-10	322,114	7.0%
1910-20	393,306	2.0%
1920-30	477,073	1.9%
1930-40	527,611	1.0%
1940-50	738,313	3.4%
1950-60	854,645	1.5%
1960-70	1,049,342	2.1%
1970-80	1,297,926	2.1%
1980-90	1,477,895	1.3%
1990-00	1,874,449	2.4%

Source: U.S. Census and PSU

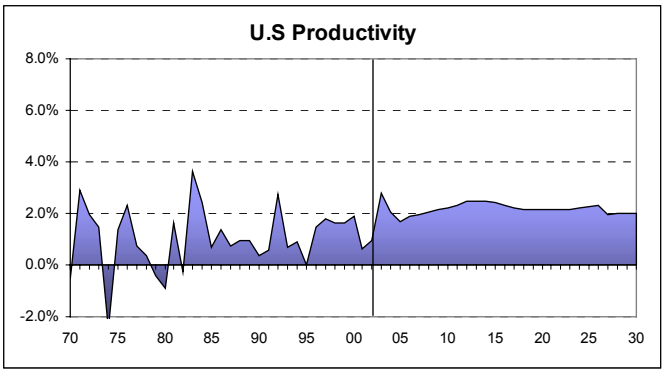
During the 1990's, about two-thirds of new residents had never lived in the Portland area before. Net in-migration will still be a force driving population growth in the future, but a lesser one. Only about half of the region's population increase during the next 20 years will come from migration; the remainder will be from residents having children and grandchildren.

The shape of future population growth in the region will depend on the quality of life here in the region and the ability to generate good paying jobs for future workers. We anticipate population growth to shadow the future employment trends for the region. Regional population growth is expected to average about 1.6 percent per year through 2030, as compared to about 2 percent from 1970 to 2000. Population will increase more rapidly in the near term as current conditions favor an economic rebound, which will attract greater number of migrants. Over the long-haul, though, the average growth rate per year will start to taper off as regional economic growth moderates.

Industry Details and Long-term Forecast Outlook.

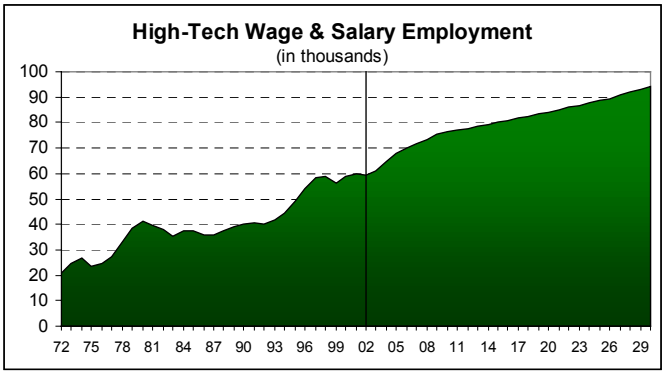
The Regional Economy. The regional economy is approaching a crossroad. The current land supply situation is becoming tighter as more buildable land inside the UGB is absorbed by businesses and housing, but as yet is not a limiting factor. This forecast assumes that current land market conditions and regional transportation accessibility do not interrupt growth trends that are evident today.

Total nonfarm employment for the region is expected to rise an average of 1.9 percent per year as compared to 1.1 percent in the U.S.. This is somewhat slower employment growth than in the previous 30 years, which saw 3 percent average growth in the region. To a great extent, slower labor force growth is the culprit behind slower job growth. As the labor force participation rate of women eventually reaches and exceeds male participation rates in the future, the rate of growth of the work force slows with the slowdown in labor force participation.



Productivity is projected to rise steadily over the next 30 years, but productivity is a "two-edged sword". On the one hand, productivity helps lift corporate profits, wages and salaries without causing additional inflation, but it also tends to cut into employment. On the other hand, when productivity can also bolster output and create new demand, this type of innovation makes employees more productive and valuable and has the effect of bolstering employment growth.

In older manufacturing situations, productivity does indeed reduce the need for more employment. When new machinery and innovative processes simply replace human activity without a corresponding increase in the demand for additional goods or services, then the need for labor is reduced and employment growth in that industry stalls. In this region, traditional industries such as food processing, metals, and other resource extractive industries are projected to improve their productivity by replacing people with machinery. Output may stay the same or increase, but projected employment declines.

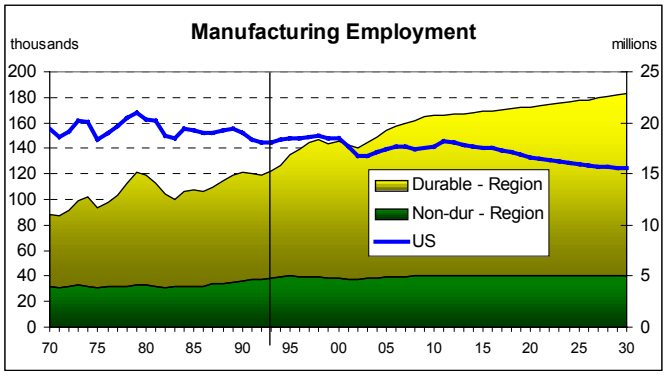


On the other hand, when productivity and innovation can boost output and create new demand, the need for workers – particularly skilled ones – will become increasingly significant in these industries. The "New Economy" presupposes that high-tech industries such as computers, information processing, software, telecommunications and biotechnology firms will lead employment growth. The regional firms are well situated to take advantage of computer, information processing and software developments. These regional industries are one of two classifications in manufacturing that will see employment actually increase from today's levels.

The combined high-tech industries in the region employed approximately 60,000 workers in 2001. The ranks of the high-tech workforce in the region are expected to swell to 94,000 by 2030. This represents an addition of two high-tech companies the size of Intel today. Possibly, some of this growth will be from an agglomeration of smaller firms, but in order to facilitate this level of growth the region may perhaps attract another major high-tech player. However, the majority of industry growth will likely be attributed to the internal expansion and vitality of existing firms in the region.

The total number of regional jobs, including self-employed workers, is about 61,000 higher in 2000 in the new forecast than was previously forecasted. Job growth in high-tech electronics and semiconductors, construction, and the service sector showed the widest deviations. This is to be expected, given that the old forecast was completed before the wave of high-tech expansion and construction. Unanticipated service sector job growth can be attributed to faster-than-predicted population increases, and the economic downstream effect of more high-tech workers in the region. This new forecast incorporates these latest trends.

Nondurable Manufacturing.



Industries which are included in nondurable manufacturing are Food Processing (SIC 20), Textile and Apparel (SIC 22 & 23), Paper (SIC 26), Printing and Publishing (SIC 27). Except for printing and publishing, the major nondurable industries are expected to see falling employment levels during the next 25 years. A combination of anticipated productivity gains, overseas competition, limited supplies, and relocation of production capacity abroad spells an overall trend to declining jobs.

Our view on the printing and publishing industry assumes job growth to continue in this industry but at a slower pace than during the last 30 years. Employment growth is expected to achieve an average rate of 1.4 percent per year as compared to 3.4 percent in the decades before.

Durable Manufacturing. Industries classified in this category include Lumber & Wood Products (SIC 24), Metals (SIC 33 & 34), Machinery & Computer equipment (SIC 35), Electrical Machinery, Semiconductors and Instruments (SIC 36 & 38), and Transportation Equipment (SIC 37). The resource based industries (lumber and paper) are projected to experience steady decreases in employment as productivity and competition from other regional sources erode the region's competitiveness.

The business cycle for metals and transportation is not dead. Transportation equipment in the near term is expected to remain weak because of travel fears. However a delayed rebound is expected even after the travel industry recovers and the global recession retreats due to the weakness in the airline market. The region's metals industry, include primarily aluminum makers and scrap metal re-producers, is projected to remain flat in employment. Long-term, regional employment in this sector is projected to be about the same level of employment as today. However, the path into the future for both industrial sectors is likely to suffer through wide swings in employment with fluctuating global change.

Nonmanufacturing Employment Trends. The steady shift in focus of the workforce to nonmanufacturing is expected to continue. Job growth in the nonmanufacturing sector is projected to exceed 2 percent per year on average. The nonmanufacturing sector created over 800,000 jobs in 2000 as compared to 300,000 in 1970. This total is expected to reach 1.46 million by 2030.

The largest component continues to be the service sector, which employs almost 280,000 workers. A fast growing segment of the service sector includes business services, computer software development and health services. Health services alone comprises more than 22 percent of service sector jobs. With the average age of the U.S. population growing older, more resources are expected to be diverted towards health care. A generally older population will tend to have greater accumulated wealth and is more likely to purchase more services than today. Regional job growth in total services is projected to reach an average of 2.8 percent growth per year.

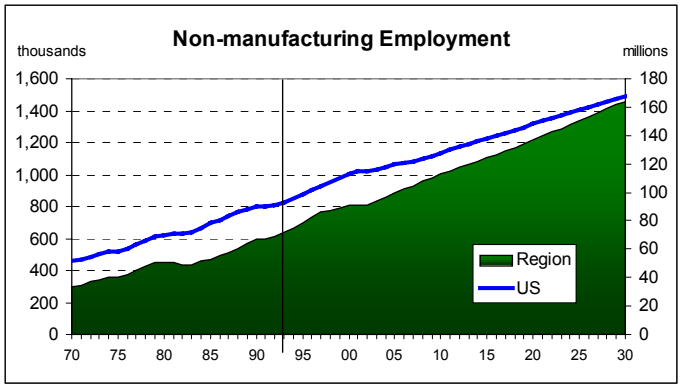
Business services, and temporary help services in particular, is likely to be a relatively fast growth segment as more and more firms out-source temporary help as well as ancillary business functions such as accounting, printing, and human resources.

Software development is expected to be another strong growth segment in services. With long-run investments in computer and business equipment steadily growing, software to manage and control these new devices will be aided by the advancement in technology.

The transportation services sector is expected to see relatively stronger growth than its companion communication and utility sector workforce. While the transportation sector continues to press its comparative advantage as a regional distribution hub in Portland, the communication and utility sector is expected to see limited expansion opportunities. Overall, the transportation, communication and utilities industry (TCU) is projected to growth at near the region's rate of population growth (1.5 percent APR).

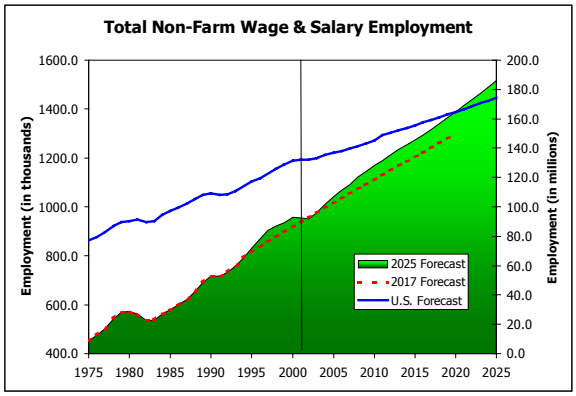
The retail and wholesale trade sectors in the region are expected to also increase at about the rate of population growth. Retail trade employment is forecasted to grow an average of 1.9 percent APR while wholesale trade is expected to grow a bit slower at 1.7% APR. The region's proximity to Asian markets and as distribution hub for the Northwest will play a key role in aiding wholesale trade employment to continue to add to job growth in the region.

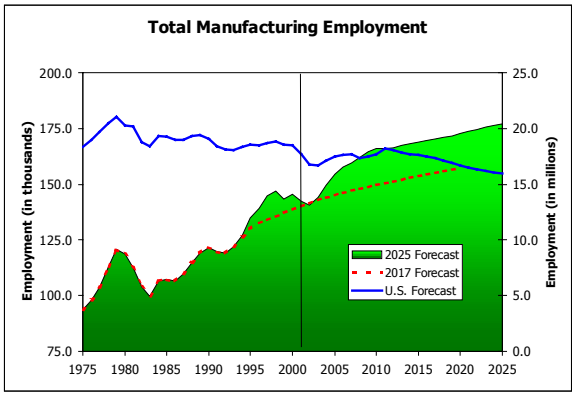
The region's finance sector has been weakened in the wake of mergers and acquisition in the banking community that has led to a significant number of corporate headquarter jobs relocating to other states. The prospects for well-paying corporate level finance positions have diminished and as a result the forecast reflects significantly slower job growth in the finance, insurance, and real estate sector. The cyclical weakness in the region has hampered job growth in the insurance and real estate sectors. These industry segments tend to ebb and flow with changes in population and income. Right now, these factors are down. Over the long haul, we expect these economic factors to rebound. In total, the average percent rate of growth is expected to run about 1.4 percent per year.

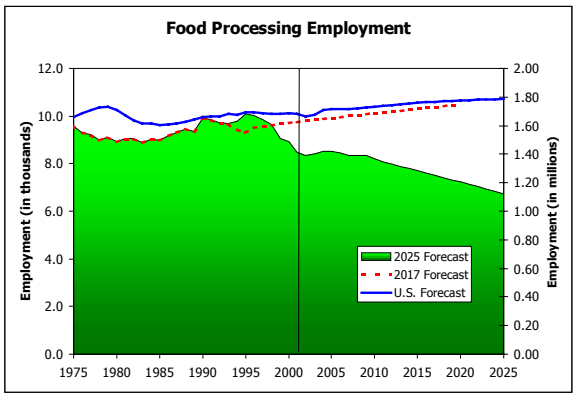


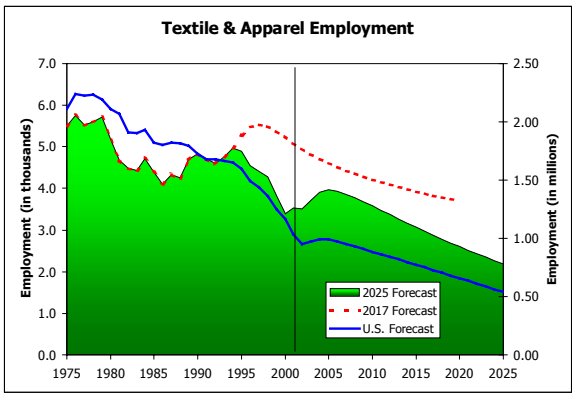
The construction sector has historically been an early indicator of business cycle turning points. In fact, construction employment has been very weak for several years leading up to the current recession. This is clearly another factor that has lead this region to having one of the highest unemployment rates of metropolitan areas in the nation. The regional forecast calls for construction jobs to rebound after the recovery and for growth to be moderate instead of a sharp rebound. The forecast anticipates the region's construction industry to experience job growth similar to the average in population – 1.6 percent.

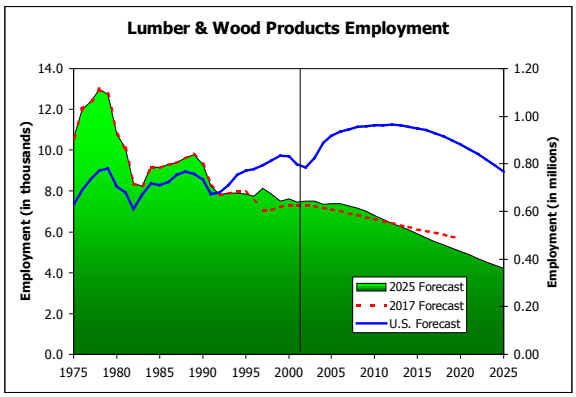
Employment in state and local government is projected to increase by a small margin slower than population growth. The assumption is that tight state and local budgets will limit job growth in government.

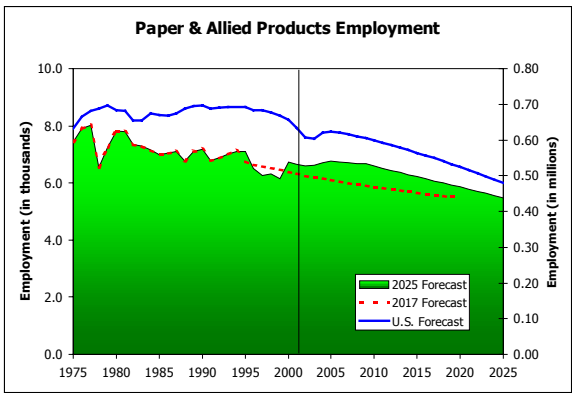

Total Non-Farm Wage & Salary Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

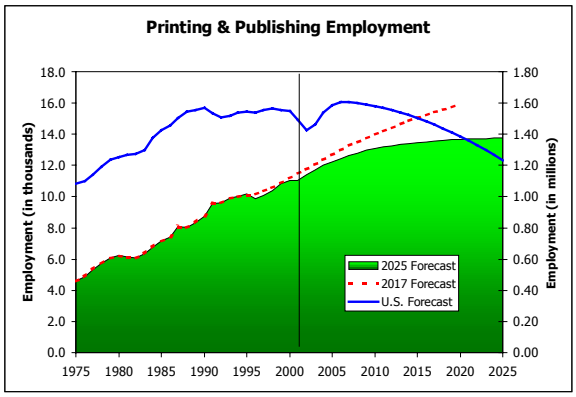

Total Manufacturing Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

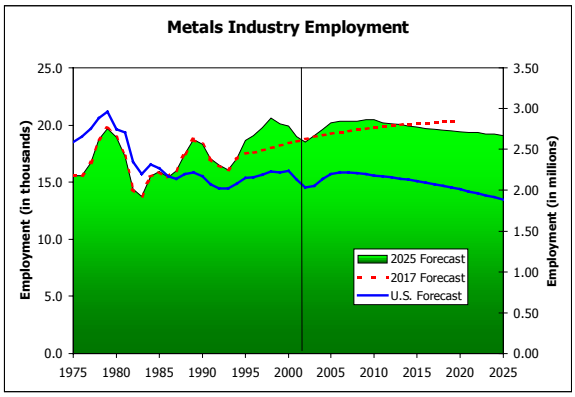

Food Processing Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

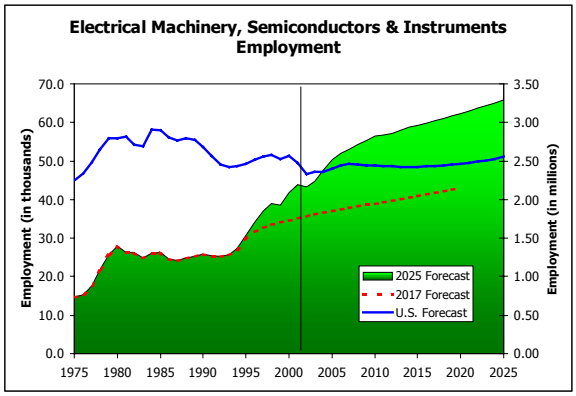

Textile & Apparel Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

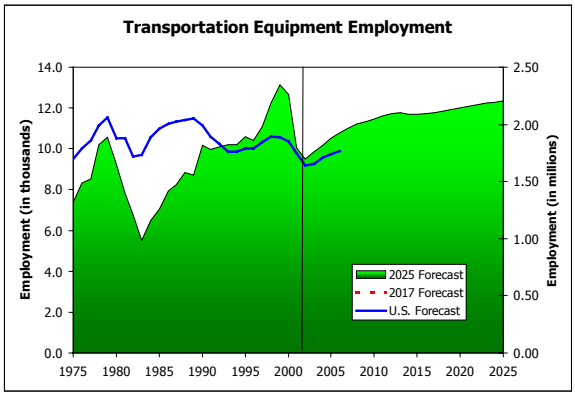

Lumber & Wood Products Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

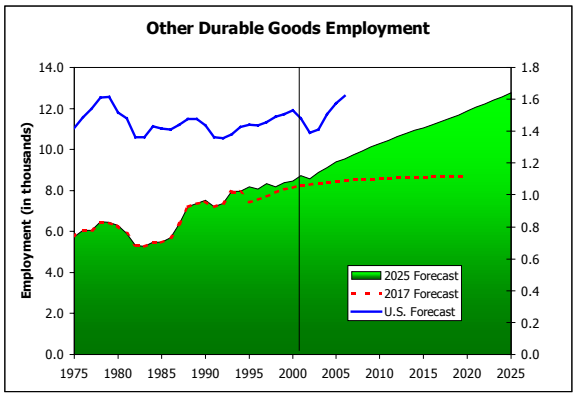

Paper & Allied Products Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

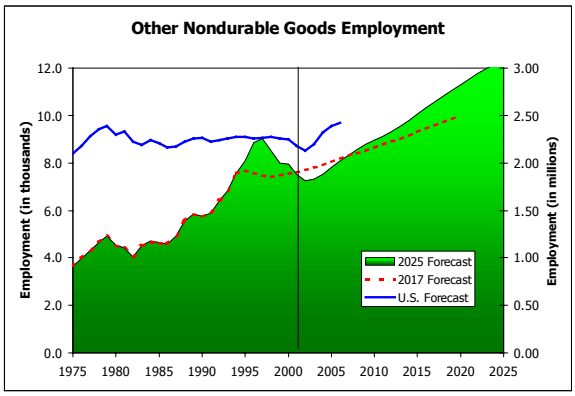

Printing & Publishing Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

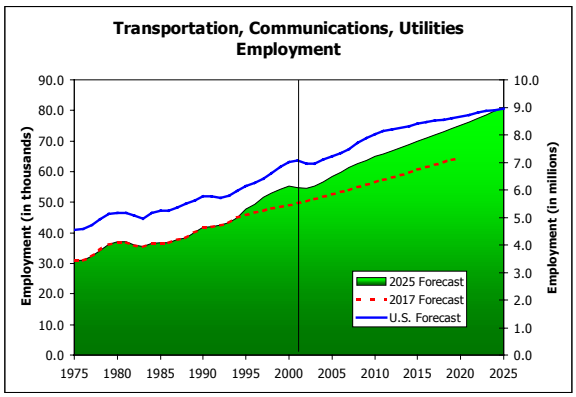

Metals Industry Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

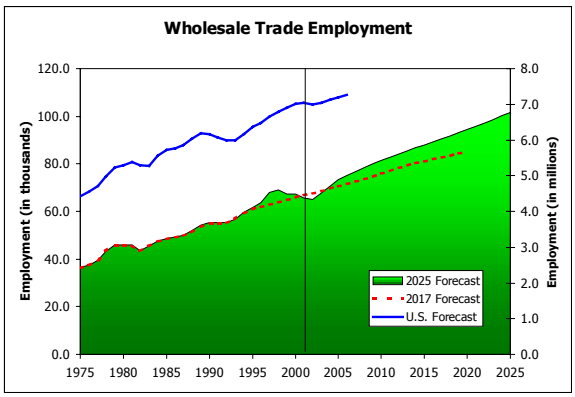

Electrical Machinery, Semiconductors & Instruments Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

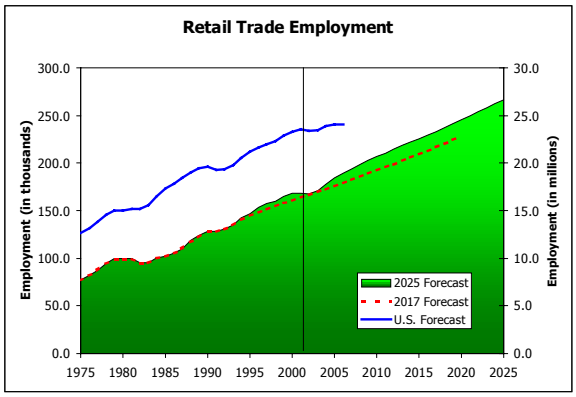

Transportation Equipment Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

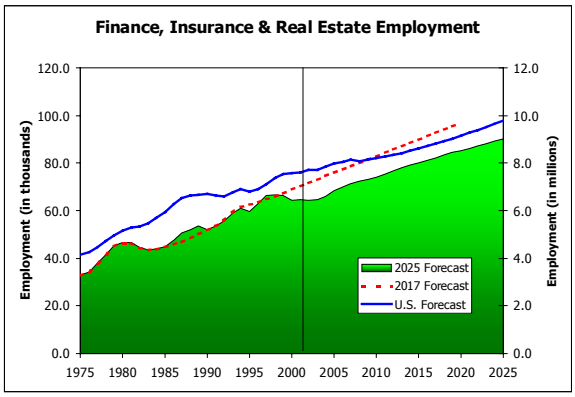

Other Durable Goods Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

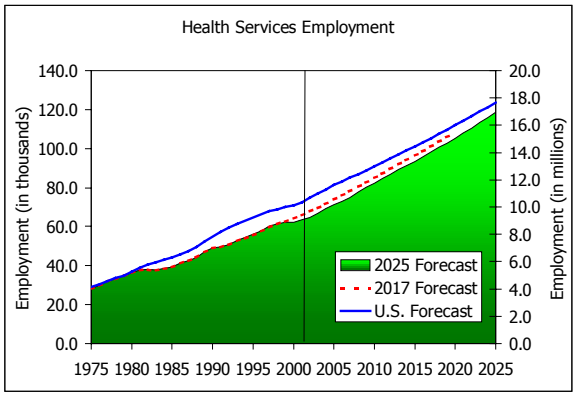

Other Nondurable Goods Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

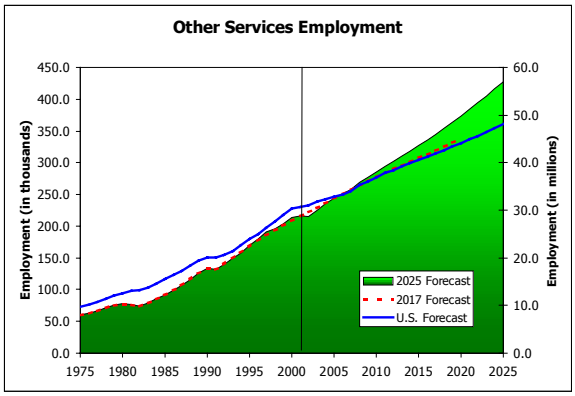

Transportation, Communications, Utilities Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast

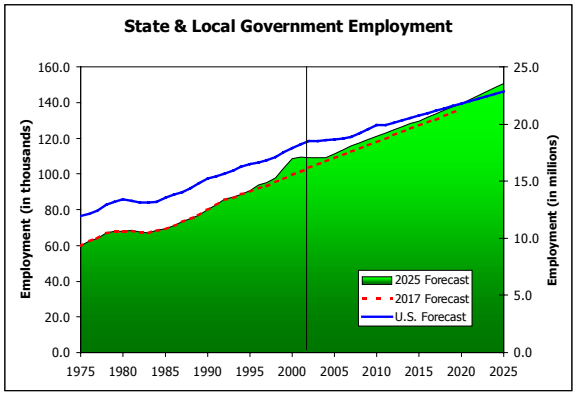

Wholesale Trade Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast


Retail Trade Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast


Finance, Insurance & Real Estate Employment
Employment (in thousands)
Employment (in millions)
2025 Forecast
2017 Forecast
U.S. Forecast


Health Services Employment
Employment (in thousands)
Employment (in millions)
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1975 1980 1985 1990 1995 2000 2005 2010 2015 2020 2025
2025 Forecast
2017 Forecast
U.S. Forecast


Other Services Employment
Employment (in thousands)
Employment (in millions)
450.0
400.0
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1975 1980 1985 1990 1995 2000 2005 2010 2015 2020 2025
2025 Forecast
2017 Forecast
U.S. Forecast


State & Local Government Employment
Employment (in thousands)
Employment (in millions)
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
25.0
20.0
15.0
10.0
5.0
0.0
1975 1980 1985 1990 1995 2000 2005 2010 2015 2020 2025
2025 Forecast
2017 Forecast
U.S. Forecast

Alternate Regional Growth Scenarios

Introduction.

Regional forecasts are constructed based on numerous assumptions. Prior sections of this economic report focused on the mid-growth or baseline regional growth forecast and its assumptions. The baseline forecast represents, in our opinion and those of peer review panels, the most likely and reasonable growth projection for the Portland region over the next 20+ years. Knowing that forecasts can change as world events unfold, we have prepared seperate high and a low growth scenarios. For policy makers, these two scenarios delineate a range of possibilities in case economic and demographic conditions change drastically from the baseline assumptions.

We have prepared two alternative forecasts: a pessimistic scenario and an optimistic scenario. Each scenario begins with the regional baseline forecast and tilts all the economic drivers in one direction or another. The pessimistic scenario assumes economic and population will grow much more slowly. The pessimistic regional scenario incorporates DRI-WEFA's pessimistic U.S. growth projections in which all the key economic variables are "dialed" to a lower growth setting, and also assumes the Census Bureau's high mortality and low fertility assumptions. The optimistic regional scenario assumes DRI-WEFA's optimistic U.S. growth projections and the Census Bureau's low mortality and high fertility assumptions.

The high and low growth scenarios that have been developed for the region represent extreme bandwidths for regional growth. It is estimated that over the next 20+ years of the forecast that there is over a 90 percent probabililty that regional growth will fall within the range of these two scenarios. However, the baseline regional forecast remains as the best approximation of the region's most apparent growth trend.

The Regional Growth Alternatives.

Regional Overview. The low growth (pessimistic scenario) forecast for the region is characterized by substantially slower employment growth than its baseline counterpart. Total wage and salary employment growth comes in at an anemic 1.3 percent APR over the duration of the forecast. Manufacturing employment within the region stalls and in particular high technolgy jobs grow at very low levels (0.5 percent APR in pessimistic, 1 percent in the baseline, 1.5 percent in optimistic). Other regional industries suffer significant job losses as industrial production nationwide is assumed to contract in many resource and labor intensive industrial sectors. As a result of this national pessimissm, the consumer sector takes a significant beating as consumption falls well below historic rates.

Not only is the economic sector battered by weaker regional economic performances, the population and labor trends for the pessimistic scenario assumes much slower increases too. The pessimistic scenario restricts labor force growth because of lower net migration into the region and lower birth rates and lower life expectancies. These factors combine to slow the future rate of population growth. In turn, the lower demographic factors force

employment growth in population serving industries to cut back employment growth too. Generally, in the traded sector industries, a dimmer outlook for national growth dampens regional economic activity relative to the base trend. Overall, the potential output for the region is significantly diminished as compared to the region's baseline forecast.

Other economic factors in the low growth regional scenario also grow more slowly – including the housing stock, housing values appreciate much less, and the ability of governments to generate revenue from taxes is lower (but demand for government services may be less in some areas but more in others, such as welfare and other low income aid.) because personal income in the region will also be substantially less.

In the case of the regional high growth (optimistic scenario) forecast, economic and demographic assumptions are "dialed up at a higher rate". National economic conditions are all assumed to favor more rapid economic expansion worldwide. This U.S. forecast is characterized by higher GDP, lower inflation, lower interest rates, lower exchange rates, lower oil prices and at the same time employment and industry production rates are to grow more rapidly. Demographic conditions in the optimistic case is characterized by a greater migration rates that corresponds to greater overall population, labor force, and employment growth. The national outlook that drives the high scenario assumes annual U.S. population growth averages 1.3 percent per year (1.0 percent in the baseline trend, 0.5 percent for the pessimistic scenario).

Because the optimistic scenario assumes a higher growth trend for the U.S., the region shares in the greater bounty. Birth rates are higher, life expectancies are higher, and regional migration hits greater heights which in turn drives up regional population growth. The region's population growth averages 2 percent per year during the forecast (1.5 percent in the baseline trend, 0.8 percent for the pessimistic scenario). The higher population trend pushes the adult population higher which directly affects the regional labor force. More people in the labor force and better economic conditions lead to higher job growth in the region. Regionwide wage and salary employment growth averages 2.2 percent in the optimistic case (1.8 percent in the baseline trend, 1.3 percent for the pessimistic scenario).

Population Comparisons. Total population in the baseline scenario for the five county region[12] grows from 1,874,400 residents in 2000 (source: Census sf1) to 2,647,000 by year 2022. In comparison, the optimistic scenario grows to 2,822,300; whereas the pessimistic scenario reaches a level of 2,212,100 residents in the same period of time. The difference between scenarios as compared to the baseline is a matter of minus 4 years for the optimistic regional scenario and plus 10 years in the pessimistic regional scenario[13].

The baseline population growth trend is characteristic of birth, death and migration trends consistent with emerging trends in the region and of national demographic expectations.

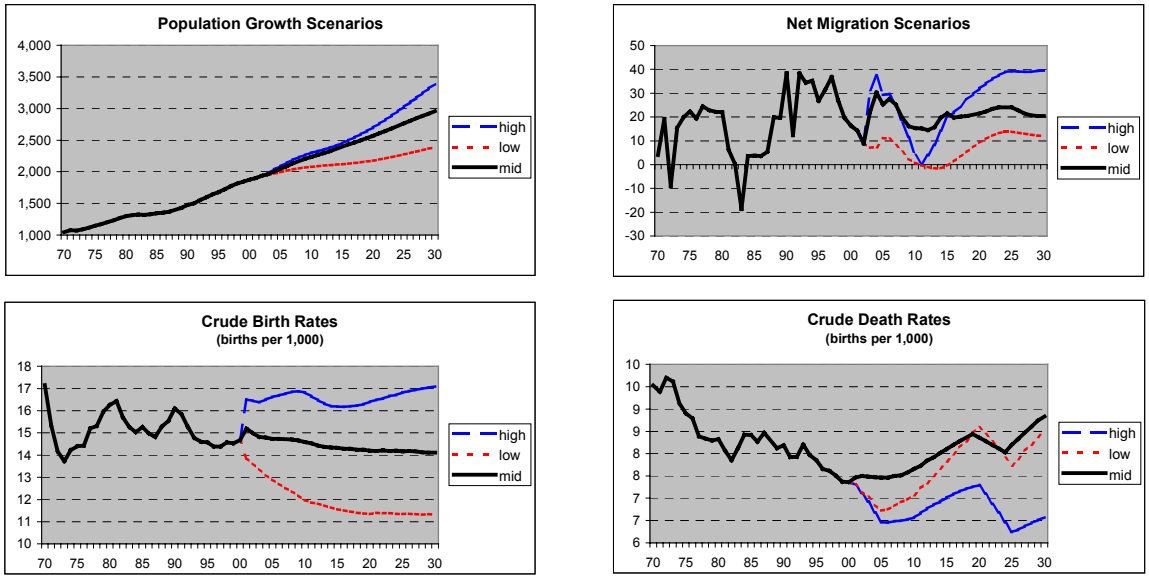
[12] Includes Multnomah, Clackamas, Washington, Yamhill and Clark counties

[13] In other words, the optimistic scenario reaches the 2022 population mark in the baseline trend 4 years sooner and in the case of the pessimistic scenario, over 10 years later.

Regional population trends assumed in the optimistic case are characteristic of migration patterns experienced in the Portland region during a sustained period of very high in-migration levels. The variation in migration levels in the optimistic scenario mimic those experieced during the late-1980's and 1990's in the Portland region, but over the entire forecast, the average growth rate in the optimistic case is below the regional trend rate in the 1990's (history: 2.4 percent, forecast: 2.0 percent). In addition, we assume higher fertility and life expectancies for residents living in the region.

A population rate that mimics national growth rates is assumed in the pessimistic scenario. This scenario represents an extremely low population rate for the region and is highly uncharacteristic of past trends. At no point in history has the region ever experienced over 20 years of repressive population trends as exhibited in this pessimistic regional scenario. The only period in regional history that saw population growth slow to near 1 percent APR was the 10-year period that included the 1930 era Depression. Clearly, the region is unlikely to experience 20 years of depression-style population growth and so this scenario represents the lower bounds of this region's population trends.

Bandwidth Forecasts for Selected Regional Population Characteristics



In the pessimistic scenario, we wanted to characterize what could be a lower bound of population if we assumed very little regional in-migration, low natural increases in regional population and how these factor would impact regional employment growth. The population growth rate in the pessimistic scenario is similar to the growth rate that DRI-WEFA has forecasted for the U.S. in its baseline trend projection.

Similarly, the optimistic scenario for the region is as equally unlikely, but is illustrative of a higher bound of this region's population trend. It is improbable that this region would achieve 20 years in a row of population growth that copied what this region experienced

during the 1990's. It is also unlikely that another $12 billion of high-tech investments would be repeating itself in next 20 years – especially so soon after the 1990's boom.

Economic Comparisons. In part, employment growth drives off of population because of the labor force characteristics derived from each growth alternative. Labor force conditions in the optmistic scenario call for growth to average 2.1 percent per year (1.6 percent in the base, 1 percent in pessimistic). Because at the national level, the adult population is expected to grow faster in the optimistic case, more working age adults are expected to migrate into the region seeking jobs. Also, faster internal population growth from natural increases will also add to the region's labor force. The expectation in the high growth scenario calls for regional employment to rise an average of 2.2 percent per year (1.8 percent in the baseline trend, 1.3 percent for the pessimistic scenario).

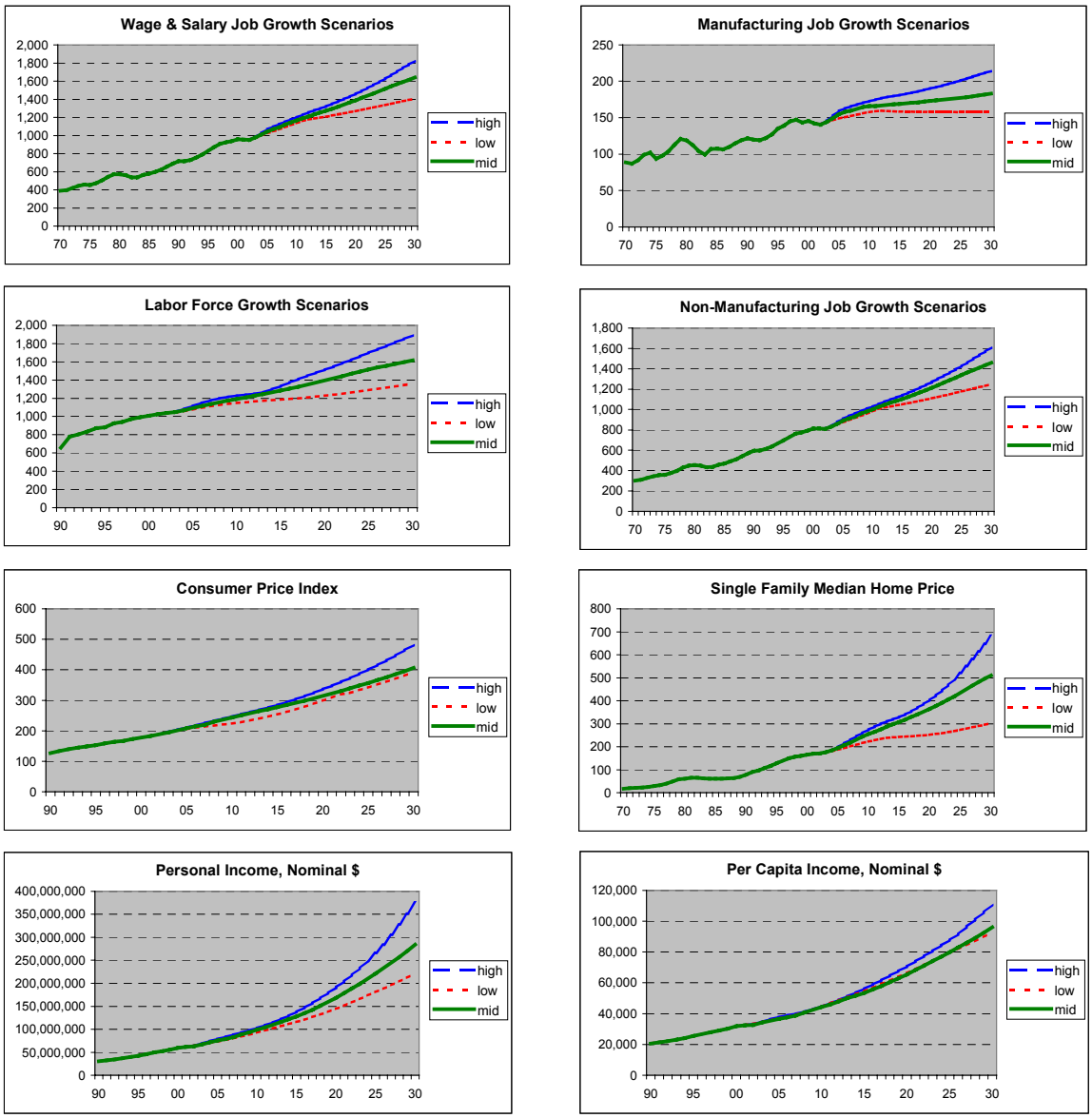
Wage and salary employment growth is expected to exceed the change in the labor force in part due to the expectation that labor force participation rates will continue to edge up modestly in all scenarios

In the optmistic case, regional income growth is expected to rise more sharply than the baseline trend scenario. However, because population growth rises farily rapidly and the inflation rate in the high growth scenario is greater, the region forecast exhibits a quirky situation in which per capita income growth in real dollars is slower in the optimistic case than the base case. Otherwise, in current dollars, regional per capita income grows and is higher in the optimistic case.

In all cases, wage and salary disbursements still represent over half of all earned and unearned income. Interestingly, the amount of transfer payments coming to the region in the optimistic case is less than transfer payments received in the baseline forecast. This results from the region achieving greater economic prosperity in the high growth case as to offset income transfers to medicare/medicaid recipients, unemployment benefits, and social security, aid for dependent children and welfare payments.

Home prices appreciate more rapidly (average 4.8 percent per year in the optimistic, 3.8 percent in base case, 2.0 percent in pessimistic) in the optmistic case. Higher housing prices are indicative of an economy that exhibits hefty gains in population, employment and income as in the optmistic scenario. More population fuels the labor force which in turn leads to employment gains. Robust employment and relatively greater productivity in the future combine to boost the rate of income growth. More income and more people add up to more demand for housing. In the short run, production of housing falls behind the demand for housing, home prices appreciate in the short run because of deficts. However, over the long run the consistently higher demand shifts the demand curve higher resulting in higher home prices. The opposite occurs in the pessimistic scenario for the region. Thus, a lower reving regional economy generates less housing demand, and so home prices don't appreciate as readily.

Bandwidth Forecasts for Selected Regional Economic Characteristics



National Overview. Regional growth is directly affected by the national outlook. The regional baseline forecast is derived from DRI-WEFA's trend outlook for the U.S. The optimistic and pessimistic regional alternatives derive from DRI-WEFA's respective optimistic and pessimistic national scenarios.

A U.S. economic outlook that presents a much more robust forecast creates economic incentives and downstream benefits for regional industries and households. In the case of the DRI-WEFA optimistic U.S. forecast, higher GDP, productivity, employment, and other favorable economic conditions spur a faster pace of regional activity. Conversely, a U.S. forecast that is more constrained in its outlook for the U.S. will have an opposite effect on regional economic activity.

The following table highlights major sectors of the U.S. economy as well as demographic and economic factors which affect the pace of long-run economic activity for the region.

U.S. Economic and Demographic Summary Details.

(Average Annual Percent Change)

	History	30-Year Forecast		
	1970-00	Optimistic	Baseline	Pessimistic
Population and Labor Force				
Total Population	1.0%	1.3%	1.1%	0.5%
Labor Force	1.7	1.1	1.0	0.8
Total Wage & Salary Jobs	2.1	1.1	1.0	0.5
Manufacturing	-0.1	-0.3	-0.7	-0.9
Non-manufacturing	2.6	1.3	1.2	0.7
GDP Components ($1996)				
Gross Domestic Product	3.1	3.6	3.1	2.6
Consumption	3.3	3.6	3.1	2.7
Investment, total	4.3	5.0	4.0	3.5
Technology (equipment & software)	14.6	6.6	6.1	5.7
Governnment, Federal	0.7	1.5	1.3	1.4
Governnment, State & Local	2.6	2.1	1.7	1.5
Personal Income ($1996)	2.6	3.5	3.0	2.7
Output and Productivity				
Output	2.9	3.5	3.0	2.4
Productivity	0.8	2.6	2.4	1.9
Inflation and Prices				
CPI	5.2	2.5	3.1	3.9
GDP price deflator	4.4	2.3	2.8	3.6
Oil Price ($/ barrel)	14.2	2.5	2.6	4.0
Global Conditions				
Global GDP	2.4	2.5	2.4	2.3
Exchange Rate	0.3	-0.3	-0.1	0.0

Source: DRI-WEFA, Winter U.S. forecast as compiled by Metro DRC

Early Risks to the Regional Forecast.

The regional forecast assumes that the U.S. economy is in a mild recession, but that the monetary and fiscal boosts succeed in turning it around in early 2002. The regional forecast also assumes that, by spring 2002, consumers have shaken off their fears of flying and large crowds. Finally, it assumes that there are no further direct terrorist attacks on the United States, and that military action ends with the defeat of the Taliban, the rout of al Quaeda, and stability in the middle east. Any or all of these assumptions could prove too rosy.

On the other hand, the regional forecast could be overly pessimistic. Businesses may have overreacted to the plunge in spending that followed the September 11 attacks. This scenario carries its own risks. If activity is about to turn around on its own, the huge amount of monetary and fiscal stimulus in the pipeline could prove excessive. Rather than grease the wheels of the recovery, it would set up the conditions for a return of inflation and speculative investment. Nonetheless, in our estimation there is more downside risk than upside growth potential at this juncture of the business cycle.

See Appendix Sections for further details :

- Appendix A: Table 14: "Alternate Forecasts for the Portland-Vancouver, OR-WA" for a summary table of key variables in the regional forecast.
- Appendix B: "A Range of Possiblities: The Optimistic and Pessimistic Projections" for DRI-WEFA's description of the national alternatives.

Appendix A:
Regional Economic Forecast Details

Total Population of Selected Metropolitan Areas, Counties, States, and U.S.

	Portland-Vanc. OR-WA	Pct. Chg.	Salem	Pct. Chg.	Yamhill	Pct. Chg.	Columbia	Pct. Chg.	Oregon	Pct. Chg.	California	Pct. Chg.	U.S. (in mil.)	Pct. Chg.
1970	1,049.3		186.7		40.2		28.8		2,091.0		20,039.0		205.1	
1971	1,075.8	2.5%	192.6	3.2%	41.5	3.1%	29.9	3.8%	2,151.0	2.9%	20,346.0	1.5%	207.7	1.3%
1972	1,072.5	-0.3%	194.3	0.9%	42.2	1.8%	30.1	0.7%	2,197.3	2.2%	20,585.0	1.2%	209.9	1.1%
1973	1,092.6	1.9%	200.1	3.0%	43.4	2.9%	30.2	0.4%	2,241.9	2.0%	20,869.0	1.4%	211.9	1.0%
1974	1,117.5	2.3%	205.0	2.4%	44.0	1.4%	31.2	3.2%	2,285.0	1.9%	21,174.0	1.5%	213.9	0.9%
1975	1,145.8	2.5%	207.5	1.2%	44.9	2.0%	31.8	2.1%	2,329.7	2.0%	21,538.0	1.7%	216.0	1.0%
1976	1,171.7	2.3%	214.7	3.5%	45.7	1.8%	32.4	1.9%	2,378.3	2.1%	21,936.0	1.8%	218.0	1.0%
1977	1,203.6	2.7%	219.7	2.3%	47.2	3.3%	33.3	2.8%	2,446.7	2.9%	22,352.0	1.9%	220.2	1.0%
1978	1,234.8	2.6%	231.6	5.4%	51.8	9.6%	33.9	1.8%	2,518.3	2.9%	22,836.0	2.2%	222.6	1.1%
1979	1,266.0	2.5%	237.0	2.3%	53.6	3.5%	34.9	2.9%	2,588.0	2.8%	23,257.0	1.8%	225.1	1.1%
1980	1,297.9	2.5%	249.9	5.4%	55.3	3.3%	35.7	2.1%	2,633.1	1.7%	23,782.0	2.3%	227.7	1.2%
1981	1,314.8	1.3%	256.4	2.6%	56.3	1.8%	36.2	1.4%	2,668.0	1.3%	24,278.0	2.1%	230.0	1.0%
1982	1,325.6	0.8%	252.4	-1.5%	56.6	0.5%	36.2	0.1%	2,664.9	-0.1%	24,805.0	2.2%	232.2	1.0%
1983	1,316.9	-0.7%	250.5	-0.8%	56.2	-0.7%	36.0	-0.6%	2,653.1	-0.4%	25,337.0	2.1%	234.3	0.9%
1984	1,329.6	1.0%	255.0	1.8%	57.0	1.4%	36.2	0.6%	2,666.6	0.5%	25,816.0	1.9%	236.4	0.9%
1985	1,342.3	1.0%	258.1	1.2%	57.6	1.1%	36.1	-0.3%	2,672.7	0.2%	26,403.0	2.3%	238.5	0.9%
1986	1,355.2	1.0%	254.8	-1.3%	57.1	-0.9%	36.1	0.0%	2,683.5	0.4%	27,052.0	2.5%	240.7	0.9%
1987	1,369.5	1.1%	260.3	2.2%	58.4	2.3%	36.1	0.0%	2,701.0	0.7%	27,717.0	2.5%	242.8	0.9%
1988	1,398.6	2.1%	266.3	2.3%	59.8	2.4%	36.8	1.9%	2,741.3	1.5%	28,393.0	2.4%	245.0	0.9%
1989	1,428.4	2.1%	271.8	2.1%	60.7	1.5%	37.3	1.4%	2,790.6	1.8%	29,142.0	2.6%	247.3	0.9%
1990	1,477.9	3.5%	278.0	2.3%	65.6	8.0%	37.6	0.7%	2,842.3	1.9%	29,811.4	2.3%	249.9	1.0%
1991	1,502.0	1.6%	287.9	3.6%	67.9	3.6%	37.8	0.6%	2,918.8	2.7%	30,414.1	2.0%	252.7	1.1%
1992	1,552.0	3.3%	294.5	2.3%	69.2	1.9%	38.8	2.6%	2,973.9	1.9%	30,875.9	1.5%	255.4	1.1%
1993	1,597.4	2.9%	301.0	2.2%	70.9	2.5%	38.8	0.0%	3,034.5	2.0%	31,147.2	0.9%	258.1	1.1%
1994	1,643.4	2.9%	307.2	2.1%	72.8	2.7%	39.4	1.5%	3,087.1	1.7%	31,317.2	0.5%	260.7	1.0%
1995	1,681.1	2.3%	313.4	2.0%	74.6	2.5%	39.7	0.8%	3,141.4	1.8%	31,493.5	0.6%	263.0	0.9%
1996	1,723.9	2.5%	319.1	1.8%	77.5	3.9%	40.1	1.0%	3,195.1	1.7%	31,780.8	0.9%	265.2	0.8%
1997	1,772.7	2.8%	324.4	1.7%	79.2	2.2%	41.5	3.5%	3,243.3	1.5%	32,217.7	1.4%	267.6	0.9%
1998	1,812.0	2.2%	331.6	2.2%	81.9	3.4%	42.3	1.9%	3,282.1	1.2%	32,682.8	1.4%	269.9	0.9%
1999	1,844.6	1.8%	335.4	1.1%	83.1	1.5%	42.7	0.8%	3,316.2	1.0%	33,145.1	1.4%	272.2	0.8%
2000	1,874.5	1.6%	347.2	3.5%	85.0	2.3%	43.6	2.1%	3,421.4	3.2%	33,871.6	2.2%	274.5	0.8%
2001	1,902.5	1.5%	352.6	1.5%	86.4	1.6%	43.5	-0.2%	3,465.8	1.3%	34,456.6	1.7%	276.8	0.8%
2002	1,934.3	1.7%	358.6	1.7%	88.2	2.0%	43.9	1.0%	3,504.5	1.1%	35,127.7	1.9%	279.1	0.8%
2003	1,963.7	1.5%	364.6	1.7%	89.9	1.9%	44.4	1.0%	3,533.7	0.8%	35,771.6	1.8%	281.3	0.8%
2004	2,007.7	2.2%	370.6	1.6%	91.4	1.7%	44.8	1.1%	3,583.0	1.4%	36,549.6	2.2%	283.6	0.8%
2005	2,049.2	2.1%	376.4	1.6%	92.9	1.6%	45.3	1.1%	3,629.6	1.3%	37,337.6	2.2%	285.9	0.8%
2006	2,091.0	2.0%	382.2	1.5%	94.3	1.5%	45.8	1.1%	3,674.9	1.2%	38,087.1	2.0%	288.2	0.8%
2007	2,132.8	2.0%	387.4	1.4%	95.6	1.3%	46.3	1.1%	3,720.5	1.2%	38,904.6	2.1%	290.5	0.8%
2008	2,170.1	1.8%	392.7	1.4%	96.8	1.3%	46.8	1.1%	3,762.3	1.1%	39,715.2	2.1%	292.9	0.8%
2009	2,203.0	1.5%	398.2	1.4%	98.2	1.4%	47.4	1.1%	3,798.8	1.0%	40,469.0	1.9%	295.3	0.8%
2010	2,233.9	1.4%	404.2	1.5%	99.6	1.4%	47.9	1.1%	3,832.8	0.9%	41,159.9	1.7%	297.7	0.8%
2011	2,264.5	1.4%	410.7	1.6%	101.0	1.5%	48.4	1.1%	3,866.8	0.9%	41,818.7	1.6%	300.1	0.8%
2012	2,294.6	1.3%	417.2	1.6%	102.6	1.5%	49.0	1.1%	3,900.8	0.9%	42,447.5	1.5%	302.6	0.8%
2013	2,324.7	1.3%	423.9	1.6%	104.1	1.5%	49.5	1.1%	3,935.0	0.9%	43,082.3	1.5%	305.1	0.8%
2014	2,357.9	1.4%	430.7	1.6%	105.6	1.5%	50.0	1.1%	3,972.6	1.0%	43,678.7	1.4%	307.6	0.8%
2015	2,394.1	1.5%	437.5	1.6%	107.2	1.5%	50.6	1.1%	4,013.5	1.0%	44,251.8	1.3%	310.2	0.8%
2016	2,429.5	1.5%	444.3	1.6%	108.8	1.5%	51.1	1.1%	4,053.4	1.0%	44,827.5	1.3%	312.7	0.8%
2017	2,464.2	1.4%	451.1	1.5%	110.4	1.5%	51.7	1.1%	4,092.7	1.0%	45,420.6	1.3%	315.2	0.8%
2018	2,499.5	1.4%	458.1	1.5%	112.1	1.5%	52.2	1.1%	4,132.5	1.0%	45,972.1	1.2%	317.7	0.8%
2019	2,534.9	1.4%	465.1	1.5%	113.7	1.5%	52.8	1.1%	4,172.4	1.0%	46,526.6	1.2%	320.2	0.8%
2020	2,571.1	1.4%	472.2	1.5%	115.4	1.5%	53.4	1.1%	4,213.2	1.0%	47,139.7	1.3%	322.7	0.8%
2021	2,608.4	1.5%	479.4	1.5%	117.2	1.5%	53.9	1.1%	4,255.0	1.0%	47,680.1	1.1%	325.2	0.8%
2022	2,647.0	1.5%	486.6	1.5%	119.0	1.5%	54.5	1.0%	4,298.2	1.0%	48,187.2	1.1%	327.7	0.8%
2023	2,687.0	1.5%	494.0	1.5%	120.8	1.5%	55.1	1.0%	4,342.6	1.0%	48,754.4	1.2%	330.2	0.7%
2024	2,727.6	1.5%	501.4	1.5%	122.6	1.5%	55.6	1.0%	4,387.7	1.0%	49,342.9	1.2%	332.6	0.7%
2025	2,768.2	1.5%	508.9	1.5%	124.5	1.5%	56.2	1.0%	4,432.6	1.0%	49,893.6	1.1%	335.0	0.7%

In Thousands

Source: Metro DRC
Metro01.xls 10/7/02

Table 2

Components of Population Change for Portland-Vancouver, OR-WA

	Population	Percent Change	Change	Births	Deaths	Natural Increase	Net Migration	Migration Share*
1970	1,049.3		12.1	18.0	10.0	8.0	4.1	34%
1971	1,075.8	2.5%	26.5	16.5	10.1	6.4	20.1	76%
1972	1,072.5	-0.3%	-3.3	15.2	10.4	4.8	-8.1	244%
1973	1,092.6	1.9%	20.1	15.0	10.5	4.4	15.7	78%
1974	1,117.5	2.3%	24.9	15.9	10.2	5.7	19.2	77%
1975	1,145.8	2.5%	28.3	16.5	10.2	6.3	22.0	78%
1976	1,171.7	2.3%	25.9	16.9	10.3	6.7	19.2	74%
1977	1,203.6	2.7%	31.9	18.3	10.1	8.1	23.8	74%
1978	1,234.8	2.6%	31.2	18.9	10.4	8.6	22.6	73%
1979	1,266.0	2.5%	31.2	20.2	10.5	9.7	21.5	69%
1980	1,297.9	2.5%	32.0	21.1	10.8	10.3	21.7	68%
1981	1,314.8	1.3%	16.8	21.6	10.7	11.0	5.9	35%
1982	1,325.6	0.8%	10.8	20.9	10.4	10.4	0.3	3%
1983	1,316.9	-0.7%	-8.7	20.1	10.7	9.4	-18.1	208%
1984	1,329.6	1.0%	12.7	20.0	11.2	8.8	3.9	31%
1985	1,342.3	1.0%	12.8	20.5	11.3	9.2	3.5	28%
1986	1,355.2	1.0%	12.9	20.3	11.2	9.1	3.8	29%
1987	1,369.5	1.1%	14.2	20.3	11.6	8.7	5.6	39%
1988	1,398.6	2.1%	29.1	21.4	11.6	9.8	19.3	66%
1989	1,428.4	2.1%	29.8	22.3	11.6	10.6	19.2	64%
1990	1,477.9	3.5%	49.5	23.8	12.1	11.7	37.8	76%
1991	1,502.0	1.6%	24.1	23.8	11.9	11.9	12.2	51%
1992	1,552.0	3.3%	50.0	23.7	12.3	11.4	38.5	77%
1993	1,597.4	2.9%	45.4	23.6	13.1	10.5	34.9	77%
1994	1,643.4	2.9%	46.0	24.0	13.1	11.0	35.0	76%
1995	1,681.1	2.3%	37.8	24.5	13.2	11.3	26.5	70%
1996	1,723.9	2.5%	42.8	24.8	13.2	11.6	31.2	73%
1997	1,772.7	2.8%	48.8	25.5	13.5	12.0	36.7	75%
1998	1,812.0	2.2%	39.3	26.4	13.6	12.7	26.6	68%
1999	1,844.6	1.8%	32.6	26.8	13.5	13.3	19.3	59%
2000	1,874.5	1.6%	29.9	27.5	13.8	13.7	16.2	54%
2001	1,902.5	1.5%	28.1	28.9	14.2	14.6	13.4	48%
2002	1,934.3	1.7%	31.8	29.0	14.5	14.6	17.3	54%
2003	1,963.7	1.5%	29.4	29.1	14.7	14.4	14.9	51%
2004	2,007.7	2.2%	44.0	29.7	15.0	14.7	29.3	67%
2005	2,049.2	2.1%	41.5	30.2	15.3	14.9	26.6	64%
2006	2,091.0	2.0%	41.8	30.8	15.7	15.2	26.6	64%
2007	2,132.8	2.0%	41.8	31.4	16.0	15.4	26.4	63%
2008	2,170.1	1.8%	37.4	31.9	16.3	15.6	21.8	58%
2009	2,203.0	1.5%	32.9	32.3	16.7	15.6	17.3	53%
2010	2,233.9	1.4%	30.9	32.6	17.1	15.5	15.4	50%
2011	2,264.5	1.4%	30.6	32.9	17.5	15.3	15.3	50%
2012	2,294.6	1.3%	30.2	33.2	18.0	15.2	15.0	50%
2013	2,324.7	1.3%	30.1	33.4	18.4	15.0	15.0	50%
2014	2,357.9	1.4%	33.2	33.8	18.9	14.9	18.3	55%
2015	2,394.1	1.5%	36.3	34.3	19.4	14.9	21.4	59%
2016	2,429.5	1.5%	35.4	34.7	19.9	14.9	20.5	58%
2017	2,464.2	1.4%	34.7	35.2	20.4	14.8	19.9	57%
2018	2,499.5	1.4%	35.3	35.6	20.9	14.7	20.5	58%
2019	2,534.9	1.4%	35.4	36.1	21.4	14.7	20.7	59%
2020	2,571.1	1.4%	36.3	36.6	21.5	15.1	21.2	58%
2021	2,608.4	1.5%	37.3	37.0	21.6	15.4	21.9	59%
2022	2,647.0	1.5%	38.6	37.6	21.7	15.8	22.8	59%
2023	2,687.0	1.5%	39.9	38.1	21.8	16.3	23.7	59%
2024	2,727.6	1.5%	40.6	38.7	21.9	16.7	23.9	59%
2025	2,768.2	1.5%	40.6	39.2	22.7	16.5	24.1	59%

estimates are in thousands

***** net migration / change

Source: Metro DRC
Metro01.xls 10/7/02

Table 3

Population by Age for Portland-Vancouver, OR-WA

	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80 - 84	85 +	Total
1990	108.9	109.8	103.6	95.5	98.2	120.6	136.2	139.1	123.1	89.8	65.5	55.3	55.4	54.8	44.9	35.4	22.8	19.1	**1,477.9**
1991	111.1	110.8	105.3	97.5	99.5	119.5	135.6	139.8	125.9	94.4	69.0	56.9	55.5	54.8	45.8	36.0	23.7	19.8	**1,535.4**
1992	114.7	113.2	108.0	101.2	104.5	120.7	135.7	141.0	129.7	101.3	74.7	59.8	55.9	54.6	46.7	36.7	24.8	20.9	**1,566.2**
1993	117.7	116.0	111.0	105.1	110.0	123.4	136.6	142.3	133.3	107.7	80.6	63.3	56.9	54.6	47.5	37.5	25.9	22.0	**1,608.4**
1994	120.5	118.9	114.0	108.9	115.2	126.6	138.0	143.7	136.5	113.5	86.5	67.2	58.4	54.8	48.2	38.3	26.8	23.1	**1,638.6**
1995	122.7	121.3	116.6	112.0	119.0	129.1	138.9	144.5	139.0	118.6	92.3	71.4	60.2	55.3	48.7	39.0	27.6	24.1	**1,670.7**
1996	124.8	123.7	119.2	115.0	122.7	131.9	140.2	145.4	141.2	123.2	97.8	75.8	62.5	56.0	49.2	39.6	28.4	25.1	**1,706.7**
1997	127.6	126.5	122.1	118.5	127.5	135.9	142.5	146.9	143.5	127.5	103.3	80.5	65.3	57.1	49.8	40.3	29.2	26.1	**1,737.7**
1998	130.2	128.9	124.7	121.4	131.0	139.1	144.5	148.1	145.3	131.3	108.4	85.2	68.3	58.5	50.5	40.9	29.8	27.1	**1,773.0**
1999	132.2	130.7	126.7	123.6	132.9	141.0	145.8	148.9	146.7	134.4	113.0	89.8	71.5	60.0	51.3	41.5	30.4	27.9	**1,798.6**
2000	132.1	135.0	132.5	127.4	125.4	144.8	148.2	153.8	156.3	149.6	126.9	88.3	61.1	48.5	46.2	42.1	30.0	26.4	**1,874.5**
2001	136.0	133.3	129.6	126.7	134.6	142.5	146.9	149.4	148.1	138.8	120.5	98.1	77.9	63.6	53.0	42.5	31.4	29.5	**1,902.5**
2002	138.7	135.2	131.4	128.5	135.4	143.1	147.5	150.0	149.1	141.1	124.2	102.4	81.6	66.0	54.4	43.3	32.0	30.3	**1,934.3**
2003	140.8	136.9	133.0	130.1	136.7	143.9	148.2	150.5	149.8	142.8	127.4	106.4	85.2	68.5	55.8	44.1	32.6	31.1	**1,963.7**
2004	144.0	139.9	135.5	132.8	140.5	147.2	150.5	152.1	151.1	144.8	130.6	110.5	89.1	71.4	57.5	45.1	33.2	31.9	**2,007.7**
2005	147.0	142.6	137.9	135.3	143.5	150.2	152.8	153.6	152.4	146.6	133.6	114.3	92.9	74.4	59.4	46.2	33.9	32.7	**2,049.2**
2006	149.9	145.4	140.3	137.7	146.5	153.1	155.1	155.3	153.7	148.3	136.3	118.0	96.7	77.5	61.5	47.4	34.7	33.5	**2,091.0**
2007	152.8	148.2	142.8	140.2	149.4	156.0	157.5	157.1	155.1	150.0	138.8	121.4	100.5	80.7	63.8	48.8	35.5	34.3	**2,132.8**
2008	155.3	150.7	145.1	142.3	151.3	158.1	159.5	158.7	156.4	151.4	141.0	124.5	104.0	83.9	66.1	50.3	36.4	35.1	**2,170.1**
2009	157.4	152.8	147.2	144.1	152.5	159.5	161.0	160.0	157.5	152.7	142.9	127.3	107.3	87.1	68.6	51.8	37.3	36.0	**2,203.0**
2010	159.3	154.8	149.2	145.8	153.5	160.5	162.2	161.1	158.5	153.8	144.7	129.9	110.4	90.2	71.1	53.5	38.3	36.9	**2,233.9**
2011	161.0	156.8	151.1	147.6	154.6	161.5	163.4	162.3	159.6	155.0	146.3	132.4	113.4	93.3	73.6	55.3	39.4	37.8	**2,264.5**
2012	162.7	158.7	153.1	149.3	155.8	162.5	164.5	163.5	160.6	156.1	147.8	134.6	116.3	96.3	76.3	57.2	40.6	38.8	**2,294.6**
2013	164.4	160.5	155.0	151.1	157.1	163.5	165.6	164.6	161.7	157.2	149.3	136.7	119.0	99.2	78.9	59.2	41.9	39.8	**2,324.7**
2014	166.2	162.6	157.1	153.2	159.1	165.1	167.1	166.0	162.9	158.4	150.7	138.7	121.6	102.1	81.6	61.2	43.2	40.9	**2,357.9**
2015	168.4	164.8	159.4	155.5	161.6	167.3	168.9	167.6	164.4	159.7	152.2	140.7	124.1	105.0	84.3	63.4	44.7	42.1	**2,394.1**
2016	170.5	167.0	161.6	157.7	163.9	169.4	170.8	169.2	165.8	161.0	153.7	142.6	126.5	107.7	86.9	65.5	46.2	43.3	**2,429.5**
2017	172.6	169.1	163.8	159.9	166.1	171.5	172.6	170.9	167.2	162.3	155.1	144.3	128.8	110.3	89.6	67.7	47.8	44.6	**2,464.2**
2018	174.8	171.3	166.0	162.2	168.4	173.7	174.5	172.6	168.8	163.7	156.5	146.0	130.9	112.9	92.1	70.0	49.4	46.0	**2,499.5**
2019	177.0	173.5	168.2	164.4	170.8	175.9	176.5	174.3	170.3	165.1	157.9	147.7	133.0	115.3	94.7	72.2	51.0	47.4	**2,534.9**
2020	179.3	175.7	170.4	166.7	173.2	178.2	178.6	176.2	171.9	166.5	159.3	149.3	134.9	117.6	97.1	74.4	52.7	49.1	**2,571.1**
2021	181.6	178.0	172.7	169.0	175.7	180.7	180.8	178.1	173.6	168.0	160.7	150.8	136.8	119.9	99.5	76.6	54.4	51.4	**2,608.4**
2022	184.1	180.3	175.0	171.4	178.3	183.3	183.2	180.2	175.4	169.6	162.2	152.4	138.7	122.0	101.9	78.8	56.2	54.1	**2,647.0**
2023	186.6	182.8	177.4	173.8	181.0	186.1	185.7	182.4	177.3	171.2	163.7	153.9	140.4	124.1	104.1	80.9	57.9	57.3	**2,687.0**
2024	189.3	185.3	179.8	176.2	183.7	188.9	188.3	184.7	179.3	172.9	165.2	155.5	142.2	126.1	106.3	83.0	59.7	61.1	**2,727.6**
2025	191.9	187.8	182.3	178.7	186.4	191.7	191.0	187.0	181.3	174.7	166.8	157.0	143.9	128.1	108.5	85.1	61.4	64.9	**2,768.2**

In Thousands
Details may not add due to rounding

Source: Metro DRC
Metro01.xls 10/8/02

Table 4

Household by Age of Head for Portland-Vancouver, OR-WA

	under 25	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75-79	85 over	TOTAL	Avg. HH Size
1990	31.6	125.0	148.0	88.9	66.9	62.4	40.2	12.5	**575.5**	2.57
1991	30.4	124.5	149.7	94.9	66.6	64.7	42.2	12.9	**585.8**	2.56
1992	32.0	124.4	152.5	101.9	69.3	65.2	43.4	13.6	**602.2**	2.58
1993	34.8	126.0	150.9	110.9	71.7	64.5	43.7	13.9	**616.5**	2.59
1994	38.1	129.5	153.9	114.9	73.6	63.9	43.9	14.3	**632.0**	2.60
1995	40.8	131.1	156.8	121.8	77.3	65.1	45.2	15.0	**653.1**	2.57
1996	41.0	133.3	157.0	126.0	81.7	65.5	45.7	15.5	**665.6**	2.59
1997	42.2	136.0	158.7	134.2	86.1	66.7	46.5	16.1	**686.4**	2.58
1998	42.9	137.6	159.9	139.7	91.5	68.2	47.3	16.6	**703.6**	2.58
1999	43.6	138.7	160.9	143.7	96.6	69.5	47.8	17.0	**717.8**	2.57
2000	44.7	139.2	162.0	146.6	101.3	70.9	48.2	17.4	**730.2**	2.57
2001	45.8	139.5	163.3	149.1	105.1	72.5	48.7	17.8	**741.7**	2.57
2002	46.9	139.6	164.5	151.0	108.3	74.3	49.2	18.1	**751.8**	2.57
2003	47.8	138.8	165.8	153.7	112.8	76.9	50.3	18.6	**764.6**	2.57
2004	49.9	141.1	168.2	155.9	117.7	79.6	51.2	19.1	**782.6**	2.57
2005	50.9	142.6	170.2	158.4	122.4	82.9	52.6	19.6	**799.6**	2.56
2006	51.8	144.3	172.1	161.1	126.6	86.4	54.1	20.1	**816.5**	2.56
2007	52.5	146.7	176.0	164.0	130.3	89.8	55.5	20.6	**835.3**	2.55
2008	53.2	148.6	175.0	166.6	134.1	93.3	57.1	21.2	**848.9**	2.56
2009	54.1	150.2	174.3	169.2	137.3	96.9	58.8	21.7	**862.5**	2.55
2010	55.1	152.1	174.0	171.6	140.5	100.5	60.7	22.3	**876.7**	2.55
2011	56.0	154.0	173.7	173.9	143.4	104.2	62.7	22.9	**890.7**	2.54
2012	56.6	154.9	174.9	175.4	146.4	107.7	64.7	23.5	**904.1**	2.54
2013	57.2	155.9	176.0	176.9	149.2	111.2	66.8	24.1	**917.3**	2.53
2014	57.9	157.4	177.5	178.5	151.9	114.6	69.1	24.8	**931.6**	2.53
2015	58.8	159.3	179.1	180.1	154.6	118.1	71.5	25.5	**946.9**	2.53
2016	59.6	161.2	180.8	181.7	157.0	121.5	73.9	26.2	**961.9**	2.53
2017	60.4	163.0	182.4	183.2	159.4	124.8	76.4	27.0	**976.6**	2.52
2018	61.3	165.0	184.1	184.8	161.6	128.0	78.9	27.8	**991.5**	2.52
2019	62.1	167.0	185.9	186.4	163.8	131.0	81.5	28.7	**1,006.4**	2.52
2020	63.0	169.1	187.8	188.1	165.9	134.0	84.1	29.7	**1,021.6**	2.52
2021	63.9	171.3	189.8	189.8	167.9	136.9	86.7	31.1	**1,037.3**	2.51
2022	64.8	173.7	191.9	191.5	169.9	139.7	89.3	32.7	**1,053.5**	2.51
2023	65.8	176.2	194.1	193.4	171.8	142.5	91.8	34.7	**1,070.1**	2.51
2024	66.7	178.7	196.4	195.2	173.7	145.1	94.4	37.0	**1,087.2**	2.51
2025	67.7	181.3	198.7	197.1	175.6	147.6	96.9	39.2	**1,104.2**	2.51
2026	68.6	183.7	201.1	199.1	177.5	150.1	99.4	41.4	**1,120.8**	2.51
2027	69.4	186.0	203.4	201.0	175.3	152.4	101.8	43.5	**1,132.8**	2.51
2028	70.2	188.1	205.7	203.0	176.8	154.7	104.1	45.4	**1,148.1**	2.51
2029	71.0	190.2	208.0	205.0	178.3	156.8	106.5	47.3	**1,163.0**	2.51
2030	71.8	192.2	210.3	207.0	179.8	159.0	108.7	49.1	**1,177.8**	2.51

In Thousands

Source: Metro DRC
Metro01.xls 10/7/02

Employment for Portland-Vancouver, OR-WA and U.S.

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total Nonfarm Employ. [1]													
Portland-Vancouver [2]	891.5	902.2	916.1	944.4	996.2	1,038.8	1,084.5	1,124.8	1,150.1	1,175.1	1,217.0	1,215.8	1,211.3
%change	4.0%	1.2%	1.5%	3.1%	5.5%	4.3%	4.4%	3.7%	2.3%	2.2%	3.6%	-0.1%	-0.4%
U.S. (millions)	118.1	117.1	117.2	119.7	123.1	126.1	128.6	131.7	134.8	137.7	140.4	140.8	140.2
%change	1.4%	-0.9%	0.1%	2.1%	2.9%	2.4%	2.0%	2.5%	2.3%	2.1%	2.0%	0.3%	-0.5%
Nonfarm Self-Employ.													
Portland-Vancouver	168.0	176.3	176.6	178.9	196.5	201.1	208.1	210.8	220.4	232.9	252.2	254.3	253.3
%change	5.5%	4.9%	0.2%	1.3%	9.8%	2.4%	3.5%	1.3%	4.5%	5.7%	8.3%	0.8%	-0.4%
U.S. (millions)	8.7	8.9	8.6	9.0	9.0	8.9	9.0	9.1	9.0	8.8	8.7	8.6	8.5
%change	1.3%	1.5%	-3.1%	4.5%	0.5%	-1.1%	0.8%	1.0%	-1.1%	-1.9%	-1.4%	-0.9%	-1.2%
Wage and Salary Emp. [3]													
Portland-Vancouver	715.2	717.5	731.5	757.8	792.3	830.5	869.3	906.9	923.0	935.7	958.0	954.8	951.3
%change	3.6%	0.3%	1.9%	3.6%	4.6%	4.8%	4.7%	4.3%	1.8%	1.4%	2.4%	-0.3%	-0.4%
U.S. (millions)	109.4	108.3	108.6	110.7	114.1	117.2	119.6	122.7	125.8	128.9	131.8	132.2	131.7
%change	1.4%	-1.1%	0.3%	1.9%	3.1%	2.7%	2.0%	2.6%	2.6%	2.4%	2.2%	0.4%	-0.4%
Manufacturing													
Portland-Vancouver	121.7	119.8	118.9	121.9	126.7	134.9	139.2	145.0	147.0	142.9	145.5	142.2	140.4
%change	2.4%	-1.6%	-0.8%	2.5%	3.9%	6.5%	3.2%	4.2%	1.4%	-2.8%	1.8%	-2.3%	-1.3%
U.S. (millions)	19.1	18.4	18.1	18.1	18.3	18.5	18.5	18.7	18.8	18.6	18.5	17.7	16.9
%change	-1.6%	-3.5%	-1.6%	-0.2%	1.4%	1.1%	-0.2%	1.0%	0.7%	-1.3%	-0.5%	-4.2%	-4.8%
Nondurable Manuf.													
Portland-Vancouver	36.4	36.8	37.2	38.2	39.4	40.3	39.8	39.6	39.2	37.7	38.1	37.2	37.1
%change	3.1%	1.1%	1.1%	2.6%	3.3%	2.2%	-1.3%	-0.4%	-1.1%	-3.7%	0.9%	-2.2%	-0.3%
U.S. (millions)	8.0	7.8	7.8	7.9	7.9	7.8	7.7	7.7	7.6	7.4	7.3	7.1	6.9
%change	-0.4%	-1.6%	-0.1%	0.4%	0.3%	-0.4%	-1.7%	-0.5%	-0.8%	-2.1%	-1.5%	-3.7%	-2.4%
Food Processing													
Portland-Vancouver	9.9	9.9	9.7	9.7	9.8	10.1	10.0	9.8	9.7	9.1	8.9	8.5	8.4
%change	6.1%	-0.6%	-1.3%	-0.3%	0.8%	3.2%	-0.8%	-1.7%	-1.7%	-6.3%	-1.4%	-4.9%	-1.6%
U.S. (millions)	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
%change	1.0%	0.4%	-0.3%	1.1%	-0.1%	0.9%	-0.1%	-0.4%	-0.1%	0.0%	-0.2%	0.0%	0.6%
Textiles & Apparel													
Portland-Vancouver	4.8	4.7	4.6	4.8	5.0	4.9	4.6	4.4	4.3	3.8	3.4	3.5	3.5
%change	2.8%	-2.2%	-2.7%	3.6%	4.4%	-1.5%	-7.0%	-3.1%	-3.0%	-11.5%	-10.1%	3.8%	-0.8%
U.S. (millions)	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.4	1.2	1.2	1.0	1.0
%change	-3.8%	-3.0%	0.3%	-1.0%	-0.7%	-3.2%	-6.6%	-3.6%	-5.4%	-8.3%	-7.1%	-10.3%	-7.7%
Paper & Pulp													
Portland-Vancouver	7.2	6.8	6.9	7.0	7.1	7.1	6.5	6.3	6.3	6.1	6.7	6.7	6.6
%change	1.1%	-5.2%	1.3%	1.7%	1.5%	-0.2%	-8.1%	-3.7%	0.9%	-2.9%	9.6%	-1.2%	-0.6%
U.S. (millions)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6
%change	0.1%	-1.3%	0.4%	0.2%	0.1%	0.1%	-1.3%	-0.1%	-0.9%	-1.3%	-1.2%	-3.0%	-3.1%
Printing & Publishing													
Portland-Vancouver	8.7	9.6	9.6	9.9	10.0	10.2	9.9	10.1	10.4	10.8	11.1	11.0	11.4
%change	4.7%	9.6%	0.5%	3.1%	1.1%	1.2%	-3.0%	2.2%	3.0%	3.6%	2.8%	-0.3%	3.4%
U.S. (millions)	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.5
%change	0.9%	-2.1%	-1.9%	0.7%	1.3%	0.6%	-0.3%	0.7%	0.8%	-0.8%	-0.1%	-3.9%	-2.7%
Nondur. Goods, other													
Portland-Vancouver	5.8	5.9	6.4	6.8	7.6	8.1	8.8	9.0	8.5	8.0	8.0	7.5	7.2
%change	-1.4%	2.0%	9.2%	6.1%	11.0%	7.0%	9.4%	2.2%	-5.5%	-6.3%	-0.5%	-5.4%	-3.9%
U.S. (millions)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2
%change	0.4%	-1.9%	0.7%	0.7%	0.6%	-0.2%	-0.7%	0.4%	0.4%	-1.0%	-0.5%	-3.1%	-1.8%
Durable Manufacturing													
Portland-Vancouver	85.3	83.0	81.7	83.7	87.3	94.6	99.4	105.4	107.8	105.1	107.4	105.0	103.3
%change	2.0%	-2.7%	-1.6%	2.5%	4.3%	8.4%	5.1%	6.0%	2.3%	-2.4%	2.2%	-2.3%	-1.6%
U.S. (millions)	11.1	10.6	10.3	10.2	10.4	10.7	10.8	11.0	11.2	11.1	11.1	10.6	10.0
%change	-2.5%	-4.9%	-2.7%	-0.6%	2.2%	2.3%	1.0%	2.0%	1.8%	-0.8%	0.3%	-4.5%	-6.4%
Lumber & Wood													
Portland-Vancouver	9.3	8.2	7.8	7.9	7.9	7.8	7.7	8.1	7.9	7.5	7.6	7.5	7.5
%change	-4.6%	-11.6%	-5.0%	0.8%	0.0%	-0.7%	-1.2%	4.8%	-2.9%	-4.6%	1.5%	-2.2%	0.8%
U.S. (millions)	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
%change	-3.1%	-7.9%	0.7%	4.3%	6.3%	2.0%	1.2%	2.3%	2.3%	2.6%	-0.6%	-4.8%	1.3%
Metals													
Portland-Vancouver	18.3	17.1	16.5	16.1	17.1	18.6	19.0	19.8	20.6	20.2	19.9	19.0	18.5
%change	-2.4%	-6.6%	-3.5%	-2.5%	6.3%	9.1%	2.3%	3.9%	4.2%	-2.0%	-1.3%	-4.6%	-2.7%
U.S. (millions)	2.2	2.1	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.0
%change	-1.9%	-4.5%	-2.6%	-0.1%	3.2%	3.0%	0.5%	1.3%	1.6%	-0.2%	0.9%	-4.9%	-5.2%
Electronics, total													
Portland-Vancouver	40.1	40.5	39.9	41.7	44.2	49.4	54.2	58.0	58.9	56.0	58.7	59.7	59.2
%change	2.7%	1.1%	-1.4%	4.3%	6.1%	11.8%	9.6%	7.1%	1.4%	-4.9%	5.0%	1.7%	-1.0%
U.S. (millions)	4.8	4.6	4.4	4.4	4.4	4.5	4.6	4.7	4.8	4.7	4.7	4.5	4.1
%change	-2.5%	-4.4%	-3.9%	-0.8%	1.6%	2.6%	2.1%	2.0%	1.3%	-2.5%	0.6%	-4.5%	-8.7%
Nonelectrical Mach.													
Portland-Vancouver	14.1	15.1	14.7	16.0	17.0	18.7	19.9	20.9	19.8	17.8	17.0	15.9	15.9
%change	3.3%	7.4%	-2.9%	9.1%	5.7%	10.5%	6.4%	4.8%	-5.0%	-10.4%	-4.5%	-6.4%	0.0%
U.S. (millions)	2.1	2.0	1.9	1.9	2.0	2.1	2.1	2.2	2.2	2.1	2.1	2.0	1.8
%change	-1.4%	-4.5%	-3.5%	0.1%	3.1%	3.9%	2.3%	2.6%	1.8%	-3.1%	-0.8%	-5.2%	-12.4%
Electrical Mach. & Instr.													
Portland-Vancouver	26.0	25.4	25.2	25.6	27.2	30.7	34.2	37.1	39.0	38.2	41.7	43.8	43.2
%change	2.4%	-2.2%	-0.5%	1.5%	6.3%	12.6%	11.6%	8.5%	5.0%	-2.2%	9.4%	5.0%	-1.3%
U.S. (millions)	2.7	2.6	2.5	2.4	2.4	2.5	2.5	2.6	2.6	2.5	2.6	2.5	2.3
%change	-3.3%	-4.3%	-4.2%	-1.5%	0.4%	1.5%	1.9%	1.6%	1.0%	-2.1%	1.7%	-3.9%	-5.7%
Transportation Equip.													
Portland-Vancouver	10.2	10.0	10.1	10.2	10.2	10.6	10.4	11.1	12.2	13.1	12.7	10.1	9.5
%change	16.3%	-1.9%	1.0%	1.2%	0.1%	3.8%	-1.8%	6.8%	10.1%	7.2%	-3.4%	-20.7%	-5.4%
U.S. (millions)	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.8	1.6
%change	-3.0%	-5.0%	-3.1%	-4.0%	0.3%	1.6%	-0.3%	3.4%	2.6%	-0.3%	-2.0%	-5.4%	-6.9%

In thousands

Source: Metro DRC
Metro01.xls 12/5/02

Employment, Portland-Vancouver OR-WA and U.S.

Industry	2003	2004	2005	2010	2015	2020	2025	70-00	90-00	00-05	05-10	10-15	15-25
Total Nonfarm Employ. [1]													
Portland-Vancouver [2]	1,240.8	1,280.1	1,320.8	1,484.0	1,631.9	1,795.6	1,979.4	3.2%	3.2%	1.7%	2.4%	1.9%	1.9%
%change	2.4%	3.2%	3.2%	2.1%	1.8%	1.9%	1.9%						
U.S. (millions)	142.2	145.0	147.2	156.1	163.7	171.7	178.9	2.1%	1.7%	0.9%	1.2%	1.0%	0.9%
%change	1.4%	2.0%	1.5%	1.3%	1.0%	1.0%	0.8%						
Nonfarm Self-Employ.													
Portland-Vancouver	257.7	264.2	270.7	308.5	352.0	401.2	457.2	4.0%	4.2%	1.4%	2.7%	2.7%	2.6%
%change	1.7%	2.5%	2.4%	2.5%	2.6%	2.5%	2.6%						
U.S. (millions)	8.5	8.5	8.6	8.7	8.7	8.8	8.8	1.7%	-0.1%	-0.3%	0.3%	0.1%	0.1%
%change	0.1%	0.2%	0.4%	0.2%	0.0%	0.1%	0.1%						
Wage and Salary Emp. [3]													
Portland-Vancouver	976.5	1,009.3	1,043.5	1,168.7	1,273.1	1,387.7	1,515.5	3.0%	3.0%	1.7%	2.3%	1.7%	1.8%
%change	2.6%	3.4%	3.4%	2.1%	1.6%	1.8%	1.7%						
U.S. (millions)	133.7	136.5	138.6	147.4	155.0	162.9	170.1	2.1%	1.9%	1.0%	1.2%	1.0%	0.9%
%change	1.5%	2.1%	1.5%	1.4%	1.0%	1.1%	0.8%						
Manufacturing													
Portland-Vancouver	144.3	149.4	154.7	165.9	168.9	172.8	177.2	1.7%	-4.9%	1.2%	1.4%	0.4%	0.5%
%change	2.8%	3.6%	3.5%	0.9%	0.4%	0.5%	0.5%						
U.S. (millions)	17.0	17.2	17.3	17.5	17.1	16.9	16.8	-0.2%	-0.3%	-1.3%	0.2%	-0.5%	-0.2%
%change	0.8%	1.4%	0.6%	-0.8%	-0.5%	0.1%	-0.5%						
Nondurable Manuf.													
Portland-Vancouver	37.8	38.6	39.3	40.5	40.5	40.7	40.5	0.6%	0.4%	0.6%	0.6%	0.0%	0.0%
%change	1.8%	2.3%	1.8%	0.0%	0.1%	0.1%	-0.2%						
U.S. (millions)	7.1	7.2	7.3	7.3	7.1	7.0	6.9	-0.4%	-0.8%	-0.1%	-0.1%	-0.5%	-0.2%
%change	2.5%	2.5%	0.7%	-0.7%	-0.6%	0.0%	-0.6%						
Food Processing													
Portland-Vancouver	8.4	8.5	8.5	8.2	7.7	7.2	6.7	-0.7%	-1.0%	-0.9%	-0.8%	-1.2%	-1.4%
%change	0.6%	1.2%	0.4%	-1.6%	-1.3%	-1.2%	-1.6%						
U.S. (millions)	1.7	1.8	1.8	1.7	1.6	1.6	1.6	-0.2%	0.1%	0.8%	-0.5%	-0.8%	-0.2%
%change	1.8%	1.7%	0.0%	-1.2%	-0.6%	0.0%	-0.6%						
Textiles & Apparel													
Portland-Vancouver	3.7	3.9	4.0	3.6	3.1	2.6	2.2	-1.8%	-3.4%	3.1%	-2.0%	-3.1%	-3.3%
%change	6.3%	5.1%	1.3%	-2.7%	-3.2%	-3.0%	-3.5%						
U.S. (millions)	1.0	0.9	0.9	0.9	0.8	0.8	0.8	-2.3%	-3.9%	-4.1%	-1.5%	-0.9%	-0.9%
%change	0.0%	-2.1%	0.0%	-1.1%	0.0%	0.0%	0.0%						
Paper & Pulp													
Portland-Vancouver	6.6	6.7	6.8	6.6	6.2	5.9	5.5	-0.4%	-0.6%	0.1%	-0.5%	-1.1%	-1.3%
%change	0.0%	1.4%	0.9%	-1.1%	-1.1%	-1.2%	-1.4%						
U.S. (millions)	0.6	0.7	0.7	0.6	0.6	0.6	0.6	-0.2%	-0.5%	-0.3%	-0.6%	-1.0%	-0.5%
%change	1.6%	3.2%	0.0%	-1.6%	-1.6%	0.0%	-1.7%						
Printing & Publishing													
Portland-Vancouver	11.7	12.0	12.2	13.1	13.5	13.7	13.8	3.4%	2.4%	2.0%	1.4%	0.5%	0.2%
%change	2.8%	2.4%	2.0%	0.8%	0.4%	0.2%	0.0%						
U.S. (millions)	1.5	1.6	1.6	1.7	1.6	1.6	1.6	1.1%	-0.1%	1.0%	0.6%	-0.6%	-0.3%
%change	4.1%	5.3%	2.5%	-0.6%	-1.2%	0.0%	-0.6%						
Nondur. Goods, other													
Portland-Vancouver	7.3	7.5	7.8	9.0	10.1	11.3	12.3	2.5%	3.3%	-0.3%	2.7%	2.3%	2.1%
%change	1.2%	2.7%	4.0%	2.1%	2.5%	2.2%	1.5%						
U.S. (millions)	2.2	2.3	2.3	2.4	2.4	2.4	2.4	0.0%	-0.1%	0.3%	0.3%	0.0%	0.0%
%change	3.2%	3.1%	0.4%	0.0%	0.0%	0.0%	-0.4%						
Durable Manufacturing													
Portland-Vancouver	106.5	110.8	115.3	125.5	128.4	132.1	136.7	2.2%	2.3%	1.4%	1.7%	0.5%	0.6%
%change	3.1%	4.0%	4.1%	1.2%	0.4%	0.7%	0.7%						
U.S. (millions)	9.9	10.0	10.0	10.2	10.0	9.9	9.9	0.0%	0.0%	-2.1%	0.4%	-0.5%	-0.1%
%change	-0.4%	0.5%	0.6%	-0.9%	-0.5%	0.2%	-0.5%						
Lumber & Wood													
Portland-Vancouver	7.5	7.4	7.4	6.8	5.9	5.0	4.2	-0.7%	-2.0%	-0.6%	-1.6%	-2.8%	-3.3%
%change	-0.3%	-1.9%	0.4%	-2.9%	-3.1%	-3.1%	-3.9%						
U.S. (millions)	0.8	0.9	0.9	0.9	0.9	0.8	0.8	0.8%	1.2%	1.2%	0.0%	-0.5%	-1.0%
%change	3.7%	3.6%	2.3%	0.0%	-1.1%	-1.2%	-1.3%						
Metals													
Portland-Vancouver	19.1	19.6	20.1	20.3	19.6	19.1	18.8	1.3%	0.9%	0.1%	0.3%	-0.7%	-0.4%
%change	3.1%	2.8%	2.3%	-0.1%	-0.6%	-0.3%	-0.5%						
U.S. (millions)	2.1	2.1	2.2	2.1	1.9	1.8	1.6	-0.8%	0.3%	-0.6%	-0.7%	-1.9%	-1.5%
%change	3.5%	2.4%	1.4%	-1.4%	-2.6%	-0.6%	-1.8%						
Electronics, total													
Portland-Vancouver	61.2	64.5	68.0	76.6	80.1	84.1	88.7	3.6%	3.9%	3.0%	2.4%	0.9%	1.0%
%change	3.4%	5.5%	5.4%	1.8%	0.9%	1.1%	1.0%						
U.S. (millions)	3.9	3.8	3.8	4.2	4.2	4.4	4.5	0.2%	-0.2%	-4.0%	2.0%	0.0%	0.7%
%change	-4.4%	-2.6%	0.3%	-0.7%	0.5%	0.9%	0.4%						
Nonelectrical Mach.													
Portland-Vancouver	16.4	16.9	17.6	20.2	20.8	21.8	22.9	2.6%	1.9%	0.7%	2.7%	0.6%	0.9%
%change	3.2%	3.1%	4.1%	1.8%	0.8%	1.0%	0.9%						
U.S. (millions)	1.5	1.5	1.5	1.7	1.7	1.8	1.8	0.2%	0.1%	-7.1%	3.1%	0.2%	0.6%
%change	-12.5%	-3.9%	-0.7%	3.6%	0.6%	0.6%	0.5%						
Electrical Mach. & Instr.													
Portland-Vancouver	44.8	47.6	50.4	56.4	59.3	62.4	65.8	4.1%	4.9%	3.8%	2.3%	1.0%	1.0%
%change	3.5%	6.3%	5.9%	1.9%	1.0%	1.1%	1.1%						
U.S. (millions)	2.4	2.3	2.4	2.5	2.5	2.6	2.7	0.2%	-0.4%	-1.8%	1.3%	-0.2%	0.8%
%change	1.7%	-1.7%	0.9%	-3.5%	0.4%	1.2%	0.4%						
Transportation Equip.													
Portland-Vancouver	9.9	10.2	10.5	11.5	11.7	12.0	12.4	2.1%	2.2%	-3.7%	1.8%	0.4%	0.6%
%change	3.6%	2.9%	3.4%	0.9%	-0.1%	0.6%	0.6%						
U.S. (millions)	1.7	1.7	1.7	1.6	1.6	1.5	1.5	0.0%	-0.7%	-2.1%	-1.4%	0.0%	-0.2%
%change	1.2%	1.2%	-0.6%	-1.3%	-0.6%	0.0%	-0.7%						

In thousands

Source: Metro DRC
Metro01.xls 12/5/02

Employment for Portland-Vancouver, OR-WA and U.S.

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Durable Goods, other													
Portland-Vancouver	7.5	7.2	7.4	7.9	7.9	8.2	8.1	8.3	8.2	8.3	8.5	8.7	8.6
%change	1.6%	-3.9%	2.1%	7.8%	0.1%	2.8%	-1.1%	3.2%	-1.6%	1.9%	1.5%	3.2%	-1.7%
U.S. (millions)	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.4
%change	-2.5%	-5.3%	-0.2%	1.8%	3.1%	1.0%	-0.3%	1.5%	2.2%	1.1%	1.7%	-2.6%	-4.7%
Nonmanufact. (exc. military)													
Portland-Vancouver	593.5	597.7	612.6	635.9	665.6	695.6	730.1	761.9	776.0	792.8	812.5	812.5	810.9
%change	3.9%	0.7%	2.5%	3.8%	4.7%	4.5%	5.0%	4.4%	1.9%	2.2%	2.5%	0.0%	-0.2%
U.S. (millions)	90.3	89.8	90.5	92.6	95.8	98.7	101.1	104.0	107.0	110.3	113.3	114.5	114.8
%change	2.1%	-0.5%	0.7%	2.4%	3.5%	3.0%	2.5%	2.9%	2.9%	3.1%	2.7%	1.1%	0.3%
Constr. & Mining													
Portland-Vancouver	36.3	35.3	33.7	35.2	40.1	45.0	51.5	54.5	53.8	52.8	53.9	53.1	53.3
%change	14.1%	-2.6%	-4.5%	4.4%	13.8%	12.2%	14.6%	5.8%	-1.3%	-1.9%	2.0%	-1.4%	0.4%
U.S. (millions)	5.8	5.3	5.1	5.3	5.6	5.7	6.0	6.3	6.6	7.0	7.2	7.4	7.3
%change	-0.5%	-8.4%	-4.1%	2.9%	5.8%	3.0%	4.3%	4.8%	5.1%	5.2%	4.1%	2.6%	-2.0%
Private Service Producers[4]													
Portland-Vancouver	459.2	461.9	474.7	495.6	519.4	542.5	567.2	594.5	606.4	619.3	631.6	631.9	630.5
%change	3.2%	0.6%	2.8%	4.4%	4.8%	4.4%	4.6%	4.8%	2.0%	2.1%	2.0%	0.0%	-0.2%
U.S. (millions)	66.2	66.1	66.7	68.5	71.1	73.6	75.7	78.2	80.6	83.2	85.4	86.2	86.4
%change	2.1%	-0.1%	0.9%	2.7%	3.8%	3.5%	2.8%	3.3%	3.1%	3.2%	2.6%	1.0%	0.2%
Transport., Comm., & Util.													
Portland-Vancouver	41.6	42.0	42.5	43.3	44.9	47.8	49.4	51.7	53.1	54.2	55.4	54.8	54.5
%change	3.6%	1.0%	1.1%	2.0%	3.7%	6.4%	3.4%	4.8%	2.5%	2.2%	2.2%	-1.1%	-0.5%
U.S. (millions)	5.8	5.8	5.7	5.8	6.0	6.1	6.3	6.4	6.6	6.8	7.0	7.1	7.0
%change	2.9%	-0.4%	-0.6%	1.6%	3.0%	2.5%	2.0%	2.5%	3.2%	3.4%	2.7%	0.7%	-0.4%
Trade, total													
Portland-Vancouver	183.4	183.9	186.3	191.4	201.6	208.8	216.7	225.5	229.0	232.3	235.4	233.7	232.4
%change	2.7%	0.3%	1.3%	2.7%	5.3%	3.6%	3.8%	4.0%	1.5%	1.5%	1.3%	-0.7%	-0.5%
U.S. (millions)	25.8	25.4	25.4	25.8	26.7	27.6	28.1	28.6	29.1	29.8	30.3	30.5	30.2
%change	0.4%	-1.6%	0.0%	1.6%	3.5%	3.4%	1.9%	1.9%	1.7%	2.3%	1.9%	0.6%	-0.9%
Retail Trade													
Portland-Vancouver	128.2	128.6	130.9	134.8	142.1	147.0	153.1	157.6	160.1	164.9	168.1	168.1	167.4
%change	3.1%	0.3%	1.8%	3.0%	5.4%	3.5%	4.1%	2.9%	1.6%	3.0%	2.0%	0.0%	-0.4%
U.S. (millions)	19.6	19.3	19.4	19.8	20.5	21.2	21.6	22.0	22.3	22.9	23.3	23.5	23.3
%change	0.6%	-1.6%	0.4%	2.2%	3.7%	3.3%	1.9%	1.7%	1.5%	2.5%	2.0%	0.8%	-0.9%
Wholesale Trade													
Portland-Vancouver	55.2	55.4	55.5	56.6	59.6	61.8	63.6	67.9	68.9	67.5	67.2	65.6	65.0
%change	1.7%	0.4%	0.1%	2.1%	5.2%	3.8%	3.0%	6.8%	1.4%	-2.1%	-0.3%	-2.5%	-0.9%
U.S. (millions)	6.2	6.1	6.0	6.0	6.2	6.4	6.5	6.6	6.8	6.9	7.0	7.0	7.0
%change	-0.2%	-1.5%	-1.4%	-0.3%	3.0%	3.5%	1.7%	2.6%	2.3%	1.6%	1.6%	-0.1%	-0.9%
Fin., Ins., & Real Est.													
Portland-Vancouver	52.1	53.8	55.6	59.0	61.1	59.8	63.0	66.3	66.7	66.2	64.5	64.6	64.5
%change	-3.0%	3.3%	3.3%	6.1%	3.7%	-2.2%	5.4%	5.2%	0.5%	-0.7%	-2.6%	0.1%	-0.1%
U.S. (millions)	6.7	6.6	6.6	6.8	6.9	6.8	6.9	7.1	7.4	7.6	7.6	7.6	7.7
%change	0.6%	-0.9%	-0.7%	2.3%	2.0%	-1.3%	1.5%	2.8%	3.9%	2.3%	0.1%	0.8%	0.7%
Services, total													
Portland-Vancouver	182.2	182.1	190.3	201.9	211.7	226.1	238.0	250.9	257.7	266.5	276.3	278.9	279.1
%change	5.5%	-0.1%	4.5%	6.1%	4.8%	6.8%	5.3%	5.4%	2.7%	3.4%	3.7%	0.9%	0.1%
U.S. (millions)	27.9	28.3	29.0	30.2	31.6	33.1	34.5	36.0	37.5	39.0	40.5	41.0	41.5
%change	3.8%	1.5%	2.5%	3.9%	4.6%	4.9%	4.0%	4.6%	4.1%	4.1%	3.6%	1.4%	1.1%
Health													
Portland-Vancouver	49.0	49.7	50.6	52.6	54.3	56.1	57.7	60.2	61.3	62.9	62.2	63.3	64.6
%change	4.3%	1.6%	1.8%	4.0%	3.2%	3.4%	2.8%	4.4%	1.7%	2.6%	-1.2%	1.8%	2.0%
U.S. (millions)	7.8	8.2	8.5	8.8	9.0	9.2	9.5	9.7	9.9	10.0	10.1	10.3	10.7
%change	4.7%	4.7%	3.7%	3.1%	2.7%	2.6%	2.7%	2.4%	1.5%	1.3%	1.2%	2.4%	3.3%
Nonhealth													
Portland-Vancouver	133.2	132.4	139.7	149.3	157.4	169.9	180.3	190.7	196.5	203.7	214.2	215.6	214.5
%change	6.0%	-0.6%	5.6%	6.8%	5.4%	8.0%	6.1%	5.7%	3.0%	3.7%	5.1%	0.7%	-0.5%
U.S. (millions)	20.1	20.2	20.6	21.4	22.6	23.9	25.0	26.3	27.7	29.1	30.4	30.7	30.8
%change	3.5%	0.2%	2.0%	4.3%	5.3%	5.8%	4.6%	5.4%	5.1%	5.0%	4.4%	1.1%	0.4%
Govt., Fed. Civilian													
Portland-Vancouver	18.1	17.7	18.3	18.1	17.6	17.6	17.5	17.8	17.9	17.6	18.5	17.9	18.1
%change	2.5%	-2.0%	3.5%	-1.3%	-3.0%	0.2%	-0.7%	1.7%	0.6%	-1.7%	5.5%	-3.6%	1.5%
U.S. (millions)	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	2.0
%change	6.0%	-4.2%	0.2%	-0.4%	0.1%	-0.2%	-1.3%	-0.7%	1.0%	0.4%	6.0%	-7.0%	1.0%
Govt., Fed. Military													
Portland-Vancouver	8.3	8.4	8.0	7.7	7.3	7.1	7.1	7.1	6.8	6.6	6.8	6.7	6.6
%change	1.8%	1.2%	-4.5%	-3.0%	-5.1%	-2.7%	-0.8%	0.2%	-4.3%	-3.4%	3.5%	-1.3%	-1.3%
U.S. (millions)	1.0	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6
%change	-2.3%	-3.2%	-0.4%	-5.1%	-5.2%	-5.6%	-5.0%	-5.7%	-4.7%	-3.8%	-1.6%	-1.6%	0.0%
Govt., State & Local													
Portland-Vancouver	79.9	82.8	85.8	86.9	88.6	90.6	93.9	95.1	97.9	103.1	108.5	109.7	109.0
%change	3.9%	3.6%	3.6%	1.3%	1.9%	2.2%	3.7%	1.3%	2.9%	5.4%	5.2%	1.1%	-0.6%
U.S. (millions)	15.2	15.4	15.7	15.9	16.2	16.5	16.6	16.9	17.1	17.5	17.9	18.3	18.5
%change	2.9%	1.4%	1.5%	1.5%	2.1%	1.4%	1.1%	1.2%	1.6%	2.3%	2.1%	2.0%	1.3%

In thousands

Source: Metro DRC
Metro01.xls 12/5/02

Table 5

Employment, Portland-Vancouver OR-WA and U.S.

Industry	2003	2004	2005	2010	2015	2020	2025	70-00	90-00	00-05	05-10	10-15	15-25
Durable Goods, other													
Portland-Vancouver	8.9	9.1	9.4	10.3	11.1	11.9	12.8	0.8%	1.2%	2.0%	1.9%	1.5%	1.4%
%change	3.4%	2.7%	2.7%	1.7%	1.2%	1.5%	1.4%						
U.S. (millions)	1.4	1.5	1.5	1.5	1.5	1.4	1.4	0.1%	2.2%	-0.4%	0.0%	-0.4%	-0.5%
%change	1.4%	3.5%	0.7%	-0.7%	0.0%	0.0%	-1.4%						
Nonmanufact. (exc. military)													
Portland-Vancouver	832.2	859.9	888.9	1002.8	1104.3	1214.9	1338.3	3.4%	3.2%	1.8%	2.4%	1.9%	1.9%
%change	2.6%	3.3%	3.4%	2.3%	1.8%	1.9%	1.9%						
U.S. (millions)	116.7	119.3	121.3	129.9	137.9	146.0	153.3	2.7%	2.6%	1.4%	1.4%	1.2%	1.1%
%change	1.6%	2.2%	1.7%	1.7%	1.2%	1.2%	1.0%						
Constr. & Mining													
Portland-Vancouver	55.5	57.2	59.3	67.7	71.8	76.3	81.0	3.8%	4.0%	1.9%	2.7%	1.2%	1.2%
%change	4.0%	3.2%	3.6%	2.2%	0.4%	1.6%	0.8%						
U.S. (millions)	7.3	7.5	7.7	8.3	9.0	9.4	9.6	1.8%	2.2%	1.2%	1.6%	1.5%	0.7%
%change	0.8%	2.7%	1.7%	2.5%	1.2%	0.9%	0.0%						
Private Service Producers[4]													
Portland-Vancouver	649.6	675.6	700.5	794.8	883.3	978.8	1,085.3	3.6%	3.2%	2.1%	2.6%	2.1%	2.1%
%change	3.0%	4.0%	3.7%	2.4%	2.0%	2.0%	2.0%						
U.S. (millions)	88.1	90.5	92.2	99.8	107.4	114.4	121.2	3.0%	2.6%	1.6%	1.6%	1.5%	1.2%
%change	2.0%	2.7%	2.0%	1.9%	1.4%	1.2%	1.2%						
Transport., Comm., & Util.													
Portland-Vancouver	55.2	56.7	58.4	64.9	69.9	75.2	80.9	2.0%	2.9%	1.0%	2.1%	1.5%	1.5%
%change	1.2%	2.7%	2.9%	1.7%	1.6%	1.4%	1.5%						
U.S. (millions)	7.2	7.5	7.7	8.2	8.6	8.8	8.8	1.5%	2.0%	1.9%	1.3%	0.8%	0.3%
%change	2.8%	3.9%	2.7%	1.5%	0.6%	0.5%	0.1%						
Trade, total													
Portland-Vancouver	238.5	248.3	258.1	288.6	313.5	339.7	367.9	3.1%	2.5%	1.9%	2.3%	1.7%	1.6%
%change	2.6%	4.1%	4.0%	2.0%	1.5%	1.6%	1.5%						
U.S. (millions)	30.3	30.9	31.3	32.1	33.7	34.9	35.6	2.4%	1.6%	0.6%	0.5%	0.9%	0.6%
%change	0.4%	1.9%	1.1%	0.8%	1.1%	0.5%	0.5%						
Retail Trade													
Portland-Vancouver	170.8	177.7	184.8	207.0	225.6	245.3	266.3	3.4%	2.7%	1.9%	2.3%	1.7%	1.7%
%change	2.0%	4.0%	4.0%	2.0%	1.6%	1.7%	1.6%						
U.S. (millions)	23.3	23.7	24.0	24.5	25.7	26.6	27.3	2.5%	1.7%	0.6%	0.4%	0.9%	0.6%
%change	0.1%	1.8%	1.1%	0.8%	1.1%	0.5%	0.6%						
Wholesale Trade													
Portland-Vancouver	67.7	70.6	73.3	81.6	87.9	94.4	101.6	2.5%	2.0%	1.7%	2.2%	1.5%	1.5%
%change	4.1%	4.3%	3.9%	1.9%	1.3%	1.4%	1.4%						
U.S. (millions)	7.0	7.2	7.3	7.6	8.0	8.3	8.4	1.9%	1.3%	0.8%	0.9%	1.0%	0.4%
%change	1.3%	2.3%	1.3%	1.1%	1.1%	0.4%	0.4%						
Fin., Ins., & Real Est.													
Portland-Vancouver	64.7	66.2	68.4	74.2	80.1	85.3	90.2	3.2%	2.2%	1.2%	1.6%	1.5%	1.2%
%change	0.3%	2.3%	3.4%	1.5%	1.4%	1.2%	1.1%						
U.S. (millions)	7.8	8.0	8.1	8.7	9.1	9.5	9.9	2.5%	1.2%	1.5%	1.2%	1.0%	0.8%
%change	1.3%	2.3%	2.4%	0.9%	0.9%	0.9%	0.8%						
Services, total													
Portland-Vancouver	291.2	304.5	315.6	367.1	419.8	478.7	546.3	4.7%	4.3%	2.7%	3.1%	2.7%	2.7%
%change	4.4%	4.6%	3.7%	3.0%	2.5%	2.6%	2.6%						
U.S. (millions)	42.8	44.1	45.1	50.8	56.1	61.4	67.0	4.3%	3.8%	2.2%	2.4%	2.0%	1.8%
%change	3.1%	3.1%	2.4%	2.8%	1.7%	1.8%	1.7%						
Health													
Portland-Vancouver	66.8	69.1	71.2	82.3	93.5	105.2	118.9	3.5%	2.4%	2.7%	3.0%	2.6%	2.4%
%change	3.5%	3.4%	3.0%	2.8%	2.4%	2.3%	2.5%						
U.S. (millions)	11.0	11.2	11.4	12.6	14.5	16.6	19.2	4.1%	2.6%	2.5%	2.0%	2.8%	2.8%
%change	2.6%	2.3%	2.1%	2.1%	3.3%	2.5%	2.6%						
Nonhealth													
Portland-Vancouver	224.4	235.4	244.5	284.8	326.3	373.5	427.4	5.2%	4.9%	2.7%	3.1%	2.8%	2.7%
%change	4.6%	4.9%	3.9%	3.0%	2.5%	2.7%	2.7%						
U.S. (millions)	31.8	32.9	33.7	38.2	41.6	44.8	47.8	4.3%	4.2%	2.1%	2.5%	1.7%	1.4%
%change	3.2%	3.3%	2.5%	3.0%	1.1%	1.5%	1.3%						
Govt., Fed. Civilian													
Portland-Vancouver	18.0	17.9	17.9	19.3	19.4	20.4	21.2	0.9%	0.3%	-0.7%	1.5%	0.2%	0.9%
%change	-0.6%	-0.7%	-0.2%	5.1%	1.0%	0.9%	0.7%						
U.S. (millions)	2.0	2.0	2.0	2.0	2.1	2.1	2.2	0.8%	0.1%	-1.0%	-0.4%	0.5%	0.8%
%change	1.0%	0.0%	0.0%	-0.5%	1.0%	0.9%	0.5%						
Govt., Fed. Military													
Portland-Vancouver	6.6	6.6	6.6	6.8	6.7	6.7	6.7	0.0%	-1.9%	-0.5%	0.4%	-0.3%	0.1%
%change	-0.2%	-0.3%	0.5%	-0.7%	0.0%	0.0%	0.0%						
U.S. (millions)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.7%	-4.0%	-0.3%	-1.3%	0.3%	0.3%
%change	0.0%	0.0%	0.0%	-1.7%	0.0%	0.0%	0.0%						
Govt., State & Local													
Portland-Vancouver	109.2	109.1	111.2	121.0	129.7	139.5	150.8	2.6%	3.1%	0.5%	1.7%	1.4%	1.5%
%change	0.2%	-0.1%	1.9%	1.3%	1.3%	1.4%	1.6%						
U.S. (millions)	18.6	18.6	18.7	19.0	19.2	19.7	20.2	1.8%	1.6%	0.9%	0.4%	0.2%	0.5%
%change	0.6%	0.2%	0.4%	0.3%	0.2%	0.5%	0.5%						

1/ Total Employment includes nonfarm wage and salary jobs, military, & self employed (BEA)
2/ Portland-Vancouver (in thousands): Multnomah, Clackamas, Washington, Yamhill in OR and Clark, WA; U.S. (in millions)
3/ Wage and salary employment by place of work - Current Employment Survey (CES).
4/ PSP includes: TCU, Trade, FIRE and all Services
TCU: Transportation, Communications & Utilities
FIRE: Finance, Insurance & Real Estate

In thousands

Source: Metro DRC
Metro01.xls 12/5/02

Total Employment for Portland-Vancouver, OR-WA

	Total (w/Defense)	Proprietors Plus *	Wage and Salary			
			Dur. Mfg.	Non-dur. Mfg.	Non-Mfg.	Military
1970	475.6	78.7	56.5	32.1	301.5	6.8
1971	484.9	82.5	55.6	31.2	308.8	6.8
1972	513.3	85.9	59.5	31.9	329.2	6.7
1973	540.5	90.7	66.6	32.6	343.6	7.1
1974	558.9	93.0	69.7	32.3	355.6	8.3
1975	561.1	99.7	63.0	30.8	359.6	8.0
1976	584.6	103.5	66.3	31.8	375.9	7.2
1977	613.3	104.3	71.1	32.4	398.7	6.8
1978	654.9	105.7	81.4	31.5	429.0	7.3
1979	690.3	112.8	87.7	33.1	449.9	6.8
1980	699.3	120.1	86.1	32.7	453.8	6.6
1981	689.4	120.4	80.4	32.1	450.0	6.4
1982	668.3	122.9	72.9	31.0	434.6	6.9
1983	675.1	131.7	68.3	31.4	436.7	7.0
1984	707.4	135.8	74.4	32.3	457.8	7.2
1985	728.5	142.5	75.2	32.2	470.9	7.8
1986	749.5	143.9	74.1	32.3	491.1	8.1
1987	777.9	149.0	75.9	33.8	511.3	8.0
1988	819.3	156.4	80.6	34.0	540.1	8.1
1989	857.6	159.2	83.6	35.3	571.3	8.1
1990	891.5	168.0	85.3	36.4	593.5	8.3
1991	902.2	176.3	83.0	36.8	597.7	8.4
1992	916.1	176.6	81.7	37.2	612.6	8.0
1993	944.5	178.9	83.8	38.2	635.9	7.7
1994	996.2	196.5	87.3	39.4	665.6	7.3
1995	1,038.8	201.1	94.6	40.3	695.6	7.2
1996	1,084.5	208.1	99.4	39.8	730.1	7.1
1997	1,124.8	210.8	105.4	39.6	761.9	7.1
1998	1,150.1	220.4	107.8	39.2	776.0	6.8
1999	1,175.1	232.9	105.1	37.7	792.8	6.6
2000	1,217.0	252.2	107.4	38.1	812.5	6.8
2001	1,215.8	254.3	105.0	37.2	812.5	6.7
2002	1,211.2	253.3	103.3	37.1	810.9	6.6
2003	1,240.7	257.7	106.5	37.8	832.2	6.6
2004	1,280.0	264.2	110.8	38.6	859.8	6.6
2005	1,320.7	270.7	115.3	39.3	888.8	6.6
2006	1,352.0	277.3	118.1	39.7	910.2	6.8
2007	1,382.1	284.9	119.8	39.8	930.7	6.9
2008	1,420.6	293.6	121.8	40.1	958.3	6.9
2009	1,452.7	301.0	124.0	40.5	980.3	6.8
2010	1,483.9	308.5	125.5	40.5	1,002.7	6.8
2011	1,514.2	317.3	125.6	40.4	1,024.1	6.7
2012	1,544.9	326.3	126.2	40.3	1,045.4	6.7
2013	1,575.0	334.7	127.1	40.4	1,066.1	6.7
2014	1,603.2	343.1	127.8	40.5	1,085.1	6.7
2015	1,631.8	352.0	128.4	40.5	1,104.2	6.7
2016	1,662.9	361.6	129.0	40.6	1,125.1	6.7
2017	1,694.2	371.0	129.7	40.6	1,146.2	6.7
2018	1,728.3	381.2	130.4	40.6	1,169.4	6.7
2019	1,761.6	391.2	131.2	40.7	1,191.9	6.7
2020	1,795.5	401.2	132.1	40.7	1,214.9	6.7
2021	1,832.5	412.0	133.1	41	1,240.0	6.7
2022	1,868.2	422.9	134.0	40.7	1,263.9	6.7
2023	1,904.5	434.1	134.9	40.6	1,288.2	6.7
2024	1,942.2	445.6	135.9	40.6	1,313.4	6.7
2025	1,979.3	457.2	136.7	40.5	1,338.2	6.7

In Thousands, Details may not add due to rounding
*Includes partnerships, self-employed, and wage salary workers

Source: Metro DRC
Metro01.xls 10/8/02

Wage and Salary Employment for Portland-Vancouver, OR-WA

					Trade				Government	
	Total W & S (exc. defense)	Constr. and Mining	Manuf.	Transp. Com. & Utilities	Whsle.	Retail	Finance, Insur., & Real E.	Service	State & Local	Fed. Civ.
1970	390.1	17.6	88.6	30.5	32.4	62.1	25.3	69.6	49.9	14.1
1971	395.7	18.2	86.8	30.2	32.7	63.5	25.6	72.5	51.7	14.4
1972	420.7	21.4	91.4	31.0	34.5	67.2	29.6	77.6	53.3	14.6
1973	442.8	21.8	99.2	32.1	36.0	71.6	31.6	81.6	54.5	14.5
1974	457.6	21.7	102.0	32.2	37.0	74.3	32.3	85.5	57.8	14.8
1975	453.4	18.7	93.8	30.9	36.4	77.5	32.7	88.5	60.0	15.0
1976	474.0	20.6	98.0	31.1	37.7	81.9	34.2	93.1	62.4	15.0
1977	502.2	23.4	103.5	32.5	39.5	87.6	37.9	98.8	64.1	15.0
1978	541.9	26.9	112.8	34.3	43.2	95.0	41.7	105.2	67.2	15.7
1979	570.7	28.8	120.8	36.3	45.8	99.4	45.4	110.5	67.8	15.9
1980	572.6	26.0	118.8	37.1	46.0	99.5	46.6	114.2	68.1	16.4
1981	562.5	21.9	112.5	37.0	46.1	99.5	46.5	114.8	68.2	16.1
1982	538.5	18.4	103.9	35.9	43.7	95.6	44.7	112.6	67.6	16.1
1983	536.4	17.4	99.7	35.5	45.7	95.1	43.7	116.2	67.2	16.0
1984	564.5	20.7	106.7	36.5	47.7	100.3	44.0	124.1	68.5	16.0
1985	578.3	21.4	107.4	36.8	48.5	102.2	45.0	131.4	69.2	16.6
1986	597.5	22.7	106.4	36.8	49.2	105.8	47.6	141.3	71.1	16.7
1987	620.9	23.4	109.6	37.8	50.0	110.1	50.7	149.0	73.4	16.9
1988	654.7	26.9	114.7	38.4	51.8	119.2	51.9	159.4	75.0	17.4
1989	690.2	31.8	118.9	40.2	54.2	124.3	53.7	172.7	76.9	17.6
1990	715.2	36.3	121.7	41.6	55.2	128.2	52.1	182.2	79.9	18.1
1991	717.5	35.3	119.8	42.1	55.4	128.6	53.8	182.1	82.8	17.7
1992	731.5	33.7	118.9	42.5	55.5	130.9	55.6	190.3	85.8	18.3
1993	757.8	35.2	121.9	43.3	56.6	134.8	59.0	201.9	86.9	18.1
1994	792.4	40.1	126.8	44.9	59.6	142.1	61.2	211.7	88.6	17.6
1995	830.5	45.0	134.9	47.8	61.8	147.1	59.8	226.1	90.6	17.6
1996	869.3	51.5	139.2	49.4	63.6	153.1	63.0	238.1	93.9	17.5
1997	906.9	54.5	145.0	51.7	67.9	157.6	66.3	250.9	95.1	17.8
1998	923.0	53.9	147.0	53.1	68.9	160.1	66.7	257.7	97.9	17.9
1999	935.7	52.8	142.9	54.2	67.5	164.9	66.2	266.6	103.1	17.6
2000	958.0	53.9	145.5	55.4	67.2	168.1	64.5	276.3	108.5	18.5
2001	954.8	53.1	142.2	54.8	65.6	168.1	64.6	278.9	109.7	17.9
2002	951.3	53.3	140.4	54.5	65.0	167.4	64.5	279.1	109.0	18.1
2003	976.5	55.5	144.3	55.2	67.7	170.8	64.7	291.2	109.2	18.0
2004	1,009.3	57.2	149.4	56.7	70.6	177.7	66.2	304.5	109.1	17.9
2005	1,043.5	59.3	154.7	58.4	73.3	184.8	68.4	315.6	111.2	17.9
2006	1,068.0	60.6	157.7	59.8	75.1	189.5	69.9	323.9	113.5	17.9
2007	1,090.4	62.4	159.6	61.2	76.6	193.9	71.3	331.9	115.6	17.8
2008	1,120.2	64.7	161.9	62.5	78.4	198.6	72.3	346.0	117.7	18.0
2009	1,144.9	66.3	164.5	63.8	80.0	202.9	73.1	356.6	119.4	18.3
2010	1,168.7	67.7	165.9	64.9	81.6	207.0	74.2	367.1	121.0	19.3
2011	1,190.2	68.6	166.0	65.9	82.9	210.7	75.4	378.7	122.9	19.2
2012	1,212.0	70.4	166.5	66.8	84.3	214.9	76.8	388.4	124.7	19.1
2013	1,233.7	71.1	167.5	67.8	85.6	218.6	78.0	399.4	126.5	19.1
2014	1,253.4	71.5	168.3	68.9	86.8	222.1	79.1	409.6	128.1	19.2
2015	1,273.1	71.8	168.9	69.9	87.9	225.6	80.1	419.7	129.7	19.4
2016	1,294.8	72.3	169.6	71.0	89.1	229.4	81.2	430.9	131.7	19.6
2017	1,316.5	73.1	170.2	72.0	90.4	233.2	82.3	442.1	133.5	19.8
2018	1,340.5	74.0	171.0	73.1	91.7	237.2	83.3	454.5	135.6	20.0
2019	1,363.8	75.0	171.9	74.1	93.1	241.2	84.3	466.5	137.6	20.2
2020	1,387.7	76.3	172.8	75.2	94.4	245.3	85.3	478.6	139.5	20.4
2021	1,413.9	77.5	173.8	76.3	95.9	249.6	86.3	492.1	141.8	20.5
2022	1,438.6	78.3	174.7	77.4	97.3	253.7	87.3	505.2	144.0	20.7
2023	1,463.7	79.3	175.5	78.6	98.7	257.9	88.2	518.5	146.2	20.9
2024	1,489.9	80.4	176.4	79.8	100.2	262.1	89.2	532.3	148.4	21.1
2025	1,515.5	81.0	177.2	80.9	101.6	266.3	90.2	546.2	150.8	21.2

In thousands
Details may not add due to rounding

Source: Metro DRC
Metro01.xls 10/8/02

Total Employment for Yamhill County, OR

	Total (w/Defense)	Proprietors Plus *	Wage and Salary			
			Dur. Mfg.	Non-dur. Mfg.	Non-Mfg.	Military
1970	12.4	2.5	1.8	1.1	6.7	0.3
1971	13.1	2.7	2.0	1.0	7.1	0.3
1972	14.0	3.0	2.2	1.1	7.4	0.3
1973	14.9	3.2	2.6	1.1	7.7	0.3
1974	15.8	3.9	2.7	1.0	7.9	0.3
1975	16.9	4.8	2.6	1.0	8.3	0.3
1976	18.1	4.9	3.0	1.1	8.8	0.3
1977	19.5	5.2	3.4	1.2	9.5	0.3
1978	20.9	5.4	3.8	1.2	10.2	0.3
1979	22.4	5.5	4.1	1.3	11.2	0.3
1980	22.9	6.3	3.6	1.3	11.5	0.2
1981	22.3	5.9	3.4	1.4	11.3	0.2
1982	21.6	5.9	3.1	1.4	10.9	0.3
1983	21.7	6.0	3.0	1.4	11.0	0.3
1984	22.3	6.3	3.3	1.5	11.0	0.3
1985	22.6	5.9	3.3	1.4	11.6	0.3
1986	23.3	5.9	3.4	1.5	12.3	0.3
1987	24.1	6.0	3.6	1.6	12.7	0.3
1988	25.1	5.9	3.7	1.5	13.7	0.3
1989	26.1	5.8	3.8	1.8	14.4	0.3
1990	27.1	6.4	3.6	1.8	14.9	0.3
1991	26.9	6.3	3.5	1.9	14.8	0.3
1992	28.4	7.0	3.5	2.0	15.6	0.3
1993	29.3	6.4	3.6	2.0	17.0	0.3
1994	31.0	6.9	3.9	2.0	17.9	0.3
1995	32.4	7.4	4.0	1.9	18.8	0.3
1996	34.5	8.1	4.1	2.1	19.8	0.3
1997	35.1	8.3	4.1	2.2	20.3	0.3
1998	35.7	8.1	4.1	2.3	20.9	0.3
1999	36.8	9.2	4.0	2.3	21.0	0.3
2000	37.5	9.8	4.0	2.2	21.3	0.2
2001	37.0	9.8	3.8	2.1	21.1	0.2
2002	37.1	9.6	3.7	2.0	21.5	0.2
2003	37.9	9.5	3.8	2.1	22.3	0.2
2004	39.5	9.4	4.0	2.4	23.5	0.2
2005	40.9	9.3	4.3	2.5	24.6	0.2
2006	42.0	9.2	4.5	2.7	25.4	0.2
2007	42.6	9.2	4.5	2.8	25.9	0.2
2008	43.1	9.2	4.5	2.8	26.4	0.2
2009	43.7	9.1	4.6	2.8	26.9	0.3
2010	44.3	9.1	4.6	2.9	27.5	0.3
2011	45.0	9.2	4.6	2.9	28.1	0.3
2012	45.8	9.2	4.7	2.9	28.7	0.3
2013	46.5	9.3	4.7	2.9	29.4	0.3
2014	47.3	9.3	4.7	3.0	30.0	0.3
2015	48.0	9.3	4.8	3.0	30.7	0.3
2016	48.8	9.4	4.8	3.0	31.4	0.3
2017	49.7	9.4	4.8	3.0	32.1	0.3
2018	50.5	9.5	4.9	3.0	32.8	0.3
2019	51.3	9.5	4.9	3.0	33.6	0.3
2020	52.2	9.6	5.0	3.0	34.4	0.3
2021	53.1	9.6	5.0	3.1	35.1	0.3
2022	54.0	9.7	5.0	3.1	35.9	0.3
2023	54.9	9.7	5.1	3.1	36.8	0.3
2024	55.9	9.8	5.1	3.1	37.6	0.3
2025	56.8	9.9	5.2	3.1	38.5	0.3

In Thousands, Details may not add due to rounding
*Includes partnerships, self-employed, and wage salary workers

Source: Metro DRC
Metro01.xls 10/8/02

Wage and Salary Employment for Yamhill County, OR

	Total Wage & Salary	Constr. and Mining	Manuf.	Transp. Com. & Utilities	Whsle. & Retail Trade	Finance, Insur., & Real Est.	Service	Government Fed. Civ., State & Local
1970	9.6	0.2	2.9	0.4	2.0	0.5	2.0	1.7
1971	10.1	0.3	3.0	0.4	2.1	0.5	2.0	1.8
1972	10.7	0.4	3.3	0.3	2.1	0.5	2.1	2.0
1973	11.4	0.4	3.8	0.4	2.2	0.6	2.2	2.0
1974	11.6	0.4	3.7	0.4	2.2	0.6	2.2	2.1
1975	11.8	0.4	3.5	0.3	2.4	0.6	2.4	2.2
1976	12.9	0.6	4.1	0.3	2.5	0.7	2.5	2.3
1977	14.1	0.7	4.6	0.4	2.8	0.7	2.7	2.3
1978	15.2	0.8	5.1	0.4	3.1	0.8	2.8	2.5
1979	16.6	0.9	5.4	0.4	3.3	0.9	3.3	2.5
1980	16.4	1.1	4.9	0.5	3.2	0.9	3.1	2.6
1981	16.1	0.6	4.9	0.5	3.4	1.0	3.2	2.7
1982	15.4	0.3	4.5	0.5	3.2	1.0	3.3	2.6
1983	15.4	0.4	4.4	0.4	3.2	0.9	3.5	2.6
1984	15.7	0.6	4.7	0.4	3.1	0.9	3.4	2.5
1985	16.3	0.6	4.7	0.5	3.5	1.0	3.5	2.6
1986	17.1	0.6	4.9	0.5	3.8	1.0	3.8	2.6
1987	17.8	0.7	5.2	0.6	3.9	0.9	3.9	2.8
1988	18.9	0.8	5.2	0.7	4.1	0.9	4.3	2.9
1989	19.9	0.9	5.6	0.6	4.4	0.9	4.5	3.1
1990	20.3	0.9	5.4	0.7	4.4	0.8	4.7	3.4
1991	20.2	1.0	5.4	0.8	4.0	0.9	4.7	3.5
1992	21.1	1.0	5.5	0.8	4.2	0.9	5.0	3.8
1993	22.6	1.1	5.6	0.8	4.9	1.0	5.4	3.8
1994	23.8	1.2	5.9	0.7	5.3	1.0	5.8	3.9
1995	24.7	1.3	6.0	0.8	5.5	1.1	6.3	3.8
1996	26.1	1.6	6.2	0.8	6.0	1.0	6.5	3.9
1997	26.5	1.6	6.3	0.9	5.9	1.1	6.8	4.1
1998	27.3	1.6	6.4	0.9	6.0	1.1	7.1	4.2
1999	27.3	1.5	6.3	0.9	6.1	1.1	7.2	4.2
2000	27.5	1.5	6.2	0.9	6.0	1.1	7.3	4.3
2001	27.1	1.6	6.0	0.9	6.0	1.1	7.3	4.3
2002	27.2	1.6	5.7	1.0	6.2	1.0	7.4	4.3
2003	28.2	1.7	5.9	1.1	6.5	1.0	7.6	4.4
2004	29.9	1.7	6.4	1.2	7.0	1.0	8.0	4.6
2005	31.4	1.7	6.8	1.3	7.2	1.0	8.7	4.8
2006	32.5	1.7	7.2	1.3	7.3	1.0	9.2	4.9
2007	33.1	1.7	7.3	1.3	7.4	1.0	9.5	5.0
2008	33.7	1.7	7.3	1.3	7.5	1.1	9.8	5.0
2009	34.3	1.7	7.4	1.3	7.6	1.1	10.1	5.1
2010	34.9	1.7	7.5	1.4	7.8	1.1	10.4	5.2
2011	35.6	1.7	7.5	1.4	7.9	1.1	10.7	5.3
2012	36.3	1.8	7.6	1.4	8.0	1.1	11.0	5.4
2013	37.0	1.8	7.6	1.4	8.2	1.2	11.3	5.5
2014	37.7	1.8	7.7	1.5	8.3	1.2	11.7	5.6
2015	38.4	1.8	7.7	1.5	8.5	1.2	12.0	5.7
2016	39.2	1.9	7.8	1.5	8.6	1.2	12.4	5.8
2017	40.0	1.9	7.9	1.6	8.8	1.2	12.8	5.9
2018	40.7	1.9	7.9	1.6	8.9	1.3	13.2	6.0
2019	41.5	2.0	7.9	1.6	9.1	1.3	13.6	6.1
2020	42.3	2.0	8.0	1.6	9.2	1.3	14.0	6.2
2021	43.2	2.0	8.0	1.7	9.4	1.3	14.4	6.3
2022	44.0	2.1	8.1	1.7	9.5	1.3	14.9	6.4
2023	44.9	2.1	8.1	1.7	9.7	1.4	15.4	6.6
2024	45.8	2.1	8.2	1.8	9.9	1.4	15.8	6.7
2025	46.7	2.2	8.3	1.8	10.0	1.4	16.3	6.8

In thousands
Details may not add due to rounding

Source: Metro DRC
Metro01.xls 10/8/02

Personal Income by Major Source, Portland-Vancouver OR-WA

	Total Personal Income	Wages & Salaries	Other Labor Income	Transfer Payments	Dividends Interest & Rents	Proprietors' Income	Social Ins. Contribution	Resident Adjust.
1970	$4,583,778	$3,007,793	$198,709	$412,942	$692,965	$428,469	$132,699	-$24,401
1971	4,989,157	3,221,885	226,813	483,247	750,322	464,809	146,766	-11,153
1972	5,557,442	3,606,551	266,059	523,817	809,930	519,746	171,361	2,700
1973	6,258,168	4,050,079	306,828	610,602	915,961	585,458	221,960	11,200
1974	7,092,332	4,529,620	375,583	738,819	1,056,436	628,091	257,619	21,402
1975	7,806,160	4,817,701	446,745	933,504	1,139,852	667,346	272,919	73,931
1976	8,845,638	5,426,508	551,653	1,022,064	1,274,184	798,513	304,392	77,108
1977	9,897,231	6,110,939	670,178	1,098,368	1,457,081	882,529	344,780	22,916
1978	11,452,259	7,131,016	805,845	1,190,498	1,741,584	1,008,637	407,548	-17,773
1979	13,110,100	8,178,315	926,762	1,320,604	2,134,387	1,081,605	484,973	-46,600
1980	14,697,285	8,981,025	1,064,603	1,551,864	2,585,966	1,109,729	539,065	-56,837
1981	16,091,647	9,547,238	1,136,175	1,792,460	3,173,490	1,124,688	623,603	-58,801
1982	16,636,752	9,613,964	1,208,400	2,042,448	3,407,599	1,055,718	649,368	-42,009
1983	17,474,173	9,917,636	1,267,138	2,216,439	3,626,196	1,147,434	673,899	-26,771
1984	19,213,950	10,839,648	1,356,592	2,250,517	4,110,824	1,441,795	744,053	-41,373
1985	20,376,011	11,456,435	1,557,811	2,355,180	4,315,639	1,570,349	828,689	-50,714
1986	21,487,037	12,191,225	1,559,433	2,427,298	4,572,894	1,703,840	903,945	-63,708
1987	22,859,879	13,023,012	1,690,540	2,539,734	4,830,343	1,819,559	967,696	-75,613
1988	25,143,546	14,420,807	1,865,703	2,751,218	5,210,286	2,116,318	1,126,024	-94,762
1989	27,696,108	15,821,423	2,087,312	2,970,906	6,003,996	2,176,977	1,257,941	-106,565
1990	30,517,226	17,359,781	2,347,638	3,240,651	6,485,510	2,590,914	1,382,937	-124,331
1991	32,174,558	18,272,383	2,549,204	3,597,119	6,676,208	2,694,622	1,501,665	-113,313
1992	34,270,886	19,604,662	2,779,411	3,994,778	6,709,608	2,933,704	1,600,197	-151,080
1993	36,735,666	20,855,908	3,003,008	4,283,095	7,224,649	3,259,725	1,710,170	-180,549
1994	39,370,499	22,530,618	3,232,621	4,425,478	8,035,830	3,230,984	1,855,967	-229,065
1995	42,661,456	24,786,516	3,261,021	4,739,211	9,018,831	3,183,367	2,028,071	-299,419
1996	45,872,189	27,300,282	3,335,219	4,911,304	9,453,829	3,454,693	2,205,273	-377,865
1997	49,743,957	30,003,725	3,531,843	5,068,853	10,252,203	3,744,645	2,397,724	-459,588
1998	52,539,011	31,853,197	3,627,459	5,204,265	10,887,713	3,952,727	2,509,026	-477,324
1999	54,874,825	33,361,176	3,716,622	5,422,305	11,256,262	4,245,566	2,633,711	-493,395
2000	59,689,525	36,581,871	3,664,492	5,915,498	12,448,842	4,401,230	2,802,567	-519,840
2001	61,745,373	37,574,109	3,754,668	6,423,055	12,890,789	4,489,748	2,853,232	-533,764
2002	62,987,798	38,112,379	3,795,750	7,226,837	12,682,797	4,589,316	2,877,493	-541,788
2003	66,918,346	40,105,109	4,000,732	8,066,776	13,375,022	4,958,654	3,016,200	-571,748
2004	71,089,969	42,798,284	4,234,611	8,236,851	14,458,692	5,175,429	3,205,704	-608,193
2005	75,024,509	45,721,337	4,511,644	8,234,122	15,187,558	5,423,779	3,405,674	-648,257
2006	78,671,039	48,166,127	4,776,595	8,341,487	15,904,576	5,743,162	3,577,469	-683,439
2007	82,477,778	50,624,365	5,061,721	8,541,691	16,629,023	6,093,994	3,753,660	-719,355
2008	88,509,462	53,640,190	5,598,337	9,029,181	18,278,631	6,705,896	3,974,806	-767,967
2009	93,499,037	56,401,533	5,975,321	9,454,045	19,581,983	7,076,018	4,181,294	-808,568
2010	98,999,632	59,432,456	6,362,448	9,937,627	21,010,511	7,518,578	4,408,734	-853,253
2011	104,062,674	62,724,410	6,577,925	10,517,299	22,317,719	7,492,402	4,674,327	-892,754
2012	109,695,481	66,229,447	6,935,385	11,153,747	23,757,991	7,499,034	4,943,144	-936,978
2013	115,900,868	69,946,070	7,347,287	11,879,447	25,413,108	7,524,095	5,224,624	-984,515
2014	121,521,793	72,974,837	7,767,741	12,674,353	26,197,347	8,401,882	5,459,661	-1,034,707
2015	127,656,746	76,301,544	8,209,052	13,562,728	27,112,316	9,277,134	5,717,521	-1,088,506
2016	135,332,036	80,896,980	8,685,705	14,505,306	29,121,178	9,338,422	6,068,359	-1,147,197
2017	142,527,754	84,989,646	9,185,452	15,512,260	30,196,729	10,240,244	6,385,908	-1,210,669
2018	151,333,496	90,302,422	9,734,608	16,621,350	32,392,066	10,355,660	6,793,639	-1,278,971
2019	159,508,678	94,931,432	10,314,124	17,813,765	33,542,363	11,416,126	7,157,799	-1,351,333
2020	168,188,025	99,866,020	10,931,129	19,108,819	34,722,956	12,535,714	7,548,304	-1,428,309
2021	178,661,799	106,106,217	11,599,455	20,543,721	37,180,694	12,784,847	8,043,175	-1,509,959
2022	188,506,544	111,597,494	12,283,754	22,090,295	38,627,914	14,002,475	8,500,496	-1,594,892
2023	198,842,614	117,317,718	13,006,317	23,748,218	40,172,524	15,267,390	8,986,309	-1,683,245
2024	209,725,681	123,311,858	13,782,631	25,539,422	41,581,796	16,792,542	9,504,187	-1,778,382
2025	221,160,595	129,559,584	14,600,013	27,434,053	43,117,605	18,384,088	10,057,271	-1,877,478

In Thousands
Detail may not add due to rounding

Source: Metro DRC
Metro01.xls 10/8/02

Personal Income, Total and Per Capita
Portland-Vancouver OR-WA

	Amount (in thous.)	Percent Change	Infl. Adj. (1996 $)	Percent Change	Per Capita Nominal	Per Capita Infl. Adj. (1996 $)
1970	$4,583,778		$19,791,972		$4,368	$18,861
1971	4,989,157	8.8%	20,999,701	6.1%	4,638	19,520
1972	5,557,442	11.4%	22,760,994	8.4%	5,182	21,223
1973	6,258,168	12.6%	24,039,997	5.6%	5,728	22,003
1974	7,092,332	13.3%	24,285,424	1.0%	6,347	21,732
1975	7,806,160	10.1%	24,381,483	0.4%	6,813	21,279
1976	8,845,638	13.3%	25,931,686	6.4%	7,549	22,132
1977	9,897,231	11.9%	26,847,846	3.5%	8,223	22,306
1978	11,452,259	15.7%	28,225,258	5.1%	9,275	22,859
1979	13,110,100	14.5%	28,450,620	0.8%	10,356	22,474
1980	14,697,285	12.1%	28,164,178	-1.0%	11,324	21,699
1981	16,091,647	9.5%	28,304,360	0.5%	12,239	21,528
1982	16,636,752	3.4%	28,367,360	0.2%	12,551	21,400
1983	17,474,173	5.0%	29,464,524	3.9%	13,269	22,375
1984	19,213,950	10.0%	31,232,014	6.0%	14,451	23,490
1985	20,376,011	6.0%	31,910,323	2.2%	15,179	23,772
1986	21,487,037	5.5%	33,183,770	4.0%	15,855	24,486
1987	22,859,879	6.4%	34,444,416	3.8%	16,693	25,152
1988	25,143,546	10.0%	36,630,223	6.3%	17,978	26,192
1989	27,696,108	10.2%	38,438,701	4.9%	19,390	26,911
1990	30,517,226	10.2%	40,026,911	4.1%	20,649	27,084
1991	32,174,558	5.4%	40,152,118	0.3%	21,421	26,732
1992	34,270,886	6.5%	40,963,269	2.0%	22,082	26,395
1993	36,735,666	7.2%	42,422,459	3.6%	22,997	26,558
1994	39,370,499	7.2%	44,182,743	4.1%	23,957	26,886
1995	42,661,456	8.4%	46,532,176	5.3%	25,377	27,679
1996	45,872,189	7.5%	48,330,661	3.9%	26,610	28,036
1997	49,743,957	8.4%	50,668,791	4.8%	28,062	28,584
1998	52,539,011	5.6%	52,539,011	3.7%	28,995	28,995
1999	54,874,825	4.4%	53,126,207	1.1%	29,749	28,801
2000	59,689,525	8.8%	56,034,380	5.5%	31,844	29,894
2001	61,745,373	3.4%	56,442,297	0.7%	32,455	29,667
2002	62,987,798	2.0%	55,795,489	-1.1%	32,563	28,845
2003	66,918,346	6.2%	57,211,847	2.5%	34,078	29,135
2004	71,089,969	6.2%	58,845,464	2.9%	35,408	29,310
2005	75,024,509	5.5%	60,208,412	2.3%	36,612	29,382
2006	78,671,039	4.9%	61,372,225	1.9%	37,624	29,351
2007	82,477,778	4.8%	62,614,314	2.0%	38,672	29,358
2008	88,509,462	7.3%	64,393,640	2.8%	40,786	29,673
2009	93,499,037	5.6%	66,028,607	2.5%	42,442	29,972
2010	98,999,632	5.9%	67,901,484	2.8%	44,317	30,396
2011	104,062,674	5.1%	69,311,515	2.1%	45,954	30,608
2012	109,695,481	5.4%	71,140,708	2.6%	47,805	31,003
2013	115,900,868	5.7%	73,260,081	3.0%	49,856	31,514
2014	121,521,793	4.8%	74,928,200	2.3%	51,539	31,778
2015	127,656,746	5.0%	76,800,872	2.5%	53,321	32,079
2016	135,332,036	6.0%	79,447,664	3.4%	55,703	32,701
2017	142,527,754	5.3%	81,638,459	2.8%	57,838	33,129
2018	151,333,496	6.2%	84,560,532	3.6%	60,546	33,831
2019	159,508,678	5.4%	86,933,790	2.8%	62,926	34,295
2020	168,188,025	5.4%	89,390,010	2.8%	65,414	34,767
2021	178,661,799	6.2%	92,600,455	3.6%	68,495	35,501
2022	188,506,544	5.5%	95,262,335	2.9%	71,214	35,988
2023	198,842,614	5.5%	97,976,000	2.8%	74,003	36,463
2024	209,725,681	5.5%	100,747,912	2.8%	76,891	36,937
2025	221,160,595	5.5%	103,567,344	2.8%	79,894	37,413

Consumer Price Index, All Earners
(1982-84 = 100)

	U.S.	Percent Change	Port.-Vanc. OR-WA	Percent Change
1970	38.8		38.7	
1971	40.5	4.2%	39.7	2.6%
1972	41.8	3.3%	40.8	2.8%
1973	44.4	6.3%	43.5	6.6%
1974	49.3	11.0%	48.8	12.2%
1975	53.8	9.1%	53.5	9.6%
1976	56.9	5.8%	57.0	6.5%
1977	60.6	6.5%	61.6	8.1%
1978	65.2	7.6%	67.8	10.1%
1979	72.6	11.3%	77.0	13.6%
1980	82.4	13.5%	87.2	13.2%
1981	90.9	10.4%	95.0	8.9%
1982	96.5	6.2%	98.0	3.2%
1983	99.6	3.2%	99.1	1.1%
1984	103.9	4.4%	102.8	3.7%
1985	107.6	3.5%	106.7	3.8%
1986	109.7	1.9%	108.2	1.4%
1987	113.7	3.7%	110.9	2.5%
1988	118.4	4.1%	114.7	3.4%
1989	124.0	4.8%	120.4	5.0%
1990	130.8	5.4%	127.4	5.8%
1991	136.3	4.2%	133.9	5.1%
1992	140.4	3.0%	139.8	4.4%
1993	144.6	3.0%	144.7	3.5%
1994	148.3	2.6%	148.9	2.9%
1995	152.5	2.8%	153.2	2.9%
1996	157.0	2.9%	158.6	3.5%
1997	160.6	2.3%	164.1	3.4%
1998	163.1	1.6%	167.1	1.9%
1999	166.7	2.2%	172.6	3.3%
2000	172.3	3.3%	178.0	3.1%
2001	177.2	2.8%	182.8	2.7%
2002	179.7	1.5%	188.6	3.2%
2003	184.1	2.4%	195.5	3.6%
2004	188.7	2.5%	201.9	3.3%
2005	193.3	2.5%	208.2	3.1%
2006	198.0	2.4%	214.2	2.9%
2007	202.7	2.4%	220.1	2.8%
2008	207.5	2.4%	229.7	4.3%
2009	212.3	2.3%	236.6	3.0%
2010	217.3	2.4%	243.6	3.0%
2011	222.8	2.5%	250.9	3.0%
2012	228.7	2.7%	257.7	2.7%
2013	235.1	2.8%	264.4	2.6%
2014	242.0	3.0%	271.0	2.5%
2015	249.5	3.1%	277.8	2.5%
2016	257.7	3.3%	284.6	2.5%
2017	266.4	3.4%	291.7	2.5%
2018	275.6	3.5%	299.1	2.5%
2019	285.1	3.5%	306.6	2.5%
2020	295.2	3.5%	314.4	2.5%
2021	305.6	3.5%	322.4	2.5%
2022	316.5	3.6%	330.7	2.6%
2023	327.8	3.6%	339.1	2.6%
2024	339.8	3.6%	347.9	2.6%
2025	352.2	3.7%	356.8	2.6%

Source: Metro DRC
Metro01.xls 10/8/02

Average Weekly and Hourly Earnings, Average Work Hours Per Week, Manufacturing Industries Only

	United States			Portland-Vancouver OR-WA		
	Avg. Weekly Earnings	Avg. Hourly Earnings	Avg. Hours Per Week	Avg. Weekly Earnings	Avg. Hourly Earnings	Avg. Hours Per Week
1970	$133.83	$3.36	39.8	$145.84	$3.80	38.4
1971	141.87	3.56	39.85	155.90	4.04	38.59
1972	154.86	3.82	40.54	166.44	4.26	39.07
1973	166.38	4.09	40.68	175.96	4.52	38.93
1974	177.33	4.43	40.03	191.82	4.94	38.83
1975	190.45	4.83	39.43	210.92	5.51	38.28
1976	209.43	5.22	40.12	231.49	5.98	38.71
1977	228.67	5.67	40.33	247.23	6.45	38.33
1978	249.45	6.17	40.43	266.39	6.95	38.33
1979	268.80	6.69	40.18	291.90	7.71	37.86
1980	288.87	7.28	39.68	325.66	8.57	38.00
1981	318.48	7.99	39.86	361.28	9.53	37.91
1982	331.50	8.50	39.00	386.77	10.17	38.03
1983	354.26	8.83	40.12	406.26	10.34	39.29
1984	373.76	9.19	40.67	412.42	10.42	39.58
1985	386.56	9.54	40.52	403.68	10.45	38.63
1986	396.11	9.73	40.71	425.86	10.85	39.25
1987	406.51	9.91	41.02	425.30	10.80	39.38
1988	417.18	10.18	40.98	425.20	10.74	39.59
1989	428.95	10.48	40.93	431.79	10.89	39.65
1990	441.65	10.83	40.78	451.56	11.38	39.68
1991	454.69	11.18	40.67	471.74	11.77	40.08
1992	470.48	11.45	41.09	496.05	12.42	39.94
1993	486.86	11.74	41.47	499.84	12.44	40.18
1994	505.68	12.06	41.93	514.88	12.66	40.67
1995	514.47	12.37	41.59	521.95	12.84	40.65
1996	530.72	12.77	41.56	533.12	13.17	40.48
1997	552.46	13.16	41.98	559.76	13.43	41.68
1998	564.03	13.50	41.78	588.72	14.44	40.77
1999	580.33	13.91	41.72	609.59	15.10	40.37
2000	597.07	14.37	41.55	627.17	15.44	40.62
2001	604.17	14.83	40.74	608.06	15.70	38.73
2002	615.37	15.09	40.78	595.84	15.68	38.00
2003	637.31	15.32	41.60	619.77	15.99	38.76
2004	661.30	15.87	41.67	643.12	16.52	38.93
2005	678.26	16.32	41.56	665.98	17.16	38.81
2006	699.92	16.89	41.44	690.05	17.84	38.68
2007	725.28	17.54	41.35	715.89	18.58	38.53
2008	750.88	18.19	41.28	734.77	19.09	38.49
2009	775.23	18.83	41.17	749.01	19.48	38.45
2010	800.65	19.49	41.08	779.32	20.30	38.39
2011	826.37	20.18	40.95	813.10	21.18	38.39
2012	851.13	20.81	40.90	841.29	21.88	38.45
2013	880.17	21.52	40.90	864.49	22.46	38.49
2014	912.70	22.31	40.91	889.66	23.09	38.53
2015	945.96	23.14	40.88	917.73	23.80	38.56
2016	981.22	24.02	40.85	946.61	24.53	38.59
2017	1,015.51	24.89	40.80	977.34	25.30	38.63
2018	1,048.50	25.73	40.75	1,008.13	26.07	38.67
2019	1,082.89	26.60	40.71	1,037.82	26.81	38.71
2020	1,120.05	27.54	40.67	1,069.00	27.58	38.76
2021	1,159.22	28.51	40.66	1,101.92	28.40	38.80
2022	1,204.61	29.59	40.71	1,135.78	29.25	38.83
2023	1,248.68	30.62	40.78	1,172.88	30.19	38.85
2024	1,301.26	31.80	40.92	1,208.62	31.07	38.90
2025	1,350.13	32.89	41.05	1,248.23	32.08	38.91

Source: Metro DRC
Metro01.xls 10/8/02

Residential Authorized Permits

	Single Family	Change	Multi-Family	Change
1970	5,500		5,130	
1971	7,740	2,240	9,270	4,140
1972	9,000	1,260	9,950	680
1973	7,490	-1,510	6,010	-3,940
1974	6,120	-1,370	3,160	-2,850
1975	7,200	1,080	2,720	-440
1976	10,190	2,990	5,320	2,600
1977	12,350	2,160	7,590	2,270
1978	11,750	-600	7,510	-80
1979	7,530	-4,220	6,190	-1,320
1980	5,750	-1,780	2,960	-3,230
1981	3,680	-2,070	2,020	-940
1982	2,300	-1,380	1,260	-760
1983	3,850	1,550	790	-470
1984	3,820	-30	1,410	620
1985	4,180	360	4,640	3,230
1986	4,790	610	3,230	-1,410
1987	5,240	450	4,450	1,220
1988	5,980	740	5,080	630
1989	7,090	1,110	9,140	4,060
1990	8,320	1,230	2,960	-6,180
1991	7,060	-1,260	2,020	-940
1992	8,740	1,680	1,260	-760
1993	9,940	1,200	790	-470
1994	10,400	460	1,410	620
1995	9,800	-600	4,640	3,230
1996	10,720	920	3,230	-1,410
1997	10,660	-60	4,450	1,220
1998	10,620	-40	5,080	630
1999	9,900	-720	9,140	4,060
2000	9,300	-600	3,260	-5,880
2001	10,170	870	2,590	-670
2002	10,600	430	2,010	-580
2003	10,160	-440	1,670	-340
2004	10,010	-150	1,590	-80
2005	10,540	530	1,690	100
2006	10,570	30	1,810	120
2007	10,570	0	2,020	210
2008	10,050	-520	2,330	310
2009	9,680	-370	2,690	360
2010	9,750	70	3,150	460
2011	9,800	50	3,650	500
2012	9,900	100	4,210	560
2013	10,010	110	4,620	410
2014	10,190	180	5,070	450
2015	10,330	140	5,440	370
2016	10,360	30	5,760	320
2017	10,500	140	6,060	300
2018	10,600	100	6,360	300
2019	10,700	100	6,620	260
2020	10,780	80	6,960	340
2021	10,910	130	7,250	290
2022	11,000	90	7,450	200
2023	11,120	120	7,630	180
2024	11,260	140	7,810	180
2025	11,340	80	7,940	130

Housing Price Statistics

	Median Home Price		
	U.S.	Portland-Vanc. OR-WA	Relative Price Index * (1996=100)
1970	$17,243	$18,300	69.4
1971	18,588	20,000	69.4
1972	20,008	21,400	66.5
1973	21,716	23,400	65.9
1974	24,032	26,000	65.9
1975	26,453	30,500	70.9
1976	28,573	33,300	70.6
1977	32,080	40,400	78.4
1978	36,536	50,910	87.9
1979	41,679	59,900	92.8
1980	46,562	62,900	89.9
1981	49,612	66,500	90.2
1982	50,784	65,000	86.5
1983	52,373	63,000	78.4
1984	54,227	62,500	75.0
1985	56,522	61,500	71.7
1986	60,205	62,900	68.1
1987	64,206	63,000	62.4
1988	66,941	64,000	59.3
1989	67,106	70,000	63.0
1990	68,937	79,700	69.7
1991	72,632	91,750	79.2
1992	74,778	97,000	83.2
1993	77,056	107,000	88.1
1994	80,268	117,000	91.8
1995	82,435	128,000	96.2
1996	86,702	139,900	100.0
1997	91,085	150,000	102.4
1998	133,958	155,100	102.3
1999	139,592	161,000	105.0
2000	145,455	166,000	104.8
2001	151,404	169,730	104.8
2002	151,235	170,740	107.3
2003	156,281	176,280	107.4
2004	161,319	184,580	110.0
2005	166,022	195,210	113.9
2006	171,127	206,680	118.2
2007	175,706	218,190	122.9
2008	183,084	230,890	126.9
2009	187,752	244,590	132.2
2010	192,212	256,060	136.3
2011	195,797	265,980	140.4
2012	200,378	275,450	143.1
2013	205,593	287,350	146.1
2014	211,185	297,350	149.2
2015	216,967	307,290	152.1
2016	222,912	318,150	154.1
2017	229,025	329,410	157.1
2018	235,330	340,730	158.7
2019	241,841	352,610	161.5
2020	248,558	364,950	164.2
2021	255,468	377,850	166.1
2022	262,559	391,400	169.5
2023	269,801	405,120	172.8
2024	277,254	419,440	176.4
2025	284,953	434,830	180.4

Source: Metro DRC
Metro01.xls 10/8/02

Table 14

Alternate Forecasts for the Portland-Vancouver, OR-WA

(in thousands)	2000	2005	2010	2015	2020	2025	2030	AARG 2000-30
Population, total								
Base	1,874.5	2,049.2	2,233.9	2,394.1	2,571.1	2,768.2	2,955.3	1.5%
High	1,874.5	2,087.8	2,299.6	2,453.6	2,701.4	3,026.2	3,391.5	2.0%
Low	1,874.5	1,991.4	2,079.6	2,120.3	2,177.2	2,275.2	2,385.8	0.8%
Age, 0 to 4 years								
Base	133.1	147.0	159.3	168.4	179.3	191.9	204.1	1.4%
High	133.1	158.8	180.9	191.9	210.7	239.0	271.9	2.4%
Low	133.1	133.6	130.0	125.1	124.6	129.1	134.4	0.0%
Age, 5 to 9 years								
Base	132.3	142.6	154.8	164.8	175.7	187.8	199.7	1.4%
High	132.3	147.6	167.4	182.1	200.8	225.5	254.8	2.2%
Low	132.3	135.8	134.6	129.5	127.4	130.0	134.1	0.0%
Age, 10 to 14 years								
Base	127.5	137.9	149.2	159.4	170.4	182.3	193.9	1.4%
High	127.5	139.9	155.4	169.9	189.1	211.8	237.9	2.1%
Low	127.5	134.2	136.1	133.0	130.6	131.6	133.9	0.2%
Age, 15 to 19 years								
Base	124.5	135.3	145.8	155.5	166.7	178.7	190.0	1.4%
High	124.5	136.9	148.5	160.0	179.4	202.3	226.8	2.0%
Low	124.5	131.8	135.4	134.5	133.6	134.8	136.5	0.3%
Age, 20 to 24 years								
Base	133.1	143.5	153.5	161.6	173.2	186.4	197.2	1.3%
High	133.1	146.6	154.5	159.5	181.9	209.4	235.6	1.9%
Low	133.1	136.1	137.7	135.2	137.1	142.3	146.4	0.3%
Age, 25 to 29 years								
Base	142.2	150.2	160.5	167.3	178.3	191.7	203.0	1.2%
High	142.2	153.4	161.8	162.4	182.1	210.9	239.6	1.8%
Low	142.2	142.5	142.0	137.6	139.0	146.1	153.0	0.2%
Age, 30 to 34 years								
Base	146.7	152.8	162.3	168.9	178.6	191.0	202.6	1.1%
High	146.7	155.2	164.1	164.7	178.9	203.9	232.3	1.5%
Low	146.7	147.1	145.9	141.1	140.4	146.2	153.3	0.1%
Age, 35 to 39 years								
Base	149.4	153.6	161.1	167.6	176.2	187.0	198.2	0.9%
High	149.4	155.3	163.0	165.2	175.4	194.6	219.6	1.3%
Low	149.4	149.8	148.9	144.7	142.7	145.8	151.0	0.0%

Table 14

Alternate Forecasts for the Portland-Vancouver, OR-WA

	2000	2005	2010	2015	2020	2025	2030	AARG 2000-30
Age, 40 to 44 years								
Base	147.7	152.4	158.5	164.4	171.9	181.3	191.5	0.9%
High	147.7	153.6	160.2	163.5	171.5	185.8	205.8	1.1%
Low	147.7	150.0	150.1	147.3	145.0	146.0	148.8	0.0%
Age, 45 to 49 years								
Base	137.0	146.6	153.8	159.7	166.5	174.7	183.8	1.0%
High	137.0	147.5	155.2	159.8	167.0	178.0	193.5	1.2%
Low	137.0	145.1	148.4	147.9	146.5	146.6	147.8	0.3%
Age, 50 to 54 years								
Base	117.1	133.6	144.7	152.2	159.3	166.8	174.8	1.3%
High	117.1	134.4	146.0	153.0	160.7	170.5	183.0	1.5%
Low	117.1	132.5	141.3	144.5	145.4	146.2	147.3	0.8%
Age, 55 to 59 years								
Base	94.1	114.3	130.0	140.7	149.3	157.0	164.6	1.9%
High	94.1	115.1	131.4	142.0	151.7	161.9	173.2	2.1%
Low	94.1	113.6	127.8	135.9	140.2	143.3	145.9	1.5%
Age, 60 to 64 years								
Base	74.7	92.9	110.4	124.1	134.9	143.9	151.6	2.4%
High	74.7	93.7	112.1	126.0	138.3	150.3	162.0	2.6%
Low	74.7	92.4	109.1	121.3	129.6	135.9	141.4	2.2%
Age, 65 to 69 years								
Base	61.8	74.4	90.2	105.0	117.6	128.1	136.7	2.7%
High	61.8	75.1	91.8	107.1	121.3	135.1	148.2	3.0%
Low	61.8	74.0	89.4	103.4	114.7	124.3	133.2	2.6%
Age, 70 to 74 years								
Base	52.1	59.4	71.1	84.3	97.1	108.5	118.0	2.8%
High	52.1	60.0	72.6	86.5	101.0	115.9	130.3	3.1%
Low	52.1	59.3	70.8	83.8	96.2	108.0	119.9	2.8%
Age, 75 to 79 years								
Base	42.0	46.2	53.5	63.4	74.4	85.1	94.6	2.7%
High	42.0	46.7	55.1	65.8	78.4	93.0	107.7	3.2%
Low	42.0	46.2	53.9	63.9	75.1	87.5	101.2	3.0%
Age, 80 to 84 years								
Base	30.9	33.9	38.3	44.7	52.7	61.4	69.8	2.8%
High	30.9	34.4	39.7	47.0	56.5	69.2	83.2	3.4%
Low	30.9	34.0	38.9	45.7	54.3	65.5	79.2	3.2%

Table 14

Alternate Forecasts for the Portland-Vancouver, OR-WA

	2000	2005	2010	2015	2020	2025	2030	AARG 2000-30
Age, 85 and over years								
Base	28.7	32.7	36.9	42.1	49.1	64.9	81.2	3.5%
High	28.7	33.6	39.9	47.3	56.8	69.3	86.0	3.7%
Low	28.7	33.5	39.3	46.3	55.0	66.2	80.9	3.5%
Births, total								
Base	27.5	30.2	32.6	34.3	36.6	39.2	41.7	1.4%
High	27.5	34.7	38.8	39.7	44.3	50.9	58.0	2.5%
Low	27.5	25.7	24.9	24.5	24.7	25.8	27.0	-0.1%
Deaths, total								
Base	13.8	15.3	17.1	19.4	21.5	22.7	26.1	2.2%
High	13.8	13.5	15.1	17.2	19.7	18.9	22.3	1.6%
Low	13.8	13.4	14.7	16.6	18.7	17.6	20.4	1.3%
Migration, total								
Base	16.4	25.4	15.3	21.7	21.6	24.0	20.4	n.m.
High	16.4	29.3	4.0	20.1	32.0	39.2	39.5	n.m.
Low	16.4	11.2	0.8	-0.5	9.1	13.9	11.9	n.m.
Household, total								
Base	725.4	799.6	876.7	946.9	1,021.6	1,104.2	1,177.8	1.6%
High	725.4	811.1	894.1	956.3	1,049.8	1,171.6	1,308.7	2.0%
Low	725.4	785.9	840.1	876.7	915.1	966.4	1,022.6	1.2%
INCOME								
Per Capita Income, 1996 $								
Base	$ 28,320.3	27,875.3	28,836.2	30,432.9	32,982.5	35,493.6	37,532.0	0.9%
High	28,320.3	28,328.1	28,687.1	31,200.8	33,346.7	34,788.1	36,442.2	0.8%
Low	28,319.9	28,317.9	31,563.7	34,070.2	35,229.8	35,438.4	34,479.8	0.7%
Per Capita Income								
Base	$ 31,787.2	36,602.5	44,305.5	53,306.7	65,396.6	79,872.3	96,087.5	3.8%
High	31,787.2	37,699.3	44,650.1	56,054.2	70,639.3	87,777.8	110,631.9	4.2%
Low	31,786.9	36,770.8	44,517.4	54,545.5	66,281.8	79,367.2	92,498.8	3.6%
Personal Income, 1996 $ millions								
Base	$ 53,088.4	57,130.8	64,428.6	72,874.1	84,818.6	98,271.6	110,938.8	2.5%
High	53,088.4	59,154.3	65,981.7	76,568.4	90,101.1	105,294.4	123,614.7	2.9%
Low	53,088.4	56,400.2	65,650.3	72,250.3	76,714.3	80,641.3	82,263.9	1.5%
Personal Income								
Base	$ 59,689.5	75,017.6	98,990.6	127,646.0	168,173.3	221,140.7	284,015.0	5.3%
High	59,689.5	78,724.4	102,695.6	137,559.6	190,865.5	265,686.4	375,279.3	6.3%
Low	59,689.5	73,234.7	92,589.8	115,667.7	144,329.8	180,602.8	220,691.5	4.5%

Table 14

Alternate Forecasts for the Portland-Vancouver, OR-WA

		2000	2005	2010	2015	2020	2025	2030	AARG 2000-30
Wage Disbursements									
Base	$	36,581.9	45,721.3	59,432.5	76,301.5	99,866.0	129,559.6	167,863.3	5.2%
High		36,581.9	47,196.0	61,803.9	81,078.0	109,364.3	147,711.8	197,360.2	5.8%
Low		36,581.9	44,660.7	57,279.2	69,862.4	84,178.5	101,627.0	121,649.0	4.1%
Social Security									
Base	$	2,802.6	3,405.7	4,408.7	5,717.5	7,548.3	10,057.3	13,420.1	5.4%
High		2,802.6	3,510.9	4,565.9	6,234.6	8,379.9	11,342.9	15,310.7	5.8%
Low		2,802.6	3,323.5	4,225.2	5,758.4	7,775.6	10,569.8	14,562.2	5.6%
Other Labor Income									
Base	$	3,664.5	4,511.6	6,362.4	8,209.1	10,931.1	14,600.0	19,385.6	5.7%
High		3,664.5	4,696.6	6,463.9	9,494.8	13,831.5	19,238.3	25,695.9	6.7%
Low		3,664.5	4,495.8	6,146.5	8,231.6	10,833.7	14,332.7	18,932.7	5.6%
Dividends, Interest, & Rent									
Base	$	12,448.8	15,187.6	21,010.5	27,112.3	34,723.0	43,117.6	49,724.0	4.7%
High		12,448.8	16,862.7	22,274.2	30,760.9	45,278.4	68,521.3	104,081.6	7.3%
Low		12,448.8	13,993.9	17,330.4	22,978.0	30,894.6	42,335.3	58,264.9	5.3%
Transfer Payments									
Base	$	5,915.5	8,234.1	9,937.6	13,562.7	19,108.8	27,434.1	40,326.6	6.6%
High		5,915.5	8,642.9	10,264.5	13,599.4	18,744.7	25,232.8	40,032.7	6.6%
Low		5,915.5	8,520.5	9,548.7	11,912.7	15,117.1	17,992.3	19,935.4	4.1%
Farm Proprietors' Income									
Base	$	76.7	75.0	72.5	72.4	82.0	93.1	104.3	1.0%
High		76.7	77.6	80.9	105.6	120.1	120.2	121.6	1.5%
Low		76.7	70.5	74.9	99.1	112.7	112.8	112.4	1.3%
Business Proprietors' Income									
Base	$	4,324.5	5,348.7	7,446.1	9,204.7	12,453.7	18,291.0	22,469.6	5.6%
High		4,324.5	5,435.0	7,263.6	9,934.2	13,507.5	18,372.1	19,637.0	5.2%
Low		4,324.5	5,460.2	7,267.4	9,363.5	12,209.4	16,287.2	17,318.6	4.7%

Table 14

Alternate Forecasts for the Portland-Vancouver, OR-WA

	2000	2005	2010	2015	2020	2025	2030	AARG 2000-30
(in thousands)								
Employment, total (includes self employed)								
Base	1,210.2	1,314.2	1,477.2	1,625.2	1,788.9	1,972.7	2,151.6	1.9%
High	1,210.2	1,344.3	1,518.3	1,677.3	1,873.4	2,115.9	2,399.9	2.3%
Low	1,210.2	1,290.0	1,431.0	1,525.7	1,609.1	1,709.4	1,814.2	1.4%
Self Employment								
Base	252.2	270.7	308.5	352.0	401.2	457.2	510.1	2.4%
High	252.2	275.9	315.9	355.7	413.6	488.2	576.1	2.8%
Low	252.2	266.1	293.0	316.5	341.3	373.6	408.2	1.6%
Wage & Salary								
Base	958.0	1,043.5	1,168.7	1,273.1	1,387.7	1,515.5	1,641.5	1.8%
High	958.0	1,068.5	1,202.4	1,321.6	1,459.8	1,627.7	1,823.8	2.2%
Low	958.0	1,023.9	1,138.0	1,209.3	1,267.8	1,335.8	1,406.0	1.3%
Manufacturing								
Base	145.5	154.7	165.9	168.9	172.8	177.2	182.9	0.8%
High	145.5	159.1	172.7	181.1	190.0	201.1	214.0	1.3%
Low	145.5	148.9	157.5	158.4	157.8	157.6	157.6	0.3%
Durable Mfg.								
Base	107.4	115.3	125.5	128.4	132.1	136.7	142.3	0.9%
High	107.4	119.3	131.7	139.6	147.9	158.6	170.7	1.6%
Low	107.4	110.4	118.7	120.0	120.3	121.2	122.3	0.4%
Lumber & Wood								
Base	7.6	7.4	6.8	5.9	5.0	4.2	3.6	-2.5%
High	7.6	7.2	6.5	5.7	5.0	4.5	4.0	-2.2%
Low	7.6	7.3	6.3	5.3	4.5	3.8	3.2	-2.8%
Metals: Primary & Fabricated								
Base	19.9	20.1	20.3	19.6	19.1	18.8	18.6	-0.2%
High	19.9	20.5	20.8	20.7	20.6	20.8	21.1	0.2%
Low	19.9	19.7	20.2	19.5	18.6	17.9	17.3	-0.5%
Nonelectrical Machinery								
Base	17.0	17.6	20.2	20.8	21.8	22.9	24.1	1.2%
High	17.0	18.3	20.4	20.9	21.8	23.1	24.6	1.2%
Low	17.0	17.4	19.9	20.0	20.2	20.7	21.3	0.8%
Electrical Machinery & Instruments								
Base	41.7	50.4	56.4	59.3	62.4	65.8	69.9	1.7%
High	41.7	50.7	56.7	61.5	66.0	70.9	75.9	2.0%
Low	41.7	46.3	50.6	53.4	55.2	56.7	58.1	1.1%

Table 14

Alternate Forecasts for the Portland-Vancouver, OR-WA

	2000	2005	2010	2015	2020	2025	2030	AARG 2000-30
Transportation Equipment								
Base	12.7	10.5	11.5	11.7	12.0	12.4	12.6	0.0%
High	12.7	11.5	12.7	12.8	13.0	13.5	13.8	0.3%
Low	12.7	10.6	11.6	11.2	10.9	10.7	10.5	-0.6%
Other Durable Mfg.								
Base	8.5	9.4	10.3	11.1	11.9	12.8	13.5	1.6%
High	8.5	11.1	14.5	17.9	21.4	25.8	31.3	4.5%
Low	8.5	9.1	10.1	10.6	11.0	11.5	11.9	1.1%
Nondurable Mfg.								
Base	38.1	39.3	40.5	40.5	40.7	40.5	40.7	0.2%
High	38.1	39.8	41.0	41.6	42.1	42.5	43.3	0.4%
Low	38.1	38.6	38.8	38.4	37.5	36.4	35.2	-0.3%
Food Processing								
Base	8.9	8.5	8.2	7.7	7.2	6.7	6.3	-1.2%
High	8.9	8.8	8.4	7.9	7.4	6.9	6.3	-1.1%
Low	8.9	8.5	8.0	7.3	6.7	6.2	5.6	-1.5%
Textile & Apparels								
Base	3.4	4.0	3.6	3.1	2.6	2.2	2.0	-1.7%
High	3.4	3.9	3.9	3.8	3.8	3.8	3.8	0.4%
Low	3.4	3.5	2.9	2.5	2.3	2.1	1.9	-2.0%
Paper & Pulp								
Base	6.7	6.8	6.6	6.2	5.9	5.5	5.2	-0.9%
High	6.7	6.8	6.7	6.5	6.3	6.1	5.9	-0.4%
Low	6.7	6.9	6.6	6.2	5.7	5.3	4.9	-1.1%
Printing & Publishing								
Base	11.1	12.2	13.1	13.5	13.7	13.8	13.8	0.7%
High	11.1	12.4	13.3	13.6	13.9	14.2	14.5	0.9%
Low	11.1	12.2	12.9	13.0	13.0	12.9	12.8	0.5%
Other Nondurable Mfg.								
Base	8.0	7.8	9.0	10.1	11.3	12.3	13.4	1.7%
High	8.0	8.0	8.8	9.8	10.8	11.6	12.7	1.6%
Low	8.0	7.5	8.5	9.4	9.8	10.0	10.1	0.8%
Nonmanufacturing (except military)								
Base	812.5	888.9	1,002.8	1,104.3	1,214.9	1,338.3	1,458.6	2.0%
High	812.5	909.4	1,029.7	1,140.5	1,269.8	1,426.6	1,609.9	2.3%
Low	812.5	875.0	980.5	1,050.9	1,109.9	1,178.2	1,248.4	1.4%

Table 14

Alternate Forecasts for the Portland-Vancouver, OR-WA

	2000	2005	2010	2015	2020	2025	2030	AARG 2000-30
Private Services, total								
Base	685.5	759.8	862.5	955.1	1,055.1	1,166.3	1,275.7	2.1%
High	685.5	778.5	888.3	989.4	1,104.1	1,241.6	1,401.8	2.4%
Low	685.5	752.5	856.7	924.3	979.8	1,042.9	1,108.2	1.6%
Construction & Mining								
Base	53.9	59.3	67.7	71.8	76.3	81.0	85.4	1.5%
High	53.9	60.0	71.2	76.6	79.5	84.9	91.3	1.8%
Low	53.9	58.5	69.5	72.8	71.5	70.5	69.4	0.8%
Transp., Comm., Utilities								
Base	55.4	58.4	64.9	69.9	75.2	80.9	86.5	1.5%
High	55.4	59.4	66.6	71.8	79.0	88.0	98.1	1.9%
Low	55.4	56.5	60.5	62.7	64.7	67.6	70.8	0.8%
Trade, total								
Base	235.4	258.1	288.6	313.5	339.7	367.9	395.6	1.7%
High	235.4	261.4	294.4	322.1	353.2	389.8	430.9	2.0%
Low	235.4	255.3	282.9	301.7	317.4	335.3	353.5	1.4%
Wholesale Trade								
Base	67.2	73.3	81.6	87.9	94.4	101.6	108.6	1.6%
High	67.2	74.5	83.2	90.5	98.7	108.2	119.1	1.9%
Low	67.2	72.6	79.9	84.7	88.7	93.0	97.2	1.2%
Retail Trade								
Base	168.1	184.8	207.0	225.6	245.3	266.3	287.0	1.8%
High	168.1	186.9	211.2	231.6	254.5	281.7	311.8	2.1%
Low	168.1	182.7	203.0	217.0	228.7	242.3	256.3	1.4%
Finance, Ins., & Real Est.								
Base	64.5	68.4	74.2	80.1	85.3	90.2	94.7	1.3%
High	64.5	68.8	75.3	80.7	85.7	90.8	96.1	1.3%
Low	64.5	67.8	73.9	76.8	78.4	79.9	81.6	0.8%
Service, total								
Base	276.3	315.6	367.1	419.8	478.7	546.3	613.4	2.7%
High	276.3	328.9	380.9	438.2	506.7	588.1	685.4	3.1%
Low	276.3	314.4	370.0	410.4	447.8	489.6	532.9	2.2%
Health Services								
Base	62.2	71.2	82.3	93.5	105.2	118.9	133.6	2.6%
High	62.2	74.5	85.5	97.2	113.6	135.2	162.8	3.3%
Low	62.2	71.3	77.7	83.6	90.4	99.0	108.3	1.9%

Table 14

Alternate Forecasts for the Portland-Vancouver, OR-WA

	2000	2005	2010	2015	2020	2025	2030	AARG 2000-30
Other Services								
Base	214.2	244.5	284.8	326.3	373.5	427.4	479.8	2.7%
High	214.2	254.4	295.3	340.9	393.1	452.9	522.6	3.0%
Low	214.2	243.1	292.3	326.8	357.5	390.6	424.5	2.3%
Government, total								
Base	133.9	135.7	147.0	155.8	166.6	178.8	189.6	1.2%
High	133.9	137.7	148.1	157.8	172.4	191.7	214.9	1.6%
Low	133.9	129.3	130.5	133.3	136.9	142.0	146.9	0.3%
Federal Civilian, Govt.								
Base	18.5	17.9	19.3	19.4	20.4	21.2	21.8	0.5%
High	18.5	17.5	17.2	17.8	18.8	19.8	20.8	0.4%
Low	18.5	17.5	17.2	17.1	17.1	17.0	17.0	-0.3%
Federal Military, Govt.								
Base	6.8	6.6	6.8	6.7	6.7	6.7	6.7	0.0%
High	6.8	6.8	6.8	6.7	6.7	6.8	6.8	0.0%
Low	6.8	6.8	6.8	6.7	6.7	6.7	6.7	0.0%
State & Local Govt.								
Base	108.5	111.2	121.0	129.7	139.5	150.8	161.1	1.3%
High	108.5	113.4	124.2	133.2	147.0	165.2	187.3	1.8%
Low	108.5	105.0	106.6	109.5	113.1	118.2	123.2	0.4%

Table 15

Employment Forecast for Standardized MetroScope Industry Classification

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
AFF Services & Mining	16.6	16.2	15.6	15.7	15.8	15.7	15.5	15.3	15.2	15.0	14.7
Construction	71.7	70.9	71.1	73.8	75.9	78.4	80.2	82.7	85.7	87.9	89.8
Nondur. Mfg. less Paper	31.9	31.1	31.0	31.6	32.3	32.9	33.2	33.5	33.8	34.2	34.2
Durable Mfg. plus Paper	59.2	55.6	54.3	55.4	56.3	57.4	58.0	58.3	58.6	59.0	59.0
Hi-tech Mfg.	58.1	59.2	58.6	60.4	63.5	66.8	68.9	70.4	72.0	74.0	75.4
Transport & Warehouse	41.3	40.9	40.6	41.0	42.0	43.1	44.2	45.2	46.2	47.1	47.9
Comm. & Utilities	21.8	21.6	21.5	21.7	22.2	22.9	23.4	24.0	24.6	25.1	25.5
Wholesale Trade	74.6	72.9	72.2	74.9	77.9	80.8	82.7	84.5	86.4	88.3	90.0
Retail Trade	201.8	202.2	201.3	204.7	212.3	220.2	225.8	231.4	237.0	242.2	247.2
FIRE	93.5	93.8	93.6	93.6	95.5	98.4	100.6	102.7	104.2	105.4	107.0
Consumer Services	177.5	179.4	178.6	186.5	195.4	202.7	208.4	214.1	223.8	231.0	238.4
Health Services (80+83)	119.2	121.3	123.0	127.2	131.6	135.6	139.1	142.8	148.5	153.2	157.7
Bus. & Prof. Services	83.3	84.2	83.8	87.5	91.7	95.1	97.8	100.5	105.0	108.4	111.9
Government (civilian)	122.3	123.0	122.5	122.3	121.7	123.4	125.6	127.6	129.9	131.9	134.3
TOTAL - excl. military	**1172.9**	**1172.2**	**1167.7**	**1196.4**	**1234.2**	**1273.4**	**1303.5**	**1332.9**	**1370.9**	**1402.4**	**1433.1**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
AFF Services & Mining	14.4	14.0	13.6	13.2	12.6	12.1	11.5	10.9	10.3	9.6	8.9
Construction	91.1	93.7	94.7	95.4	96.0	96.8	98.0	99.3	100.9	102.7	104.5
Nondur. Mfg. less Paper	34.3	34.4	34.6	34.7	34.9	35.1	35.2	35.4	35.5	35.7	35.8
Durable Mfg. plus Paper	58.8	58.8	58.7	58.4	58.3	58.2	58.1	58.0	58.0	58.1	58.1
Hi-tech Mfg.	75.8	76.4	77.5	78.5	79.3	80.2	81.1	81.9	82.9	83.8	84.9
Transport & Warehouse	48.7	49.5	50.2	51.1	51.9	52.8	53.6	54.4	55.3	56.1	57.0
Comm. & Utilities	26.0	26.4	26.8	27.3	27.8	28.2	28.7	29.2	29.7	30.1	30.6
Wholesale Trade	91.6	93.3	94.8	96.2	97.6	99.2	100.6	102.3	104.0	105.6	107.4
Retail Trade	251.9	257.3	262.0	266.5	271.2	276.2	281.1	286.4	291.6	296.8	302.5
FIRE	108.9	111.0	112.8	114.5	116.3	118.0	119.7	121.5	123.0	124.6	126.3
Consumer Services	246.8	253.7	261.7	269.3	276.9	285.1	293.7	303.0	312.1	321.5	331.6
Health Services (80+83)	162.4	167.2	171.9	176.3	180.9	186.0	190.8	196.1	201.2	206.3	212.1
Bus. & Prof. Services	115.9	119.1	122.8	126.4	129.9	133.8	137.8	142.2	146.5	150.9	155.6
Government (civilian)	136.2	138.1	139.9	141.8	143.7	146.1	148.2	150.6	153.0	155.2	157.8
TOTAL - excl. military	**1462.7**	**1492.7**	**1522.0**	**1549.5**	**1577.3**	**1607.7**	**1638.1**	**1671.4**	**1703.9**	**1736.9**	**1773.0**

	2022	2023	2024	2025	Annual Avg. Growth Rates for Selected Periods: 2000-05	2005-10	2010-15	2015-20	2020-25	2000-25
AFF Services & Mining	8.1	7.2	6.3	5.3	-1.1%	-1.3%	-3.0%	-5.4%	-11.1%	-4.5%
Construction	105.8	107.2	108.9	110.0	1.8%	2.7%	1.3%	1.4%	1.4%	1.7%
Nondur. Mfg. less Paper	35.9	36.0	36.1	36.1	0.6%	0.8%	0.4%	0.4%	0.2%	0.5%
Durable Mfg. plus Paper	58.1	58.1	58.1	58.1	-0.6%	0.5%	-0.2%	-0.1%	0.0%	-0.1%
Hi-tech Mfg.	85.9	86.9	88.0	89.0	2.8%	2.4%	1.0%	1.1%	1.2%	1.7%
Transport & Warehouse	57.9	58.8	59.8	60.7	0.9%	2.2%	1.6%	1.6%	1.6%	1.6%
Comm. & Utilities	31.2	31.7	32.2	32.8	1.0%	2.2%	1.7%	1.7%	1.7%	1.6%
Wholesale Trade	109.1	110.9	112.6	114.4	1.6%	2.2%	1.6%	1.6%	1.6%	1.7%
Retail Trade	307.9	313.4	319.0	324.6	1.8%	2.3%	1.9%	1.8%	1.8%	1.9%
FIRE	127.8	129.4	131.1	132.7	1.0%	1.7%	1.7%	1.4%	1.3%	1.4%
Consumer Services	341.6	351.9	362.5	373.2	2.7%	3.3%	3.0%	3.0%	3.0%	3.0%
Health Services (80+83)	217.8	223.7	229.7	235.9	2.6%	3.1%	2.8%	2.7%	2.7%	2.8%
Bus. & Prof. Services	160.3	165.1	170.1	175.2	2.7%	3.3%	3.0%	3.0%	3.0%	3.0%
Government (civilian)	160.3	162.8	165.4	168.1	0.2%	1.7%	1.4%	1.5%	1.6%	1.3%
TOTAL - excl. military	**1807.8**	**1843.1**	**1879.8**	**1916.0**	**1.7%**	**2.4%**	**1.9%**	**1.9%**	**2.0%**	**2.0%**

Adjusted to BEA employment levels which includes proprietors.
Geographic Extent: Multnomah, Clackamas, Washington and Clark

Source: Metro DRC
Metro01.xls 10/8/02

Appendix B:

U.S. Economic Forecast Details
DRI-WEFA, The U.S. Economy, The 25-Year Focus, Winter Issue 2002

THE

U.S. ECONOMY

The 25-Year Focus • Winter Issue

2002

DRI-WEFA prepares 4 U.S. macroeconomic scenarios:

- Trend Projection (a baseline scenario)
- Cyclical Projection (a scenario that incorporates business cycles)
- Optimistic Projection (a high growth scenario)
- Pessimistic Projection (a low growth scenario)

The Metro Regional Forecast assumes the national growth projections from DRI-WEFA's Trend Projection scenario for the baseline regional forecast. Metro's optimistic and pessimistic alternative growth forecasts are produced using DRI-WEFA's corresponding projection alternatives. The DRI-WEFA cyclical projection is not used in any Metro Regional Forecast.

FORECAST OVERVIEW

This issue of *The U.S. Economy, 25-Year Focus* presents DRI•WEFA's most recent set of long-range projections. Given the detail available in the current DRI•WEFA model, the projections for the next quarter-century cover not just the macro concepts such as output, inflation, and unemployment, but also the more disaggregated variables such as production and employment by industry. This disaggregation provides a variety of concepts for analysts to use in their planning models. Many of these variables serve as inputs to DRI•WEFA's Regional and Energy models.

While the long-range outlooks have been of particular interest to utilities and state and local governments, which have relatively long planning horizons, they can be equally relevant to analysts dealing with shorter intervals. This is especially true of the trend scenario, the principal long-range projection. The trend is completely consistent with DRI•WEFA's February short-term baseline (Control) solution (detailed in the February 2002 issue of *The U.S. Economic Outlook*), which represents our forecast through 2011. Thereafter, the economy is expected to make a transition to "full employment" (4.0-5.0% unemployment), and then evolve gradually along this full-employment growth path. Hence, the transition between the short and long-term forecasts is smooth, making the trend projection an excellent base for ten-year planning purposes and policy simulations.

The Four Long-Term Projections

This *25-Year Focus* presents four projections: baseline, cyclical, optimistic, and pessimistic.

The **trend projection** is the baseline scenario. It assumes that the economy suffers no major mishaps between now and 2027. It grows smoothly, in the sense that actual output follows potential output relatively closely. This projection is best described as depicting the mean of all possible paths that the economy could

EXHIBIT 1

A Comparison of the Past and Future

(Percent)

	History 1976-2001	Trend 2002-2027	Cycle 2002-2027	Optim 2002-2027	Pesim 2001-2027
Average Annual Real Growth					
Average Annual Real Growth					
Potential Output	3.1	2.8	2.5	3.4	2.3
GDP	3.3	3.1	3.1	3.7	2.7
Consumption	3.4	3.0	3.2	3.6	2.6
Business Fixed Investment	5.9	5.2	5.2	5.7	4.6
Government	2.1	1.6	1.6	1.8	1.4
Exports	6.6	6.9	6.7	7.0	6.6
Imports	7.7	5.8	6.3	6.1	5.7
Average Annual Growth					
Labor Force	1.6	0.7	0.7	1.0	0.5
Productivity	1.7	2.5	2.2	2.7	2.1
Industrial Production	3.4	3.7	4.9	4.3	2.4
Average Level					
Inflation (Chain-wt. Impicit GDP deflator)	4.0	2.6	3.9	2.1	3.3
Unemployment	6.5	4.9	4.9	4.8	5.1
Average Percent of GDP					
Fuel Import Bill	1.3	1.0	0.9	1.0	1.1
Trade Balance	-1.4	-2.5	-2.9	-3.2	-2.4
Federal Deficit	-2.5	0.0	-1.1	0.5	-2.5
Fixed Investment	11.7	12.9	12.4	13.3	12.5

Note: Growth rates for the projecion period are compound annual growth rates calculated between the years 2001 and 2027. Level Variables are averages for the years 2001 to 2027. Interpretation of the historical figures is similar. Unless otherwise stated, all real data are in chained 1996 dollars.

EXHIBIT 2
Real GDP
(Trillions of chained 1992 dollars)

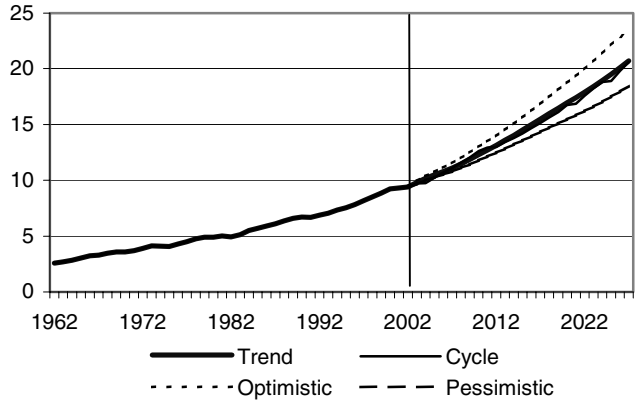
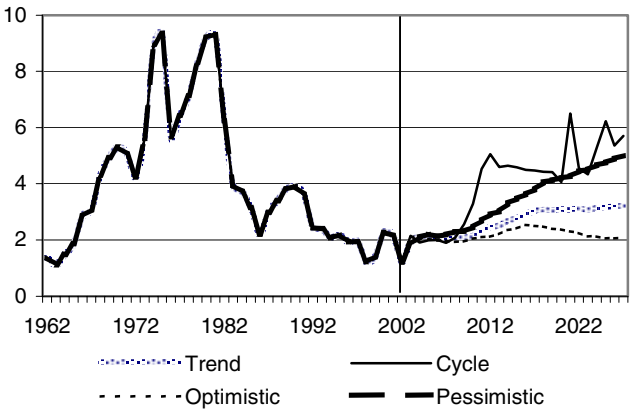


EXHIBIT 3
GDP Price Inflation
(Percent)



follow in the absence of major disruptions. Such disruptions include large oil price shocks, untoward swings in macroeconomic policy, or excessively rapid increases in demand. In all three situations, demographic forces slow the pace of real economic growth after 2010.

The **cyclical projection** is the primary alternative scenario. It superimposes business-cycle behavior on the trend scenario. Economic growth proceeds in a series of starts and stops, with periods of rapid expansion, followed by externally- or policy-induced recessions. The timing of the recessions is merely suggestive. Because it is impossible to predict the exact timing of business cycles much in advance, it is unwise to focus on specific years. It is also inappropriate to calculate average growth rates between different points in the business cycle.

The **optimistic projection** is the "upside" scenario, in which economic growth proceeds smoothly but more rapidly than in the baseline, while prices rise more slowly. In this projection, population, labor force, and capital stock growth, as well as exogenous technological changes, occur more quickly than in the trend. Potential output thus climbs more rapidly, and because

EXHIBIT 4
Contributions to Real Potential GDP Growth
(Average annual percent change)

	History		Trend		Cycle		Optim		Pessim	
	1979-1989	1989-1999	2001-06	2007-27	2001-06	2007-27	2001-06	2007-27	2001-06	2007-27
Factors of Production: Private Nonresidential										
Labor Force (0.643)	1.1	1.0	0.8	0.5	0.8	0.5	0.9	0.7	0.7	0.3
Capital Stock (0.272)	0.9	1.4	1.1	1.3	0.9	1.3	1.2	1.4	1.0	1.2
Energy (0.084)	0.0	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1
Govt. Infrastructure (0.022)	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1
Total	2.1	2.5	2.0	2.0	1.9	2.0	2.3	2.4	1.8	1.7
Contributions to Factor Productivity										
Research and Development	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2
Other	0.8	1.0	1.0	0.9	1.0	0.7	1.2	1.2	0.8	0.7
Total	1.1	1.2	1.3	1.2	1.3	0.9	1.5	1.4	1.1	0.9
Output Coverage	-0.2	-0.5	-0.3	-0.4	-0.3	-0.4	-0.4	-0.4	-0.3	-0.4
Real Potential Growth	2.9	3.2	3.0	2.7	2.8	2.5	3.4	3.4	2.6	2.1

Note: Figures in parentheses are production function weights. All real data are in chained 1996 dollars. Labor and capital exclude labor and capital used to produce energy.

EXHIBIT 5
Mortality Assumptions
(Ultimate levels by 2050)

	Trend/Cycle	Optim	Pessim
Life Expectancy at Birth (Years)			
Male	81.2	83.8	79.5
Female	86.7	88.4	84.9

output is primarily supply-determined in the long run, real GDP grows 0.5 percentage point quicker per year.

The **pessimistic projection** is the "downside" scenario. Here, growth proceeds smoothly, but more slowly than in the baseline, and productivity growth is weaker. In this projection, population, labor force, and capital stock growth, together with exogenous technological changes, occur less rapidly than in the trend. Output thus climbs 0.5 percentage point more slowly per year.

Probabilities

The underlying rate of growth in TREND25YR0202 is consistent with history, as well as with conjecture about the economy's unfolding structure. It can be regarded as the best unbiased projection of the economy. Although any probabilities attached to long-run projections must be highly subjective, DRI•WEFA believes there is only a 10% chance that the economy's underlying path will be outside the "bandwidth" encompassed by the optimistic and pessimistic projections.

Key Assumptions

Demographics. Demographic factors are a primary driving force in any long-term economic projection. The population's growth rate and changes in its composition have considerable impacts on the labor force, the full-employment unemployment rate, housing demand, and other spending categories—most notably, consumption of health services and purchases by state and local governments.

The population projections in DRI•WEFA's trend and cyclical scenarios are consistent with the Census Bureau's "middle" projection for the U.S. population. This projection is based on specific assumptions about immigration, fertility, and mortality rates. The fertility rate (the average number of births per woman upon completion of childbearing) will rise from its current level of 2.0 to about 2.2 in 2027, while the mortality rate should continue to improve—with life expectancy for men and women rising steadily from 74.1 and 79.8 years, respectively, in 1999 to 77.6 and 83.6 years, respectively, in 2027. Meanwhile, net immigration (including undocumented immigration) is estimated to rise from only 960,000 persons in 1999 to 979,000 in 2027. Based on these assumptions, the U.S. population will average 0.8% growth per year through 2027, down from the 1.0% pace during the last 25 years. Thus total population will rise from 273.1 million in 1999 to 343.0 million in 2027.

The age distribution of the population is also an important factor in the long-term outlook. As baby boomers begin to retire, the share of the U.S. population aged 65 years and over will jump from 13% in 2010 to 19% by 2027, pushing up outlays for Social Security, Medicare, and Medicaid. In addition, the growth rate of the working-age population will slow more than that of the overall population. After increasing 1.1% annually over the past 25 years, the population aged 16 to 64 years will grow 0.8% annually during 1999-2014 and just 0.2% per year thereafter.

The optimistic and pessimistic alternatives embody population projections different from those in the trend. The optimistic outlook assumes the U.S. population will increase more quickly because of higher net immigration. Conversely, the pessimistic alternative constricts growth in the labor force because of lower assumed net immigration from the start of the forecast period. As a result, annual population growth averages 1.3% in the optimistic scenario and just 0.5% in the pessimistic scenario. By the end of the forecast interval, the current population increases to 390 million in the optimistic

EXHIBIT 6
The Percentage of the Population Aged 65 and Older Rises

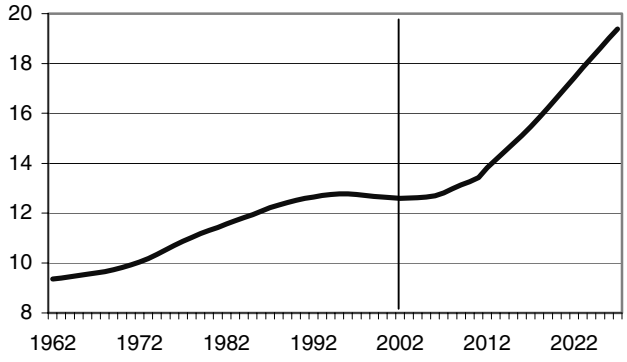
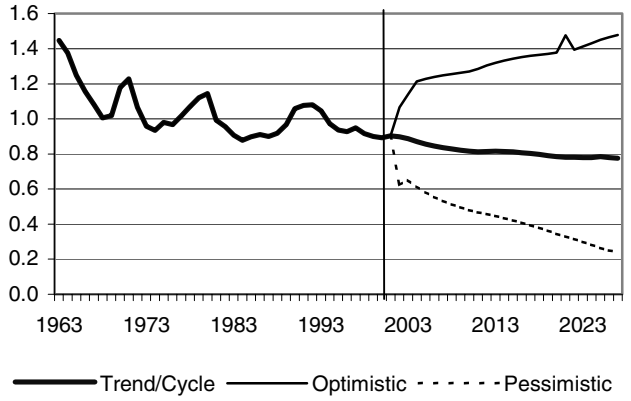


EXHIBIT 7
Population Growth
(Percent)



projection, but to only 310 million in the pessimistic scenario compared with 343 million in the baseline.

The Census Bureau has yet to revise its projections to make them consistent with the 2000 census. The revised projections, which will be released in late 2002, will show a larger population; the revised 2000 estimates were raised to 281.4 million, up from 275.3 million.

Fiscal Policy. We expect federal spending on defense, transfer payments, and federal aid to state and local governments to consume a larger share of GDP than previously thought. As a result, the federal government should post surpluses in the unified budget, averaging 0.02% of GDP from 2001 through 2027.

In the longer run, the baby boomers' retirement will cause a gradual disappearance of the surplus, despite some increases in the Social Security tax rate. In the trend scenario, the (unified) surplus falls, but does not return to a deficit until fiscal 2018.

Monetary Policy and Inflation. Monetary policy remains important in the long-term projections, not so much in determining the level of output, but rather in determining the rate of inflation. Ultimately, the Federal Reserve decides on the "steady-state" rate of inflation. Monetary policy can cause inflation to accelerate by being overly accommodative and pushing the unemployment rate temporarily below the rate at which inflation is stable. Alternatively, it can cause inflation to decelerate by being restrictive and pushing the unemployment rate temporarily above the rate at which inflation is stable.

The monetary authorities choose to keep short-term interest rates slightly below their equilibrium levels throughout the forecast period in the trend projection, causing a slow but steady increase in inflation. Consequently, the rate of inflation—as measured by the chain-weighted GDP price index—rises from 1.4% in 1999 to 2.2% by 2010 and 3.2% in 2027.

Bond yields will generally move parallel to the funds rate over the forecast interval, but run somewhat higher. The yield on ten-year treasuries stays below 6.0% through 2007. Thereafter, the combination of higher short-term rates and increased government borrowing pushes up the ten-year bond rate to 9.6% by 2027. The forecast implies a real federal funds rate of about 2.0% and a real long-term bond rate between 2.5% and 3.0%—in line with historical averages.

In the cyclical scenario, periods of overly expansive monetary policy are followed by intervals of overly restrictive policy, which translates into the periodic acceleration and deceleration of inflation. In the optimistic scenario, the Fed is assumed to keep a tight rein on the money supply, permitting little acceleration of inflation. Conversely, in the pessimistic scenario, the central bank is assumed to be reluctant to put the economy through the pain necessary to bring inflation back to baseline levels, choosing instead to tolerate an inflation rate that eventually exceeds 6%.

EXHIBIT 8
The Federal Surplus Shrinks as the Population Ages
(Percent of GNP, NIPA basis)

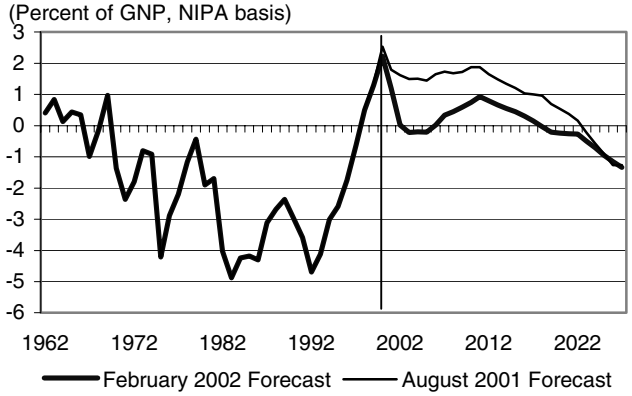
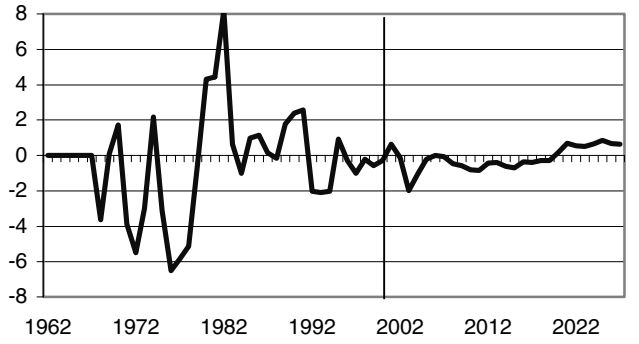


EXHIBIT 9

Short-Term Interest Rates Will Settle at Their Equilibrium

(Federal funds rate less nominal GDP growth, percentage points)



Energy. Except for temporary spikes (such as this year's), DRI•WEFA's Energy Service expects the average acquisition price of foreign oil to remain below $30 per barrel until 2015. With worldwide demand steadily increasing, however, the OPEC cartel will maintain some pricing power. Energy price inflation should thus heat up early in the next decade. Although it is impossible to predict the precise timing of price changes, the trend projection assumes that oil prices hover around $25 per barrel through the end of 2012. Thereafter, the forecast shows oil prices climbing steadily to $59 per barrel by 2027. The West Texas Intermediate price for oil is projected to reach $63.1 per barrel by 2027, compared with the average price of $26.4 in 2000.

In the long run, scarcity tends to bid energy prices up, while new technologies tend to hold them down. In the end, we project that scarcity will win out, with the real price of imported oil rising from about $20.0 a barrel in 2001 to $27.0 a barrel in 2027.

The oil price path in the cyclical scenario has a major spike in 2020, where oil producers are assumed to mimic their behavior of the 1970s, raising oil prices substantially when the world economy is close to a cyclical peak. In the pessimistic scenario, nominal oil prices are higher than in the trend. In the optimistic scenario, both nominal and real oil prices are below what they are in the trend.

International. In all three projections, the major U.S. trading partners are assumed to follow a growth pattern similar to that in the United States, with the pace of growth (in real consumption) averaging 2.45% over the forecast period, down from an average 2.8% over the past 25 years. This slowdown reflects demographic forces similar to those operating in the United States, as well as the maturation of many developing economies. The dollar's exchange rate will depreciate steadily through 2027, in order to keep the country's current account deficit from growing too fast.

Variations in the international environment help explain some of the differences among the alternative scenarios. A faster (slower) rate of growth abroad partially explains the higher (lower) level of exports in the optimistic (pessimistic) scenario. Meanwhile, a cycle in the real exchange rate due to swings in domestic interest

EXHIBIT 10

Real Oil Prices Are Higher in the Long Term

(Refiners' acquisition cost of imported crude, 1996 dollars/barrel)

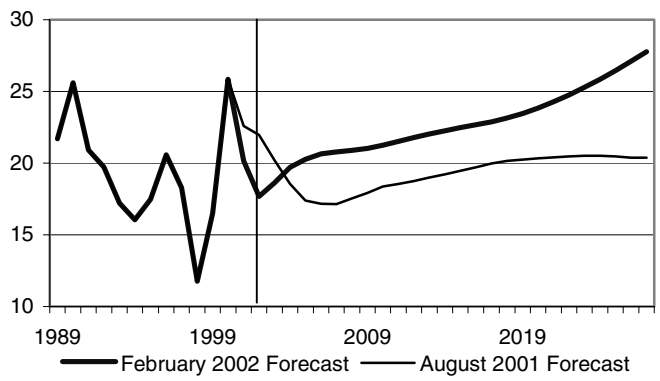


EXHIBIT 11

Oil Price Paths Across the Four Scenarios

(Refiners' acquisition cost of imported crude, 1996 dollars/barrel)

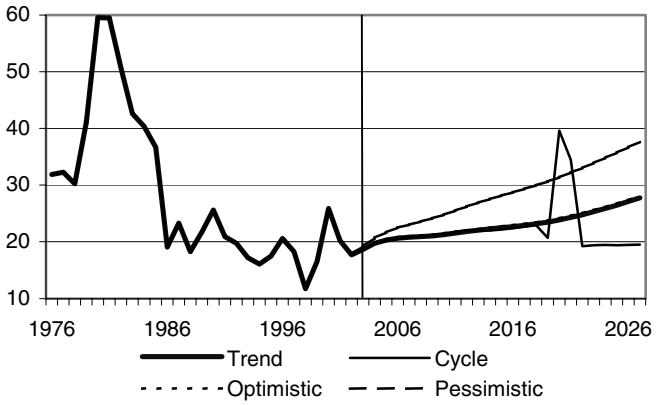
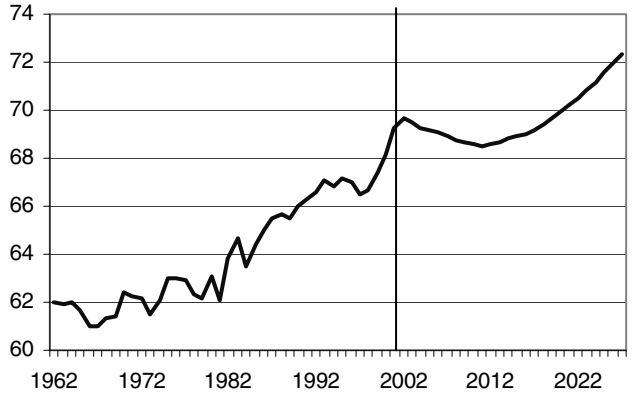


EXHIBIT 12
The Consumption Share Will Keep Rising
(Percent of GDP)



rates helps explain the trade pattern in the cyclical scenario.

Demand Mix. Although the overall level of output is determined by supply conditions, many mixes of aggregate demand are consistent with that level of output. Over the forecast period, the demand mix will be dominated by the retirement of baby boomers. The consumption share of GDP rises because senior citizens continue to spend, even though they are no longer directly producing GDP. In addition, federal government outlays for Social Security and Medicare explode, further boosting consumption relative to GDP. Between 2011 and 2027, consumption's share of GDP jumps from 69% to more than 72%.

The sum of the remaining shares of GDP must decline to make room for the rising share devoted to consumption. Government spending will bear some of the burden—between 2011 and 2026, government's share of GDP will decline by more than three percentage points.

Methodology over the Short-Term Forecasting Horizon

The trend remains consistent with the February Control forecast through 2011. The two bandwidth scenarios, optimistic and pessimistic, take the trend solution as their starting point and immediately diverge from it—according to their own underlying assumptions—at the beginning of the solution interval. This ensures that growth is always higher in the optimistic alternative, and lower in the pessimistic alternative. However, while average GDP growth, inflation, unemployment, and interest rates may be higher or lower than in the trend, depending on which is appropriate, these relationships will not necessarily hold for every individual quarter of the forecast period.

by Patrick J. Newport, Mike Montgomery and Michael Donnelly

TABLE 1
Capsule Summary of the Long-Term Projections

		Trend	Cyclical
	General Outlook	The economy exhibits mild variations in growth and approaches its balanced-growth path. Inflation rises slowly, averaging 3.0%.	Typical business-cycle fluctuations.
I.	**Principal Exogenous Assumptions**		
	Demographic	Projections consistent with the Census Bureau's latest middle-growth forecast, which assumes a leveling off of the fertility rate at 2.2 births, an ultimate mortality rate of 77.6 years for men and 83.6 years for women, and net immigration of 912,000–954,000 per year.	
	Energy imports	Real oil prices remain stable. No embargoes are assumed.	Sharp price hikes occur in periods of peak demand.
	Food prices	Wholesale farm prices average 1.5% annual increases.	Wholesale farm prices average 2.9% annual increases. Inflation spikes in 2020.
II.	**Principal Policy Dimensions**		
	Tax changes	Lower personal income tax rates. Corporate tax falls to 33.0% as the national debt shrinks.	Fluctuates with the business cycle.
	Growth of federal government purchases	Real, +1.2% per year.	Real, +12% per year. Growth pattern resembles the trend's.
	Transfers	Real growth of 4.0% per year.	Real growth of 4.0% per year.
	Budget deficit	Surplus averages 0.02% of GDP.	Deficit averages 0.3% of GDP.
	Average federal government share of GDP	18.5%	19.2%
	Monetary policy	Sufficient funds made available to promote stable credit growth. Money (M2) growth averages 5.3%.	Fluctuations in monetary policy contribute to severity of cycles. M2 averages 5.6% annual growth.
	Federal funds rate	Rises gradually over forecast period.	Ranges between 1.75% and 9.50%.
	Nonborrowed reserves	Steadily rises over forecast period.	Steadily rises over forecast period.

TABLE 1 (Continued)
Capsule Summary of the Long-Term Projections

		Trend	Cyclical
III.	**Behavior of Economic Agents**		
	Consumers	Consumer confidence weakens as inflation picks up.	Cyclical swings in confidence, income, and wealth cause large fluctuations in expenditures, particularly on durable goods.
	Average annual real consumption growth	3.0%	3.2%
	Business	Decisions made in relatively stable environment.	Fluctuations in output, interest rates, and inflation lead to fluctuations in investment.
	Average fixed investment share in GDP	13.0%	12.4%
	Average share of corporate cash flow in GNP	10.9%	10.2%
	State and local government	Real expenditures dictated by demographics and ability to raise taxes. Average real growth in purchases of 1.7% per year.	Average real growth in purchases of 1.7% per year.
	Federal budget position (Fiscal years)	Surpluses through 2017.	Deficits starting in 2013.
	International		
	Average annual wholesale price inflation for major trading partners	1.8% (OECD countries) 3.7% (Developing countries)	1.9% (OECD countries) 3.8% (Developing countries)
	U.S. exchange rate	Declines over forecast period.	Declines over forecast period.
IV.	**Other Parameters**		
	Average annual productivity growth	2.5%	2.2%
	Average annual potential output growth	2.8%	2.5%
	Consumer price inflation	Demand pressures and a return of moderate oil and food price inflation gradually push consumer price inflation from 2.5% in 1999 to 3.7% in 2027.	Periodic demand surges, oil price shocks, and more aggressive wage responses boost the average inflation rate.
	Consumer price index		
	Average annual increase	3.0%	4.3%
	Peak annual	3.75% (2027)	6.7% (2027)
	Hourly earnings		
	Average annual rise	4.4%	5.6%
	Peak annual	5.0% (2026)	7.8% (2027)
	Housing market	Demographics dictate slower growth of the housing stock after 1998.	Cycles in incomes and monetary policy affect the housing sector more severely.
	Median new home price in 2027	$393,300	$512,700
	Average annual rise	3.1%	4.1%
	Unemployment	Hovers about 5.0%.	Annual rates vary between 3.0% and 7.0%.
	Average rate	4.9%	4.9%

TABLE 1 (Continued)
Capsule Summary of the Long-Term Projections

		Optimistic	Pessimistic
	General Outlook	High growth.	Low growth.
		Deviations from trend due to differences in demographic assumptions, productivity growth, and investment.	
I.	**Principal Exogenous Assumptions**		
	Demographic	Projections above the trend are a result of higher net immigration.	Projections below the trend due to lower net immigration.
	Energy imports	By 2027, oil import bill reaches $528 billion.	Oil prices rise steadily, reaching $97 per barrel by 2027. Oil import bill reaches $553 billion by 2027.
	Food prices	Wholesale farm prices rise 1.5% annually.	Wholesale farm prices average 2.6% annual increases.
II.	**Principal Policy Dimensions**		
	Tax changes	Similar to trend.	Similar to trend.
	Growth of federal government purchases	Real, +1.2% per year.	Real, +1.3% per year.
	Transfers	Real growth of 4.3% per year.	Real growth of 3.8% per year.
	Budget deficit	The government runs a surplus through forecast period.	Deficits in most years.
	Average federal government share of GDP	17.5%	20.6%
	Monetary policy	Stable and predictable.	Tight policies required to contain rising inflationary pressures.
	Federal funds rate	Settles at 5.0%.	Rises continually over forecast period.
	Nonborrowed reserves	2.4% average growth.	2.0% average growth.

TABLE 1 (Continued)
Capsule Summary of the Long-Term Projections

		Optimistic	Pessimistic
III.	**Behavior of Economic Agents**		
	Consumers	Consumer confidence weakens as inflation rises.	Lower real incomes depress consumer expenditures, especially on durable goods.
	Average annual real consumption growth	3.6%	2.6%
	Business	High demand expectations plus low inflation and interest rates enhance the business environment.	Higher inflation, higher interest rates, and weaker demand make investors more cautious.
	Average fixed investment share in GDP	13.3%	12.5%
	Average share of corporate cash flow in GNP	11.1%	10.4%
	State and local government	Average real growth in purchases of 2.1% per year.	Average real growth in purchases of 1.5% per year.
	Federal budget position (Fiscal years)	Government runs surplus through forecast period.	Deficits after 2001.
	International		
	Average annual wholesale price inflation for major trading partners	1.6% (OECD countries) 3.4% (Developing countries)	2.5% (OECD countries) 4.4% (Developing countries)
	U.S. exchange rate	Declines over forecast period.	Declines over forecast period.
IV.	**Other Parameters**		
	Average annual productivity growth	2.7%	2.1%
	Average annual potential output growth	3.4%	2.3%
	Consumer price inflation	Hovers below 3.0%.	Inflation accelerates, approaching 6.0% in 2027.
	Consumer price index		
	Average annual increase	2.5%	3.7%
	Peak annual	2.9% (2017)	5.7% (2027)
	Hourly earnings		
	Average annual rise	4.2%	4.7%
	Peak annual	4.7% (2017)	6.2% (2027)
	Housing market	The higher population projections push the housing stock above the trend.	Lower real incomes and high cost of funds depress housing starts.
	Median new home price in 2027	$336,600	$498,700
	Average annual rise	2.6%	4.2%
	Unemployment	Remains near trend throughout forecast period.	Remains near trend throughout forecast period.

SLOW GROWTH AND RISING INFLATION: THE TREND PROJECTION

Highlights

- Real GDP growth will average 3.1% per year during 2001-27. Growth slows after 2012 as baby boomers retire.
- The outlook for inflation remains moderate. CPI inflation will average 3.0% per year over the forecast period. Core inflation will average 3.0%.
- High investment and a more slowly growing labor force should result in higher productivity growth. Nonfarm business productivity growth averages 2.5% over the forecast period, compared with the 1.7% average experienced since 1975.
- After worsening through 2002, the current account deficit will narrow, but remain negative. The deficit will hover between 3% and 4% of GDP during most of the projection period.
- Real oil prices will creep up over the forecast period. The real price of imported oil rises from about $20.0 a barrel in 2001 to $27.0 a barrel in 2027.
- The labor market will stay tight, with the unemployment rate remaining below 5.0% through most of the forecast period.
- Solid economic growth, combined with only moderate increases in federal spending, will result in surpluses throughout most of the forecast period.

Introduction

Economists focus on the short run. Will the Federal Reserve raise interest rates? Is the stock market overvalued? Will we have a recession next year? This focus is understandable. We care more about what will happen tomorrow than what will happen three years from today. The focus, though, is misplaced. When historians look back on the 20th century, the most striking economic fact that will distinguish it from previous centuries will not be the 21 recessions, but rather the steady, inexorable rise in per capita income.

The driving force behind rising per capita income is one that economists still do not quite understand: productivity growth. They agree that new technologies eventually make workers more productive, but many questions remain under debate. What determines the pace of technological progress? How long does it take for new technologies to catch on? How does an innovation such as the Internet compare with the invention of the transistor, the airplane, or the electric bulb? Not knowing these answers makes productivity—and the course of the economy—extremely tricky to forecast.

A further complication made this forecast even trickier. Productivity, before the current slowdown, was surging, possibly because of what Alan Greenspan called "a revolution in information technologies." Although productivity growth eased as the economy slowed in 2001, recent data indicate that it is surging again. Will the productivity boom continue much longer? While there are several promising new technologies in the pipeline, we think things will settle, with productivity growth rising faster than it did in during the 1970s and 1980s, but slower than in the second half of the 1990s.

Long-Term Forecast Assumptions

In the trend scenario, we assume an environment free of exogenous shocks. Economic output will converge towards its potential level, with all resources fully utilized. As a result, the growth rates of output, real incomes, real expenditures, and the general standard of living of the population are determined by the growth rate of potential GDP. The long-range outlook is dominated by supply factors, such as population growth and demographics, labor force participation rates, average weekly hours worked, national saving and capital stock accumulation, productivity growth, fiscal and monetary policies, foreign developments, and internationally determined prices.

Population and Demographics

DRI•WEFA's population projections are based on the Census Bureau's middle series assumptions for fertility, life expectancy, and net immigration. These projections have the U.S. population expanding at an annual rate of 0.8% between 2000 and 2027, when the population reaches 344 million. Growth in the older age cohorts will be stronger as the baby boomers age. The 65 years and over population share rises from 12.5% in 2001 to 19.5% in 2027.

The population projections do not incorporate the 2000 Census estimates. When the Census updates its population projections later this year, the population numbers should be 2-3% higher than currently projected.

Productivity and Aggregate Supply

It is the economy's ability to increase supply in the long run that determines its potential growth path. Growth in aggregate supply depends on the increase in the labor force, the growth of the capital stock, and improvements in productivity.

DRI•WEFA believes productivity growth will exceed its recent historical average and average 2.5% per year during 2001–27. This is lower than the stellar 2.9% average annual growth achieved during the 1960s, although higher than the 1.7% annual growth rate for 1975-2000. The pickup in productivity growth, particularly over the next decade, is largely due to robust growth in equipment spending and new technologies.

The real capital stock will grow 4.5% annually, compared with 4.2% in 1976-2001. The declining price of capital goods relative to other inputs accounts for the robust capital stock growth rates.

Government Policy

The government sector's share of GDP will decline over the forecast period. Public purchases (both state and local) as a share of GDP will decrease from 18.0% in 2001 to 14.3% in 2027. This reduction in the government's share of the economy is concentrated in the federal sector. The reduction in federal spending as a percentage of GDP will largely be the result of a declining defense share. State and local spending as a share of GDP will shrink from 12.0% in 2001 to 10.0% in 2027.

EXHIBIT 1

The Labor-Force Participation Rate Will Drop

(Percent)

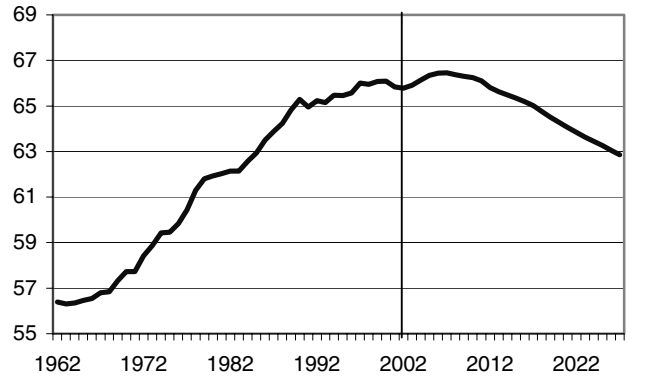
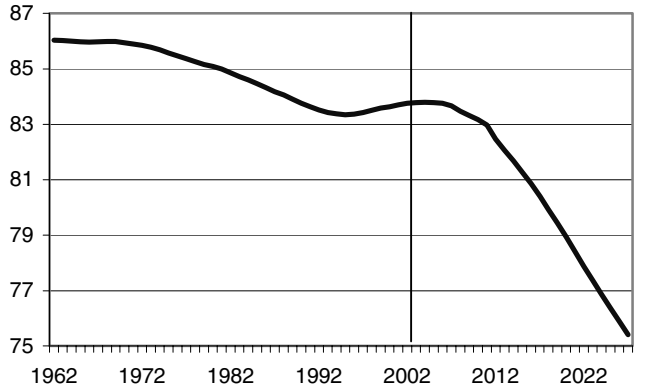


EXHIBIT 2

Population Aged 16-65 as a Percent of the Total Adult Population



DRI•WEFA expects the federal government to record a surplus through 2017. The federal surplus will average 0.2% of GDP over the entire forecast period. Our projections are based upon the assumption that Congress and the executive will find it politically difficult to spend or tax away the Social Security surplus, and consequently, the publicly held debt will decline over time. We also expect state and local governments will run surpluses throughout the forecast period, since, statutorily, most states are required to do so.

Monetary Policy and Financial Markets

The Federal Reserve decides on the "steady-state" rate of inflation. Monetary policy can cause inflation to accelerate by being overly accommodative. Alternatively, it can cause inflation to decelerate by being restrictive. The monetary authorities choose to keep short-term interest rates slightly below their equilibrium levels throughout the forecast period in the trend projection, causing a slow but steady increase in inflation. Consequently, the rate of inflation—as measured by the chain-weighted GDP price index—rises from 1.3% in 2002 to 2.2% by 2010 and 3.2% in 2027.

Bond yields will generally move parallel to the funds rate over the forecast interval, but run somewhat higher. The yield on ten-year treasuries stays below 6.0% through 2007. Thereafter, the combination of higher short-term rates and increased government borrowing

EXHIBIT 3
Contribution to New Jobs
(Payroll employment, cumulative percent change)

	History		Trend		
	1976 -1986	1986 -2001	2002 -2007	2008 -2017	2018 -2027
Manufacturing	4.5	-2.3	-4.7	-8.2	-7.6
Mining and Construction	6.4	4.8	2.3	6.6	-5.5
Government	8.4	12.4	9.2	8.5	15.8
Private Services	80.6	85.0	93.2	93.1	97.3
Total New Jobs (Millions)	20.4	34.4	8.5	12.2	6.2

pushes up the ten-year bond rate to 9.6% by 2027. The forecast implies a real fed funds rate of about 2.0% and a real long-term bond rate close between 2.5% and 3.0%—in line with historical averages.

Oil Prices

Except for temporary spikes (such as this year's), DRI•WEFA's Energy Service expects the average acquisition price of foreign oil to remain below $30 per barrel until 2015. With worldwide demand steadily increasing, however, the OPEC cartel will maintain some pricing power. Energy price inflation should, therefore, heat up early in the next decade. Although it is impossible to predict the precise timing of price changes, the trend projection assumes that oil prices hover around $25 per barrel through the end of 2012. Thereafter, the forecast shows oil prices climbing steadily to $59 per barrel by 2027. The West Texas Intermediate price for oil is projected to reach $63.1 per barrel by 2027, compared with the average price of $26.4 in 2000.

In the long run, scarcity tends to bid energy prices up, while new technologies tend to hold them down. In the end, we project that scarcity will win out, with the real price of imported oil rising from about $20.00 per barrel in 2001 to $27.00./barrel in 2027.

Foreign Assumptions

The major U.S. industrialized trading partners are assumed to follow a growth pattern similar to that in the United States, with the pace of growth averaging 2.5% over the forecast period, down from an average 2.8% over the past 25 years. This slowdown reflects demographic forces similar to those operating in the United States. The developing countries that trade with the United States will grow 4.6%, about the same as during the past 25 years.

The dollar will have to depreciate steadily against foreign currencies throughout the forecast period in order to keep the U.S. current account deficit from growing too fast. Over the forecast period, the real U.S. trade-weighted dollar with industrialized countries depreciates 0.5% annually.

Long-Term Forecast Highlights

Real GDP. The trend projection assumes that the U.S. economy experiences no major mishaps between now and 2027. The projection is identical with our February short-term forecast through 2011, and represents

EXHIBIT 4
Manufacturing's Share of Total Employment Continues to Slide
(Percent)

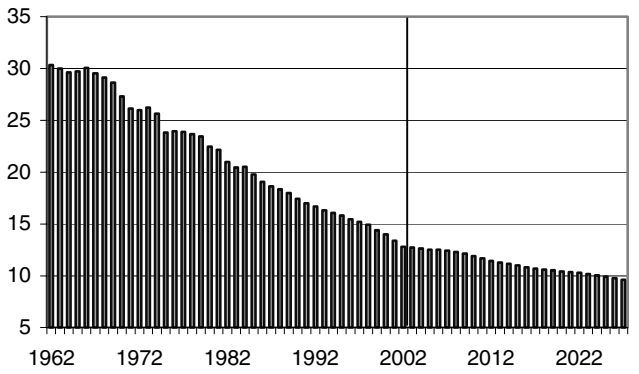


EXHIBIT 5
Potential Output Growth Will Slow
(Percent)

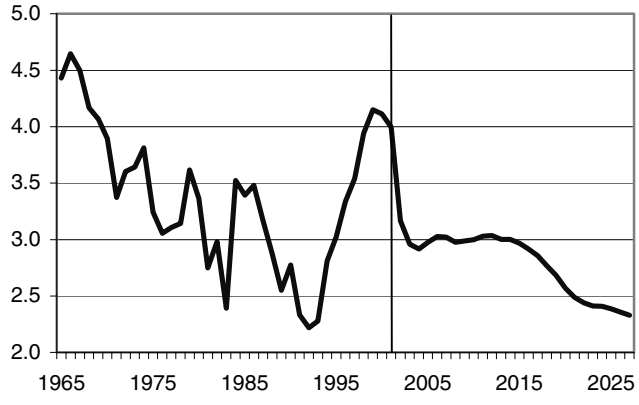
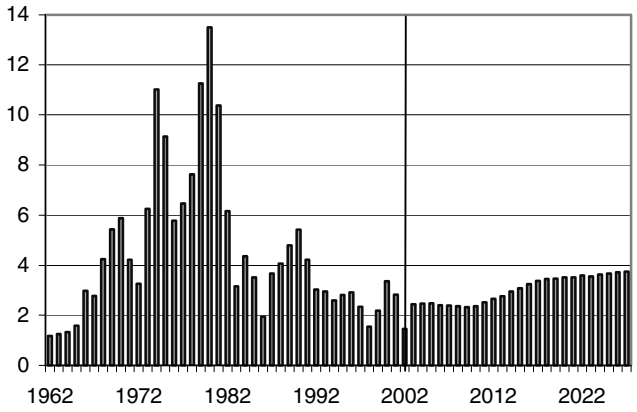


EXHIBIT 6
Consumer Price Inflation
(Percent)



DRI•WEFA's best estimate of the economy's path over that period. Beyond 2011, the projection should be interpreted as the mean of all possible "near-full-employment" paths the economy could follow. The smooth-growth characteristics of the trend projection make it most useful for tasks largely impervious to short-term cyclical fluctuations, such as planning capacity additions and evaluating new markets. This projection is also the best base from which to evaluate the effects of various assumptions about key exogenous elements, such as fiscal policy or energy prices, on the overall economic outlook.

Annual real GDP growth averages 3.1% during 2001-27, compared with 3.0% during 1976-2001. The economy's underlying growth rate will slow after 2011 as baby boomers begin to retire, slowing labor force growth. Potential output growth should hold up fairly well in the future, with greater business fixed investment and R&D spending offsetting the slowdown in labor force growth. Eventually, though, the effects of weaker labor force growth become dominant and, in a sense, self-perpetuating. As output growth drops off, business fixed investment rises more slowly, limiting capital stock growth and thus future output gains.

Employment. Slower long-run increases in the labor force indicate more moderate long-run employment growth in the future. Total civilian employment will rise at an average annual rate of 1.0% from 2000 to 2005 and will moderate to an average growth rate of 1.1% for the rest of the forecast period. Total establishment employment will rise from 131.4 million in 2000 to 173.5 million in 2027, an increase of 32%. This growth is significantly slower than the astonishing gain of 49.7 million (63%) recorded in the previous 25 years. Manufacturing's share of total employment will continue to decline over the forecast period, falling to 10.1% in 2027 from 14.1% in 2000. The broad service sector will generate an increasing share of employment growth in the forecast period, although the share of employment accounted for by the federal government will decline during the forecast period.

EXHIBIT 7
The Federal Funds Rate
(Percent)

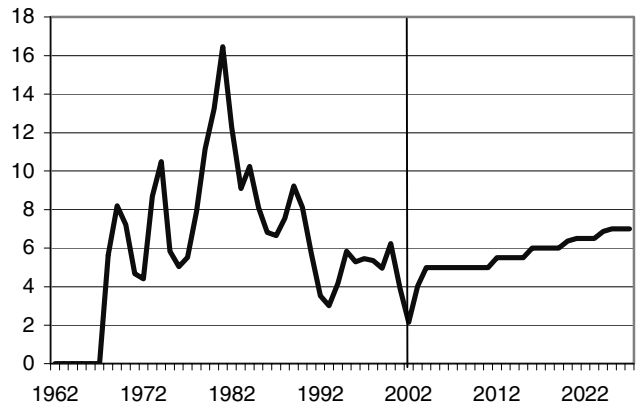


EXHIBIT 8
The Consumption Share Rises Steadily
(Percent of GDP)

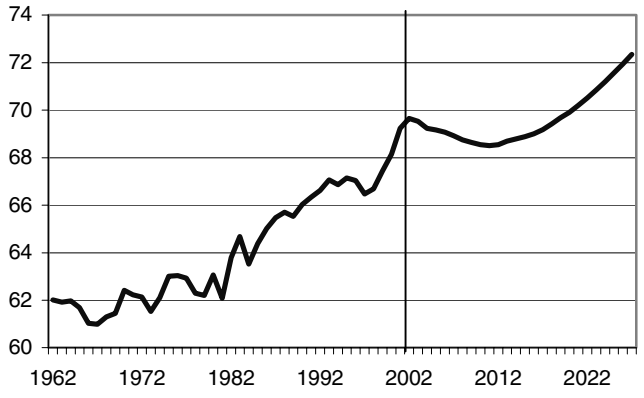


EXHIBIT 9
Personal Consumption Slows in Trend Scenario
(Average annual percent change)

	History		Trend		
	1976 -1986	1986 -2001	2002 -2007	2008 -2017	2018 -2027
Total Personal Consumption	3.3	3.3	3.0	3.2	3.0
Durable Goods	5.4	5.4	4.0	4.2	4.8
Autos & Parts	5.1	3.2	2.7	2.0	3.2
Furniture & Appliances	6.2	8.2	5.4	5.9	6.0
Software	N/A	38.3	9.2	6.2	6.7
Ophthalmic Goods	5.8	3.6	3.3	5.7	7.1
Other Durable Goods	4.2	5.4	4.2	5.4	5.5
Nondurable Goods	2.4	2.8	2.8	3.2	3.4
Food & Beverages	1.7	2.1	1.9	2.2	2.2
Prescription & Over-the-Counter Drugs	4.4	5.4	4.4	6.1	6.4
Clothing & Shoes	5.9	4.7	4.4	4.4	4.2
Gasoline & Oil	1.3	1.5	2.3	2.2	1.4
Fuel Oil & Coal	-5.6	-0.8	1.0	-0.6	-0.8
Tobacco Products	-1.2	-2.2	-1.2	-1.3	-4.8
Othe Nondurable Goods	3.8	4.3	4.4	4.3	4.3
Services	3.5	3.1	2.8	3.1	2.7
Housing	2.9	2.1	1.8	1.4	1.0
Household Operation	2.7	3.5	3.7	4.5	4.7
Electricity	3.1	2.0	3.1	2.4	2.3
Natural Gas	-1.1	0.9	1.5	1.2	1.3
Telephony	5.1	7.8	7.0	7.9	7.7
Other	2.4	1.9	1.4	2.8	2.6
Transportation	3.2	3.1	2.2	1.8	1.2
Motor Vehicle Leases	N/A	N/A	6.9	6.3	1.9
Other Transportation	N/A	N/A	1.6	1.1	1.1
Personal Business Services	4.7	4.0	3.1	2.8	1.9
"Free" Financial Services	5.5	3.6	3.6	2.2	1.1
Medical	3.8	2.9	3.0	3.9	3.4
Recreational	5.7	4.8	6.1	5.1	3.6
Other Services	3.4	3.2	1.6	2.6	2.8

Note: All real data are in chained 1996 dollars.

Inflation. Over the long run, inflation is a monetary phenomenon. Its future course will be determined by policies implemented by Alan Greenspan and his successors. Since we do not know who his successors will be, we assumed the following in the 25-year forecast:

- The Fed will attempt to keep inflation contained over the first ten years of the forecast period.
- In the second half of the forecast period, as baby boomers start retiring, labor markets will tighten, putting pressure on wages. We assume that the Fed will allow inflation to creep up rather than slow the economy—possibly inducing a recession—to keep inflation checked.

The CPI is expected to average 3.0% annual increases between 2000 and 2027, somewhat less than the 4.0% average from 1947 to 2000. The broader-based GDP deflator will rise 2.6% per year. The acceleration of inflation over the projection period reflects a more accommodative Federal Reserve attitude in response to pressures created by the aging population

Consumption. Expenditures, in the long term, are primarily determined by the growth of real permanent income, demographic influences, and changes in relative prices. The share of personal consumption expenditures in GDP will rise slightly over the forecast interval, and should account for 72% of the overall economy by the end of the forecast horizon. Real consumption expenditure growth will average 3.0% per year over the forecast period.

With total output growth easing, real consumer spending gains will slow from 3.2% annually between 1973 and 2000 to 2.9% during 2001–26. In per capita terms, growth will advance about 2.0% per year, 0.4% below the 1975-2000 rate. Most consumption categories are expected to slow, except for health-care spending, which will pick up again after 2012.

The share of consumption devoted to services will rise, mainly because of rising health expenditures, while that for goods will fall over the forecast period.

The long-term outlook for auto and light truck sales calls for a slowdown in the rate of increase relative to past performance. Vehicle sales growth will average close to 0.8% over the next 25 years. Light-vehicle sales are forecasted to reach 21.3 million units by 2027. Although the number of vehicles per person has increased significantly in the past 20 years, the United States is approaching a saturation point in the rate of vehicle ownership. Future growth in vehicle sales will

EXHIBIT 10
Light-Vehicle Sales
(Millions of units)

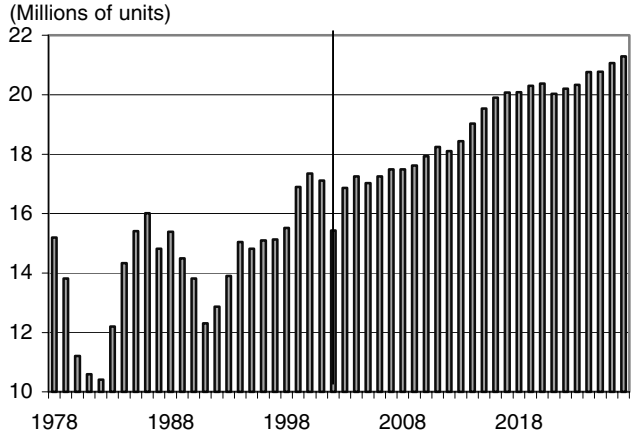


EXHIBIT 11
Housing Starts
(Millions of units)

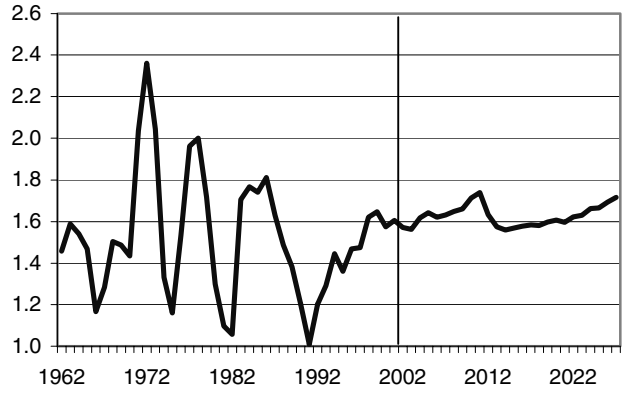
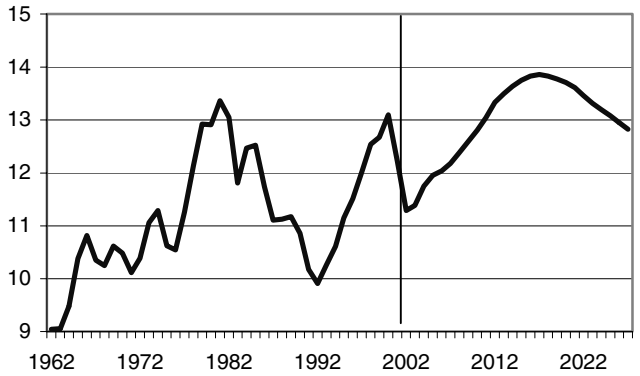


EXHIBIT 12
Investment's Share of GDP Will Turn Down After 2015
(Percent of GDP)



be primarily driven by growth in population and demand for replacement vehicles. Automobile sales should be relatively strong throughout the projection period, averaging 9.2 million units per year. Total light-vehicle sales (cars plus light trucks) reached 145 million units in the 1990s and will reach 171 million in the subsequent decade, compared with 135 million during the 1980s.

According to DRI•WEFA's Energy Service, real energy-intensive consumption (gasoline, fuel oil, coal, electricity, and natural gas) should increase 1.7% per year through 2027, compared with 1.5% annual gains since 1970. Energy conservation efforts will continue. This stems partly from a stock/flow phenomenon: despite the trend toward minivans and sport/utility vehicles, for example, the average new vehicle is still more fuel-efficient than the existing stock. Gasoline usage per vehicle should fall for several more years, even if relative energy prices remain flat. Similar considerations apply to business capital and housing stocks. The ongoing employment shift from manufacturing to services also implies lower energy usage per unit of output.

Real personal disposable income, which climbed 3.1% between 1970 and 2000, will rise 2.9% annually over the next 25 years—in line with the slowdown in total output growth. This does not take into account the rising volume of withdrawals from existing retirement plans.

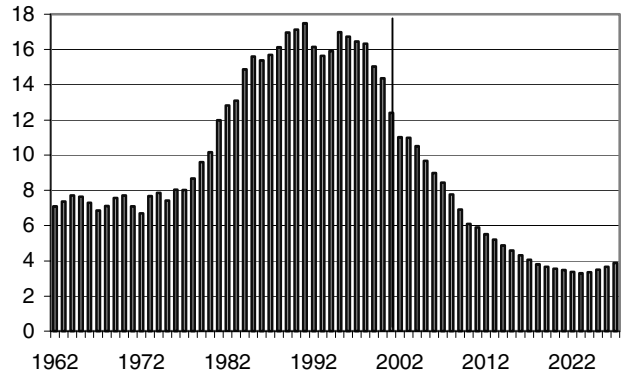
Housing. Household growth clearly depends on population growth, but real incomes, employment, the age distribution of the population, and societal values also influence it. Net additions to the housing stock are closely linked to household growth, which is the primary driver of housing starts. Many analysts tend to overlook another key factor for housing starts: the geographic location of the demand for net additions.

The 25–34 age cohort is key for the demand for new housing. This is the age group where individuals typically purchase their first home. The demand for new housing was boosted by the large gains in this age group in the late 1960s and 1970s, as the baby-boom generation entered the housing market. Unfortunately for the housing sector, the baby-boom generation began to pass through this age bracket in the mid-1980s, limiting the demand for additions to the housing stock. The number of households in this cohort will begin a modest

EXHIBIT 13
Saving and Investment Shares of GNP
(Percent)

	History		Trend		
	1976 -1986	1986 -2001	2002 -2007	2008 -2017	2018 -2027
Household	10.3	7.4	4.4	4.0	3.4
Business	9.1	9.2	9.6	10.8	11.8
Government	-3.4	-2.5	-0.8	-0.3	-1.4
Total Saving	15.9	14.0	13.2	14.5	13.8
Total Investment	16.5	13.9	11.8	13.6	13.1
Gross Private Investment	17.3	15.8	16.3	17.2	16.4
Nonresidential Fixed Investment	12.1	11.3	11.8	13.4	13.5
Residential	4.5	4.1	4.1	3.5	2.6
Change in Inventories	0.6	0.4	0.3	0.3	0.2
Net Foreign Investment	-0.8	-1.9	-4.5	-3.6	-3.2
Statistical Discrepancy	0.9	0.0	-1.3	-0.9	-0.7

EXHIBIT 14
Net Interest Paid by the Federal Government
(Percent of federal government expenditures, excluding investment)



increase after 2005. The overall headship rate will gradually increase toward older segments due to the shift in the age composition.

The demographic demand for housing will be higher over the next 25 years than over the past 25 years. Thus, housing starts are projected to average 1.7 million units annually from 2001 to 2027, above the 1.5 million average for 1971-2000. Meanwhile, the housing stock will climb from 109.3 million units to 142.0 million units.

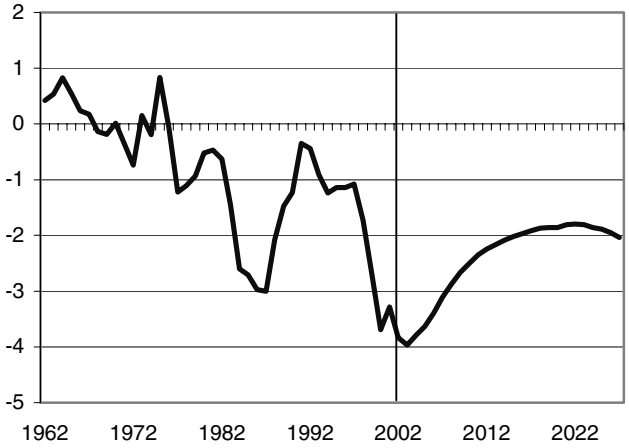
Business Fixed Investment. Good profitability and solid demand growth should keep investment healthy over the next 25 years. The share of GDP devoted to business fixed investment will hover about 12-13% of GDP through most of the forecast period. The effective capital stock (in 1996-dollar terms) is projected to increase 4.5% annually, just above the average growth rate recorded for 1971–2001. Inventory investment will remain a small percentage of GDP. Although inventories have played significant roles during past business cycles, inventory investment represents an average in the stable growth scenario and is thus artificially smooth. Capital inflow will contribute to net domestic investment throughout the forecast period, although federal deficits clearly hurt it in the later years of the forecast. The government saving projection assumes that state and local governments continue to run modest operating surpluses.

The composition of investment will continue to change in the forecast period; structures' share of investment will decline modestly, while equipment's share rises. This is a continuation of a long-standing trend, and is a direct result of declining relative prices for equipment and software.

International Trade. A decline in the exchange rate, combined with modest unit labor cost growth, will stimulate U.S. exports abroad and result in an eventual

EXHIBIT 15
The Trade Outlook
(Percent of GDP)

The Goods and Service Trade Balance



Net U.S. Investment Position

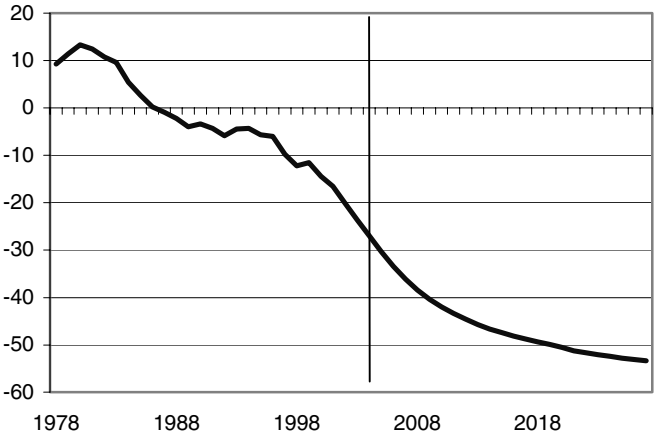


EXHIBIT 16
Ratio of Manufacturing Output to Real GDP
(1996=100)

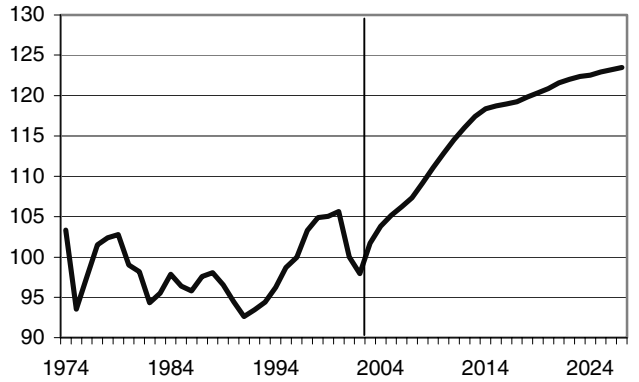
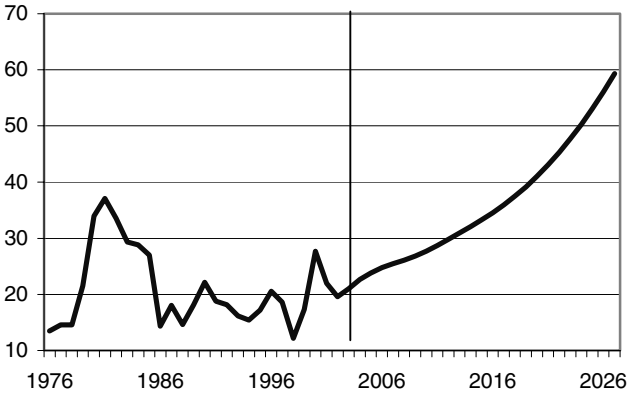


EXHIBIT 17
Foreign Oil Prices
(Dollars per barrel)



improvement in the U.S. current account balance. DRI•WEFA projects that real exports will expand at an average annual rate of 6.9% over the entire forecast period. Real imports, meanwhile, will grow at an average annual rate of 5.8%.

TABLE 1

Summary for the U.S. Economy--TREND25YR0202

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Composition of Real GDP (Annual percent change)													
Gross Domestic Product	1.0	4.0	3.9	3.0	2.9	2.9	3.3	3.4	3.6	3.4	3.4	3.3	3.3
Final Sales	0.3	3.7	3.8	3.2	2.9	2.9	3.3	3.4	3.6	3.4	3.4	3.3	3.3
Gross National Product	1.1	3.7	3.7	3.0	2.8	2.9	3.3	3.4	3.6	3.4	3.3	3.3	3.3
Total Consumption	1.9	3.6	3.3	2.8	2.6	2.6	2.9	3.1	3.3	3.2	3.3	3.3	3.2
Durable Goods	-0.6	6.7	4.4	2.5	3.2	3.2	2.9	3.6	4.5	4.4	2.6	4.1	4.8
Nondurable Goods	2.0	3.2	3.2	2.8	2.5	2.4	2.7	2.8	3.0	3.0	3.3	3.3	3.3
Services	2.4	3.1	3.1	2.9	2.6	2.5	3.0	3.1	3.2	3.1	3.4	3.2	3.0
Nonres. Fixed Investment	-4.6	6.7	8.5	6.1	5.0	5.5	6.4	6.6	6.7	6.7	7.2	6.3	6.3
Equipment and Software	-2.3	8.3	10.4	7.4	6.1	6.3	7.5	7.8	7.8	7.7	7.8	7.5	7.4
Computers	10.8	14.9	18.2	19.9	20.1	19.8	19.1	18.4	17.9	17.2	17.5	17.7	17.2
Software	6.0	8.6	9.0	10.4	10.6	10.6	10.8	10.9	11.0	11.1	11.5	11.2	10.4
Communications Equipment	-9.1	8.7	11.1	8.0	8.1	6.7	7.3	7.7	7.5	7.4	7.1	6.1	6.4
Light Vehicles	-3.4	8.9	6.7	1.9	2.9	3.4	5.1	5.0	4.8	4.6	4.4	4.1	4.5
Other	-6.4	6.7	10.6	5.2	2.0	2.2	4.0	4.4	4.5	4.1	4.0	3.4	3.6
Private Nonres. Structures	-11.0	1.9	3.0	2.0	1.2	3.1	3.1	2.9	3.1	3.8	5.3	2.6	2.6
Buildings and Other	-9.8	3.4	3.0	2.2	1.6	2.7	3.8	4.0	3.9	4.5	6.2	2.9	2.9
Residential Fixed Investment	-0.5	1.3	1.3	1.7	0.5	1.0	2.3	2.0	3.1	3.1	-1.2	-1.9	0.1
Exports	-8.6	7.6	9.3	7.9	8.1	7.8	7.4	7.4	7.1	6.9	7.0	7.6	7.7
Imports	0.6	6.5	5.2	4.5	4.1	4.0	4.1	4.5	4.8	4.7	5.4	6.0	6.3
Federal Government	4.5	4.7	2.3	1.0	0.6	0.5	0.7	0.8	1.2	-0.2	0.8	1.0	1.0
State and Local Governments	1.8	2.1	1.8	2.0	1.8	1.5	1.5	1.4	1.4	1.4	1.5	1.6	1.8
Billions of Dollars													
Real GDP (Chained 1996 $)	9416.7	9794.5	10172.5	10480.1	10783.7	11100.7	11470.3	11862.4	12287.2	12709.2	13140.7	13575.2	14029.7
Gross Domestic Product	10431.3	11058.7	11728.4	12339.3	12957.3	13615.6	14360.7	15161.8	16042.4	16979.5	17987.3	19048.4	20212.2
Prices and Wages (Annual percent change)													
GDP Price Index (Chain-Wt.)	1.2	1.9	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.5	2.5	2.7
CPI - All Urban Consumers	1.4	2.4	2.5	2.5	2.4	2.4	2.4	2.3	2.4	2.5	2.7	2.8	3.0
Excl. Food & Energy	2.5	2.6	2.6	2.6	2.6	2.5	2.5	2.4	2.5	2.6	2.8	2.9	3.1
Producer Price Index - Fin. Gds.	-1.4	0.8	1.4	1.3	1.1	1.0	1.1	1.1	1.2	1.4	1.5	1.6	1.7
Emp. Cost Index - Total Comp.	3.3	2.9	3.0	2.9	3.1	3.2	3.3	3.4	3.6	3.8	4.0	4.1	4.4
Output per Hour	2.8	3.4	2.4	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.9	2.6	2.4
Other Key Measures													
Industrial Production (% ch)	-1.3	7.5	5.7	4.0	3.6	3.7	4.7	4.8	4.8	4.7	4.5	4.3	4.0
Nonfarm Inven. Accumulation (Billion chained 1996 $)	15.6	53.3	58.9	41.8	39.6	40.4	45.4	47.9	52.1	52.4	53.0	54.0	57.0
Consumer Confidence Index	93.2	92.2	94.7	93.7	91.8	91.6	92.2	92.8	94.8	94.8	90.9	91.7	91.9
Housing Starts (Mil. units)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.6	1.6	1.6
Light-Vehicle Sales (Mil. units)	15.4	16.9	17.3	17.0	17.3	17.5	17.5	17.6	17.9	18.3	18.1	18.4	19.0
Unemployment Rate (%)	6.0	5.8	5.1	5.0	5.1	5.1	5.0	4.8	4.4	4.2	4.5	4.6	4.6
Payroll Employment (% ch.)	-0.4	1.6	2.1	1.6	1.2	1.1	1.2	1.3	1.4	1.2	0.7	0.9	1.1
Federal Budget Surplus (Unified, CY, bil. $)	5.3	-7.4	-20.5	-8.9	32.0	80.4	101.0	130.5	160.8	207.9	128.1	115.3	103.3
Foreign Trade													
Curr. Account Balance (Bil. $)	-459.8	-535.5	-567.2	-579.5	-588.3	-590.5	-599.0	-605.7	-618.5	-627.4	-671.3	-701.3	-733.6
Foreign Crude Oil ($ per barrel)	19.6	21.0	22.7	23.8	24.8	25.5	26.1	26.9	27.7	28.7	29.8	30.9	32.1
Financial Markets													
Money Supply (M2, billion $)	5821.9	6136.3	6424.4	6726.3	7043.9	7379.1	7735.7	8115.5	8521.4	8955.3	9396.4	9869.4	10378.0
Percent Change	7.6	5.4	4.7	4.7	4.7	4.8	4.8	4.9	5.0	5.1	4.9	5.0	5.2
Thirty-Year Mortgage Rate (%)	7.1	7.4	7.5	7.4	7.4	7.4	7.3	7.3	7.3	7.3	7.7	7.8	7.9
Ten-Year Treasury Note Yield (%)	5.3	5.8	5.9	5.9	5.9	5.9	6.0	6.0	6.1	6.1	6.5	6.6	6.7
Treasury Bill Rate (%)	2.0	3.7	4.6	4.6	4.6	4.6	4.6	4.6	4.7	4.7	5.1	5.1	5.1
Federal Funds Rate (%)	2.2	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5
Prime Rate (%)	5.2	7.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.5	8.5	8.5
S&P 500 Stock Index	1161.5	1237.8	1324.7	1423.7	1507.5	1599.0	1692.3	1786.0	1876.8	1973.8	2103.1	2235.8	2376.6
Incomes													
Personal Income (% ch)	2.5	5.3	5.7	4.8	4.7	4.8	5.3	5.4	5.7	5.9	6.0	5.9	6.2
Real Disposable Income (% ch)	2.2	3.5	3.5	2.7	2.3	2.3	3.0	3.1	3.3	3.3	3.4	3.3	3.3
Saving Rate (%)	1.9	1.8	2.0	1.8	1.3	1.0	1.0	1.1	1.2	1.3	1.5	1.5	1.6
Profits After Tax (% chya)	4.8	8.4	1.0	2.2	5.0	5.3	7.4	6.8	7.2	7.1	7.2	7.7	8.7

TABLE 1 (Continued)

Summary for the U.S. Economy--TREND25YR0202

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Composition of Real GDP (Annual percent change)													
Gross Domestic Product	3.3	3.3	3.3	3.1	3.1	3.0	2.7	2.8	2.8	3.0	2.9	3.0	3.1
Final Sales	3.3	3.3	3.3	3.1	3.1	3.0	2.7	2.7	2.8	3.0	2.9	3.0	3.1
Gross National Product	3.3	3.2	3.3	3.1	3.2	2.9	2.7	2.8	2.9	2.9	3.0	3.1	3.1
Total Consumption	3.2	3.2	3.2	3.1	3.2	3.0	2.7	2.8	2.9	3.1	3.0	3.2	3.3
Durable Goods	4.4	4.6	4.4	4.1	4.8	4.3	3.1	4.6	4.6	5.8	4.7	5.6	5.5
Nondurable Goods	3.3	3.4	3.4	3.4	3.4	3.3	3.2	3.1	3.3	3.4	3.5	3.6	3.6
Services	3.0	3.0	3.0	2.9	2.9	2.7	2.5	2.5	2.6	2.7	2.7	2.7	2.8
Nonres. Fixed Investment	6.2	6.0	5.7	5.1	5.0	4.8	4.1	3.9	4.0	4.4	4.3	4.3	4.4
Equipment and Software	7.2	7.0	6.5	6.1	5.8	5.4	4.8	4.8	4.9	5.2	4.9	5.0	5.1
Computers	16.2	15.3	14.8	14.1	13.4	13.3	13.9	14.1	14.2	14.1	14.1	14.2	14.5
Software	9.6	8.8	8.0	7.2	6.4	5.6	4.8	4.1	4.0	4.0	4.0	4.0	4.0
Communications Equipment	6.7	6.6	5.6	6.0	6.1	5.8	4.5	4.8	5.3	5.6	4.7	5.0	5.5
Light Vehicles	4.6	4.6	4.2	4.0	4.3	4.1	2.8	3.9	4.2	4.8	3.8	4.4	4.5
Other	3.8	4.0	3.8	3.6	3.7	3.7	3.2	3.5	3.9	4.5	4.2	4.3	4.3
Private Nonres. Structures	2.8	2.8	3.0	2.0	2.3	2.6	2.0	0.8	0.8	1.5	1.9	1.9	1.8
Buildings and Other	3.2	3.2	3.5	2.2	2.5	2.9	2.3	0.9	0.9	1.6	2.2	2.0	1.9
Residential Fixed Investment	1.5	1.7	1.4	1.0	1.5	1.4	0.2	1.6	1.1	2.2	1.2	1.9	2.0
Exports	7.6	7.6	7.6	7.5	7.5	7.6	7.5	7.5	7.5	7.6	7.6	7.6	7.6
Imports	6.5	6.7	6.8	6.8	7.0	7.1	6.6	6.8	6.9	7.4	7.2	7.4	7.5
Federal Government	1.0	1.0	1.0	1.0	1.0	1.9	0.2	0.9	1.1	1.1	1.1	1.1	1.2
State and Local Governments	1.8	1.9	1.9	1.9	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.8
Billions of Dollars													
Real GDP (Chained 1996 $)	14497.0	14982.6	15472.0	15955.3	16457.7	16952.7	17404.5	17884.0	18393.1	18945.6	19497.8	20091.0	20707.6
Gross Domestic Product	21465.4	22831.1	24290.8	25819.3	27444.1	29145.8	30839.9	32679.3	34638.8	36797.4	39063.7	41540.2	44187.4
Prices and Wages (Annual percent change)													
GDP Price Index (Chain-Wt.)	2.8	2.9	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.2	3.2	3.2
CPI - All Urban Consumers	3.1	3.3	3.4	3.5	3.5	3.5	3.5	3.6	3.6	3.6	3.7	3.7	3.8
Excl. Food & Energy	3.2	3.4	3.5	3.6	3.6	3.7	3.7	3.7	3.7	3.8	3.8	3.9	3.9
Producer Price Index - Fin. Gds.	1.8	1.9	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.2
Emp. Cost Index - Total Comp.	4.5	4.7	4.7	4.7	4.6	4.7	4.5	4.6	4.4	4.5	4.4	4.5	4.4
Output per Hour	2.6	2.5	2.7	2.8	2.6	2.4	2.3	2.2	2.4	2.1	2.3	2.3	2.4
Other Key Measures													
Industrial Production (% ch)	3.5	3.4	3.4	3.5	3.5	3.3	3.1	3.0	3.0	3.1	3.1	3.2	3.2
Nonfarm Inven. Accumulation (Billion chained 1996 $)	58.1	61.5	60.5	60.3	63.2	63.1	58.8	62.1	66.4	72.8	71.7	76.9	79.7
Consumer Confidence Index	91.2	91.3	90.0	88.4	88.3	87.8	86.7	86.7	86.6	87.7	87.2	87.8	87.4
Housing Starts (Mil. units)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7
Light-Vehicle Sales (Mil. units)	19.5	19.9	20.1	20.1	20.3	20.4	20.0	20.2	20.3	20.8	20.8	21.1	21.3
Unemployment Rate (%)	4.6	4.5	4.6	4.8	5.0	5.0	5.1	5.1	5.2	5.1	5.1	5.0	5.1
Payroll Employment (% ch.)	1.0	1.1	0.9	0.7	0.8	0.9	0.7	0.8	0.7	1.1	0.9	0.9	0.9
Federal Budget Surplus (Unified, CY, bil. $)	90.2	66.8	38.5	-3.5	-48.2	-58.2	-63.6	-66.6	-147.7	-230.1	-336.1	-436.8	-530.9
Foreign Trade													
Curr. Account Balance (Bil. $)	-770.5	-833.3	-873.4	-917.2	-972.6	-1054.9	-1083.0	-1119.2	-1176.8	-1292.1	-1372.0	-1465.0	-1568.2
Foreign Crude Oil ($ per barrel)	33.3	34.6	35.9	37.5	39.2	41.0	43.1	45.3	47.7	50.2	53.1	56.1	59.3
Financial Markets													
Money Supply (M2, billion $)	10925.3	11483.7	12087.8	12738.9	13438.5	14158.6	14915.3	15723.3	16586.0	17473.6	18412.9	19423.1	20509.1
Percent Change	5.3	5.1	5.3	5.4	5.5	5.4	5.3	5.4	5.5	5.4	5.4	5.5	5.6
Thirty-Year Mortgage Rate (%)	8.0	8.5	8.5	8.6	8.7	9.1	9.2	9.3	9.3	9.7	9.8	9.9	10.0
Ten-Year Treasury Note Yield (%)	6.9	7.3	7.3	7.4	7.5	7.8	7.9	8.0	8.0	8.4	8.5	8.6	8.6
Treasury Bill Rate (%)	5.2	5.6	5.6	5.7	5.7	6.0	6.1	6.1	6.1	6.5	6.6	6.6	6.6
Federal Funds Rate (%)	5.5	6.0	6.0	6.0	6.0	6.4	6.5	6.5	6.5	6.9	7.0	7.0	7.0
Prime Rate (%)	8.5	9.0	9.0	9.0	9.0	9.4	9.5	9.5	9.5	9.9	10.0	10.0	10.0
S&P 500 Stock Index	2526.4	2685.6	2854.9	3034.8	3226.1	3429.4	3645.6	3875.3	4119.2	4378.3	4653.7	4946.1	5256.8
Incomes													
Personal Income (% ch)	6.3	6.6	6.6	6.5	6.5	6.6	6.3	6.4	6.3	6.6	6.5	6.7	6.7
Real Disposable Income (% ch)	3.3	3.4	3.2	3.1	3.1	2.8	2.4	2.5	2.7	3.0	2.9	2.9	2.9
Saving Rate (%)	1.8	2.0	2.0	1.9	1.8	1.6	1.4	1.1	0.9	0.8	0.6	0.4	0.1
Profits After Tax (% chya)	8.3	5.1	8.4	8.2	7.5	2.9	3.6	4.2	5.4	1.8	3.4	4.9	5.7

TABLE 2

Supply Conditions--TREND25YR0202

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Percent Change													
Unsmoothed Potential Output	3.0	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Components													
Labor Hours	0.6	0.8	0.9	0.8	0.9	0.8	0.7	0.7	0.6	0.7	0.6	0.6	0.6
Capital Stock	1.4	0.8	0.9	1.1	1.2	1.3	1.3	1.3	1.4	1.4	1.5	1.5	1.5
Energy Usage	-0.1	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1
Research and Development Stock	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Stock of Infrastructure Capital	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Smoothed Potential Output	3.2	3.0	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Productivity													
Labor Output per Hour	2.8	3.4	2.4	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.9	2.6	2.4
Percent													
Industrial Supply Conditions													
Vendor Performance	50.2	52.9	53.6	52.7	52.0	51.8	52.2	52.4	52.9	52.6	52.2	51.9	51.7
Factory Operating Rate	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Labor Availability													
Civilian Unemployment Rate	6.0	5.8	5.1	5.0	5.1	5.1	5.0	4.8	4.4	4.2	4.5	4.6	4.6
Full-Employment Unemployment Rate	5.1	5.1	5.0	5.0	4.9	4.8	4.7	4.7	4.6	4.5	4.5	4.5	4.5
Finance													
Net Mortgage Acquisitions (% change)	-28.4	-10.9	-6.9	0.2	2.9	7.3	11.3	10.1	9.0	9.1	1.5	-1.4	1.7
Nominal Corp. Cost of Financial Capital	4.9	4.9	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.3	5.4	5.5
Real Cost of Financial Capital	3.8	3.8	3.8	3.9	3.9	3.8	3.8	3.8	3.7	3.7	3.9	3.9	4.0
Personal Saving Rate	1.9	1.8	2.0	1.8	1.3	1.0	1.0	1.1	1.2	1.3	1.5	1.5	1.6
Money Supply (M2, % change)	7.6	5.4	4.7	4.7	4.7	4.8	4.8	4.9	5.0	5.1	4.9	5.0	5.2

TABLE 2 (Continued)

Supply Conditions--TREND25YR0202

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Percent Change													
Unsmoothed Potential Output	2.9	2.9	2.8	2.7	2.7	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.3
Components													
Labor Hours	0.5	0.5	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Capital Stock	1.5	1.5	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.1
Energy Usage	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Research and Development Stock	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Stock of Infrastructure Capital	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Smoothed Potential Output	3.0	2.9	2.9	2.8	2.7	2.6	2.5	2.4	2.4	2.4	2.4	2.4	2.3
Productivity													
Labor Output per Hour	2.6	2.5	2.7	2.8	2.6	2.4	2.3	2.2	2.4	2.1	2.3	2.3	2.4
Percent													
Industrial Supply Conditions													
Vendor Performance	51.6	51.7	51.5	51.3	51.4	51.1	50.5	50.6	50.8	51.1	51.1	51.5	51.7
Factory Operating Rate	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Labor Availability													
Civilian Unemployment Rate	4.6	4.5	4.6	4.8	5.0	5.0	5.1	5.1	5.2	5.1	5.1	5.0	5.1
Full-Employment Unemployment Rate	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Finance													
Net Mortgage Acquisitions (% change)	4.4	3.0	5.2	5.4	5.7	2.8	-0.4	1.3	0.8	1.5	1.7	4.9	5.5
Nominal Corp. Cost of Financial Capital	5.6	5.8	5.9	6.0	6.0	6.2	6.2	6.2	6.3	6.4	6.4	6.5	6.5
Real Cost of Financial Capital	4.1	4.2	4.2	4.3	4.3	4.4	4.4	4.3	4.3	4.3	4.3	4.3	4.3
Personal Saving Rate	1.8	2.0	2.0	1.9	1.8	1.6	1.4	1.1	0.9	0.8	0.6	0.4	0.1
Money Supply (M2, % change)	5.3	5.1	5.3	5.4	5.5	5.4	5.3	5.4	5.5	5.4	5.4	5.5	5.6

A RANGE OF POSSIBILITIES: THE OPTIMISTIC AND PESSIMISTIC PROJECTIONS

Highlights

- Real GDP advances 3.7% per year on average over the next 25 years in the optimistic scenario (optim). This is above the 3.2% growth rate recorded between 1975 and 2001, and higher than the projected averages of 3.1% in the baseline (trend) and 2.7% in the pessimistic scenario (pessim).
- Despite optim's strong growth, inflation as measured by the GDP deflator averages a moderate 2.2%. This compares with the averages of 2.6% in the trend and 3.3 % in pessim.
- In optim, the federal budget remains in surplus throughout the forecast period; in pessim, deficits start appearing in 2001.
- In optim, capital formation is strong through 2018, with business fixed investment soaring beyond 15.0% of GDP. Investment's share of GDP then declines slowly but steadily, ending at 13.5% by 2027.
- Output per man-hour rises 2.7% in optim, 2.5% in trend, and 2.1% in pessim.

The optimistic scenario is characterized by strong GDP growth and moderate inflation, with higher rates of growth in capital spending and factor-productivity relative to the trend. The pessimistic alternative (which encompasses opposite assumptions on labor force, capital stock, and factor productivity) exhibits higher inflation than optim, partly because of escalating energy prices.

In the optimistic case, real GDP growth averages 3.7% annually, which is above the 3.2% gains achieved during 1975-2001 (Exhibit 1). Consumer price inflation, on the other hand, averages only 2.2%, well below the previous 25-year rate of 4.8%. The high-growth, low-inflation environment depicted here is especially favorable to durable-goods spending categories such as business fixed investment, housing construction, and motor vehicles. In contrast, the low-growth environment of the pessimistic projection debilitates these same sectors. For example, in optim, business investment in equipment and software is 11% higher than its trend level by 2027, while in pessim it is 10% lower.

Projection Detail

Participation Rates and the Labor Force. These two scenarios incorporate different demographic assumptions from those in the trend, leading to varying labor-force growth and participation rates. The optimistic outlook assumes that the U.S. population will grow more quickly because of higher net immigration. The pessimistic alternative constricts growth in the labor force, the result of lower assumed net immigration. As a result, the U.S. population increases from 273 million in 1999 to 392 million by 2027 in the optim, but to just 311 million in the pessim, compared with the 344 million in the trend. Annual population growth averages 1.3% in optim, but only 0.5% in pessim.

Thus, by 2027, the adult population (aged 16 and over) is roughly 11% higher in optim than in the trend, while it is 7% lower in pessim. These results directly affect the

EXHIBIT 1
Output Growth Will Weaken
(Real GDP, annual percent change)

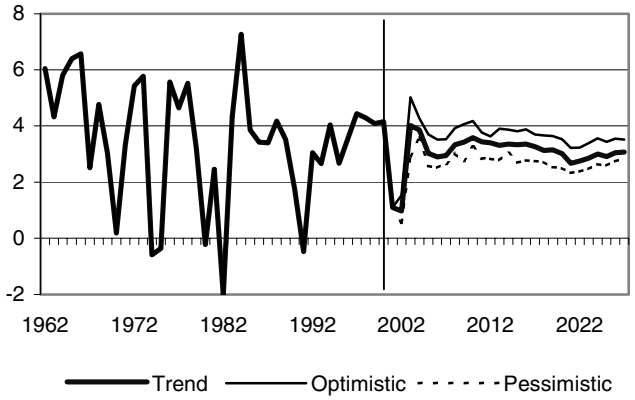


EXHIBIT 2
Labor-Force Participation Rates Retreat After 2010
(Percent)

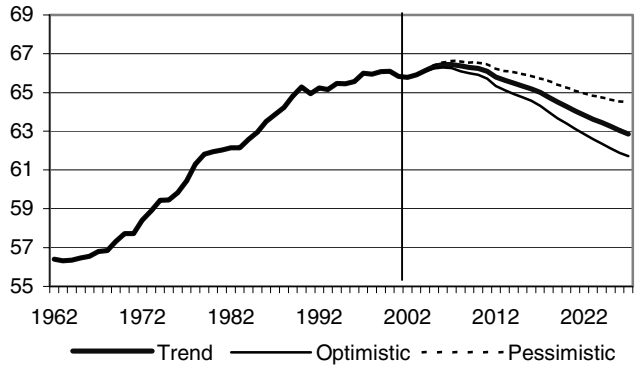
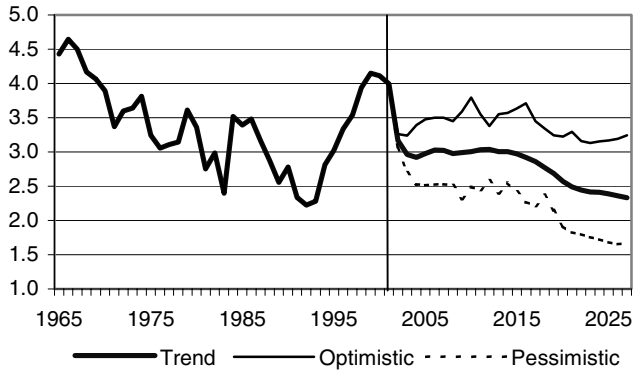


EXHIBIT 4
Actual Output Growth Will Be Constrained by Slower Potential Output Gains
(Potential output, percent change)



labor force. By 2027, the civilian labor force is 9% higher in optim and 4% lower in pessim relative to the trend. Labor-force growth averages 1.0% in optim and 0.5% in pessim over the next 25 years, compared with the 0.7% annual gains in the trend.

Potential Output. Over the longer term, the economy's actual growth is constrained by the expansion of potential output. The optimistic scenario, with its above-trend supply factors, yields average potential output growth of 3.7% per year through 2027. In the pessimistic scenario, with its slower labor-force and capital-stock growth, potential production is limited to 2.3% gains over the forecast interval (Exhibit 4).

Inflation. The subdued inflation in the optimistic scenario depends on relatively low energy prices and moderate wage increases. When combined with faster productivity growth, consumer price inflation averages

EXHIBIT 3
Bandwith Projections at a Glance
(Percent difference from trend in 2027)

	2027		
	Optim	Pessim	Spread
Real GDP Growth	4.6	3.7	0.9
CPI Inflation	-0.5	2.7	-3.2
Real GDP	3.7	2.7	1.0
Consumption	3.6	2.6	1.0
Motor Vehicles	3.4	0.7	2.7
Nonresidential Fixed Investment	5.7	4.6	1.1
Residential Fixed Investment	2.9	-0.3	3.2
Exports	7.0	6.6	0.4
Imports	6.1	5.7	0.4
Total Government	1.8	1.4	0.4
Chain-Wt. Implicit GDP Deflator	2.1	3.3	-1.2
Output per Hour	2.7	2.1	0.6
Real Short-Term Interest Rates (Basis pts.)	0.0	0.0	0.0
Federal Funds Rate (Basis pts.)	0.9	3.5	-2.5
Unemployment Rate (% pts.)	0.2	0.4	-0.2
Foreign Cude Oil ($/barrel)	31.2	74.2	-43.1
Real After-Tax Profits	4.5	0.8	3.7
Real Disposable Income	3.5	2.7	0.8
Population	1.3	0.4	0.9
Real Disposable Income Per Capita	2.1	2.3	-0.1
Light Vehicle Sales (Mil. Units)	294.3	35.7	258.6
Housing Starts (Mil. Units)	1.5	-0.7	2.2

Note: All data represent compound annual growth rates calculated over the entire foreast period, except where units are given.
Data accompanied by units represents the absolute change over the forecast period. All real data are in chained 1996 dollars.

EXHIBIT 5
Consumer Price Inflation
(Percent)

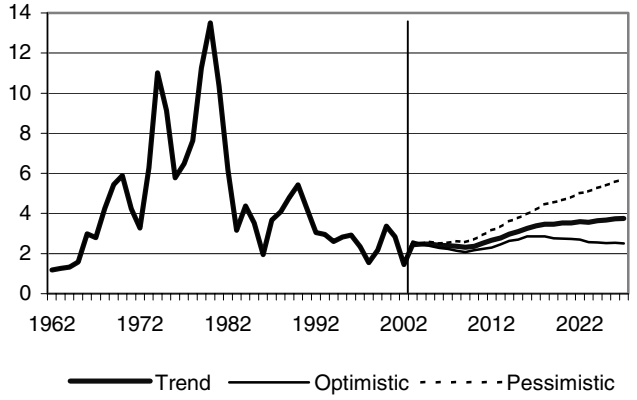
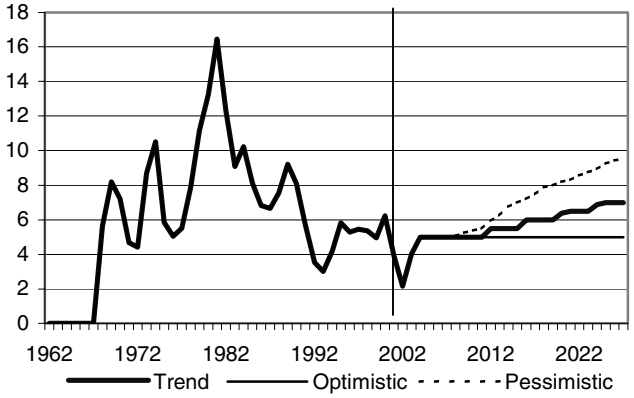


EXHIBIT 6
The Federal Funds Rate
(Percent)



only 2.5% per year through 2027, compared with 3.0% in the trend and 4.5% over the past 25 years (Exhibit 5).

In the pessimistic case, inflation is fanned by higher crude oil prices. Thus, although the GDP deflator recedes to less than 3.0% early in the forecast period, it then reaccelerates to over 5.0% in 2027. Rising energy prices, wages, and import prices combine to push consumer price inflation up to nearly 6.0% annually in 2027. Consumer price inflation averages 3.7% per year through 2027, compared with 3.0% in the trend.

Financial Conditions. The federal funds rate averages 6.7% in pessim and 4.9% in optim, just below as in the trend (Exhibit 6). The rate would be higher in pessim, but the Federal Reserve compromises between fighting the inflationary forces of rising oil prices and pushing the economy into recession. At the long end of the maturity spectrum, the 10-year government bond yield rises to 8.6% in optim and 11.8% in pessim. The steeper yield curve in pessim reflects mounting concerns about the inflationary outlook, given the Fed's accommodative monetary policy and accelerating inflation.

Consumer Spending and Income. Real consumer spending averages 3.6% annual growth in optim, 0.6 percentage point above the trend rate. Real per capita consumption expands an average of 2.3%, compared with its 2.4% annual rate since 1970.

Income-sensitive durable goods are affected the most (Exhibit 7). Spending on consumer durables rises an average 5.1% per year in optim, 1.0 percentage point stronger than the trend growth rate; in pessim, growth in the same spending category averages just 3.3%. In the optimistic scenario, light-vehicle sales average 21.3 million units per year**,** pushing the stock of cars and light trucks 15% above its trend level by 2027.
Real personal income averages 3.4% annual gains in optim, up from 2.9% in the trend. Income grows only 2.6% per year in pessim. Interest income in pessim is bolstered by higher interest rates and larger federal deficits.

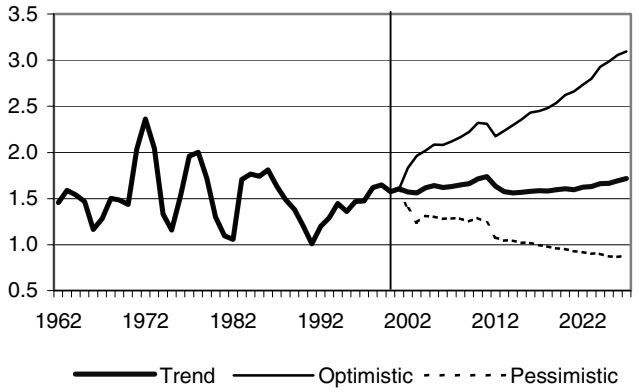
EXHIBIT 7
Personal Consumption
(Average annual percent change)

	History		Optim		Pessim	
	1976 -1986	1986 -2001	2002 -2007	2008 -2027	2002 -2007	2008 -2027
Total Personal Consumption	3.5	3.3	3.4	3.7	2.4	2.7
Durable Goods	5.7	5.3	4.2	5.4	2.5	3.5
Autos & Parts	6.5	2.6	1.7	3.9	0.3	0.7
Furniture & Appliances	5.6	8.5	7.2	6.7	4.6	5.4
Software	N/A	45.7	11.6	6.9	10.1	6.6
Ophthalmic Goods	4.5	5.6	2.3	5.5	2.0	6.7
Other Durable Goods	4.1	5.7	4.7	6.1	3.4	4.8
Nondurable Goods	2.6	2.9	3.2	3.8	2.4	2.9
Food & Beverages	2.0	2.1	2.1	2.5	1.5	1.9
Prescription & Over-the-Counter Drugs	4.3	5.4	4.5	6.6	4.0	5.9
Clothing & Shoes	5.6	4.9	5.3	4.9	3.8	3.7
Gasoline & Oil	1.2	1.8	2.6	2.4	2.0	1.2
Fuel Oil & Coal	-4.8	0.0	1.6	-0.1	0.9	-1.1
Tobacco Products	-0.3	-2.3	-0.5	-1.4	-0.7	-4.0
Othe Nondurable Goods	3.8	4.3	4.9	4.8	4.1	4.0
Services	3.6	3.2	3.3	3.4	2.4	2.5
Housing	2.9	2.2	2.4	2.0	1.5	0.6
Household Operation	3.0	3.6	4.0	4.9	2.9	4.3
Electricity	3.5	2.3	3.3	2.9	2.5	2.0
Natural Gas	-0.4	0.6	1.8	1.7	0.9	0.8
Telephony	5.5	7.6	7.0	8.3	5.4	7.4
Other	2.0	2.2	2.1	2.8	1.1	2.9
Transportation	3.3	3.4	2.9	1.8	2.1	1.6
Motor Vehicle Leases	N/A	N/A	3.8	3.1	2.0	6.0
Other Transportation	N/A	N/A	2.8	1.6	2.1	0.9
Personal Business Services	5.3	4.0	3.9	3.1	2.6	2.0
"Free" Financial Services	6.5	3.8	4.4	2.4	3.4	1.4
Medical	3.9	3.0	3.4	3.9	2.7	3.4
Recreational	6.0	4.9	6.3	5.1	5.3	3.8
Other Services	3.4	3.3	2.4	3.4	0.9	2.2

Note: All real data are in chained 1996 dollars.

Housing. Since the demographic forces of population growth and household formation are the main long-term determinants of new residential construction, we would expect the housing outlook to be weaker in pessim and stronger in optim relative to the trend. In fact, the disparity between interest rates in the two bandwidth alternatives drives their respective housing outlooks even further apart. The conventional mortgage rate averages 7.91% in optim, below its 9.77% average in pessim and 8.27% average in the trend.

EXHIBIT 8
Demographics and Interest Rates Determine the Housing Outlook
(Housing starts, millions of units)



Housing starts average slightly more than 2.42 million units per year (or 795,000 units above trend) in optim and 1.08 million (or 539,000 below trend) in pessim (Exhibit 8). By 2027, the housing stock in optim is 12% above the trend level, while in pessim it stands 8% below. Because of the gloomier inflation picture in pessim, the slower economy pushes the average nominal price of a new home to only $608,600 in 2027, compared with $478,000 in the trend and $410,000 in the optimistic alternative.

Business Fixed Investment. The extremely volatile investment sector reacts strongly to the differing assumptions in the alternatives. Business investment suffers long-term damage in pessim, as weak final demand and higher interest rates raise the cost of capital, lower the rate of return on investments, and weaken investor confidence (Exhibit 9). The economy's overall sluggishness also hurts the profitability of corporations, limiting the funds available for investment. Thus, real investment in equipment and software grows only 5.8% annually in the pessimistic case, compared with 6.2% in the trend and 6.7% in the optimistic scenario.

EXHIBIT 9
Business Fixed Investment
(Percent of GDP)

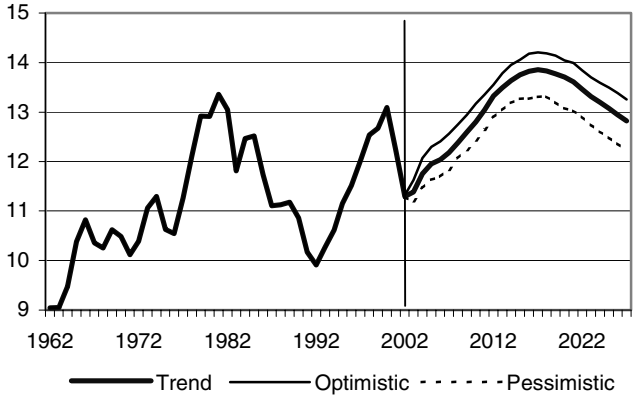


EXHIBIT 10
Saving and Investment Shares of GNP
(Percent)

	History		Optim		Pessim	
	1976 -1986	1986 -2001	2002 -2007	2008 -2027	2002 -2007	2008 -2027
Household	10.4	7.4	4.4	2.9	4.7	5.5
Business	9.1	9.2	9.8	11.5	9.6	10.7
Government	-3.5	-2.5	-0.4	-0.3	-1.6	-4.0
Total Saving	16.0	14.0	13.8	14.0	12.7	12.3
Total Investment	16.7	13.9	12.4	13.3	11.2	11.5
Gross Private Investment	17.0	15.8	17.1	17.8	15.6	15.9
Nonresidential Fixed Investment	12.0	11.3	12.1	13.8	11.6	13.1
Residential	4.4	4.1	4.6	3.7	3.8	2.6
Change in Inventories	0.5	0.4	0.4	0.3	0.3	0.3
Net Foreign Investment	-0.4	-1.9	-4.8	-4.5	-4.4	-4.4
Statistical Discrepancy	0.9	0.0	-1.3	-0.8	-1.4	-0.8

Corporations may choose from several options to finance plant and equipment expansion. The type of inflationary environment in which they operate is likely to influence whether they finance by issuing stocks or bonds, selling short-term commercial paper or obtaining bank loans, or using internally generated funds. The higher inflation in the pessimistic environment encourages firms to rely more heavily on relatively scarce internal funds to finance investment—avoiding the payouts associated with stocks, bonds, and bank loans. In addition, high inflation depresses the real value of depreciation allowances, constraining corporate cash flow and, subsequently, business fixed investment.

Government. The taxation policy assumptions in the two bandwidth scenarios are similar to those in the trend. The government expenditure assumptions are different, however, largely reflecting the different growth paths and demographic assumptions of the optim and pessim projections. In pessim, a weaker economy leads to a higher ratio of federal spending to GDP. Higher interest rates on past debt and larger operating deficits

EXHIBIT 11

Federal Budget Paths Diverge in the Bandwidth Scenarios

(Billions of dollars)

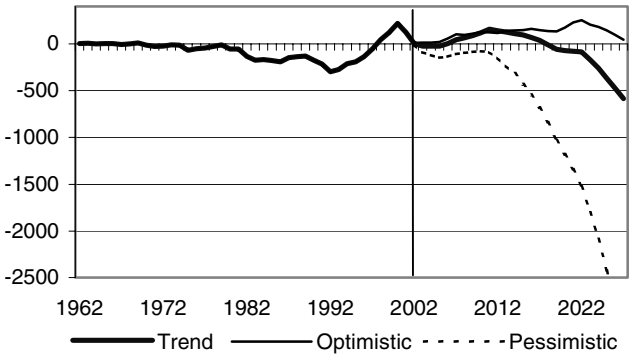
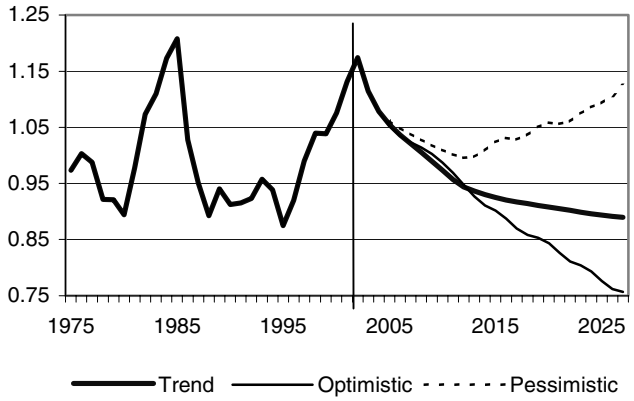


EXHIBIT 13

The Dollar's Real Trade-Wtd Exchange Rate

(Versus developed-country currencies)



boost federal interest payments, exacerbating the persistent shortfalls.

Federal government outlays as a share of GDP average 117.5% in optim and 18.5% in the trend. They are higher, at 20.6% of GDP, in pessim because of the slower economy and the need to make larger transfer payments. The federal budget averages an annual deficit of $6.2 billion in the trend projection and a surplus of $34.6 billion in the optimistic scenario, but averages a deficit of $202 billion in pessim.

Unlike the federal government, state and local governments must maintain budgets close to balance. Therefore, their spending is tied closely to available revenue, which is created by economic activity within their regions. Increases in state and local government purchases average 2.1% in optim, 1.7% in trend, and 1.5% in pessim.

International. The world is assumed to become more open to trade in all the scenarios, but it opens up most quickly in the optimistic alternative and most slowly in the pessimistic projection. In the optimistic outlook, the nation's major trading partners are also assumed to experience strong output growth and low inflation, although the relative performance of the United States improves slightly when compared with the trend. Real export growth averages 7.0% per year in optim, versus

EXHIBIT 12

Corporate Cash Flow as a Percent of GNP

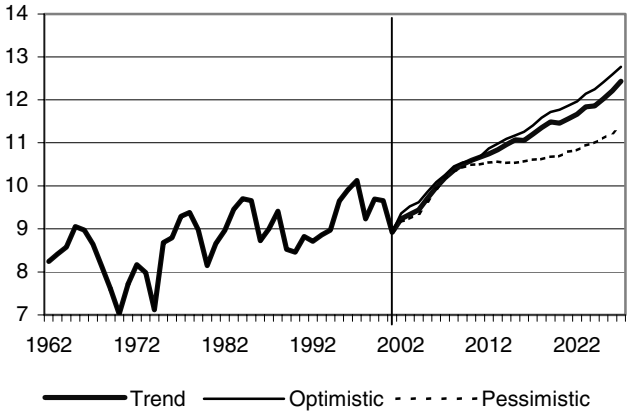
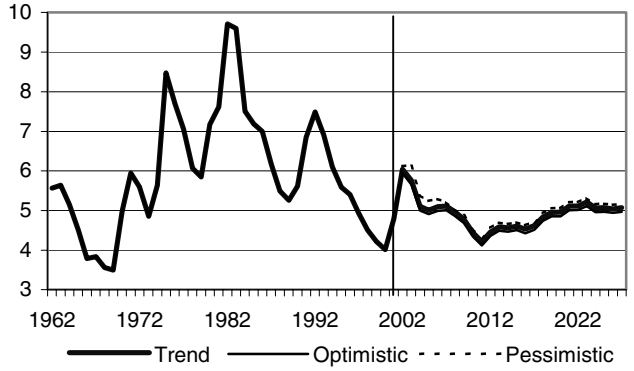


EXHIBIT 14

Unemployment Varies Only Slightly Across the Bandwidth Alternatives

(Percent)



6.9% in the trend; real import growth averages 6.1% annually in optim, versus 5.8% in the trend.

Industrial Production and Employment. In the pessimistic scenario, the index of industrial production is 13% below the pessim level by 2027. Total nonfarm employment is 4% lower, consistent with the labor-force participation projections. The pattern of employment losses by industry reflects output differences from trend levels, as well as productivity losses in individual industries.

Over the projection period, total payroll employment rises by 39.8 million in the trend, 52.8 million in optim, and 32.3 million in pessim; the last 25 years saw total payrolls increase by about 54 million workers. Total employment in the optimistic scenario is 7.6% above its trend level by 2027. Manufacturing employment falls from 18.5 million in 2000 to 17.8 million in 2027. In pessim, manufacturing payrolls decline to 14.7 million.

EXHIBIT 15
Production Growth by Industry
(Average annual percent change)

	History		Optim		Pessim	
	1976 -1986	1986 -2001	2002 -2007	2008 -2027	2002 -2007	2008 -2027
High						
Electrical Machinery	7.0	14.1	10.7	10.3	10.4	9.5
Non-Electrical Machinery	3.6	7.5	7.4	5.7	6.2	4.3
Rubber and Plastics Products	4.2	4.3	3.1	5.0	1.0	2.3
Utilities	1.3	2.1	2.7	3.2	1.5	2.1
Fabricated Metal Products	0.5	2.2	1.1	2.5	-0.8	1.2
Chemicals and Products	1.8	2.9	3.4	4.9	1.7	1.9
Medium						
Transportation Equipment	2.2	3.1	3.8	2.8	2.5	1.3
Instruments	5.3	2.2	3.3	3.3	2.0	2.2
Paper and Products	2.2	2.0	2.4	2.7	1.1	0.8
Textile Mill Products	1.4	0.7	3.0	1.6	0.9	0.1
Miscellaneous Manufactures	0.7	2.5	0.7	2.7	-0.9	1.2
Primary Metals	-2.7	1.9	0.5	3.9	-2.0	-0.3
Stone, Clay and Glass	0.7	2.0	2.9	1.4	-0.9	-0.6
Furniture and Fixtures	2.4	3.0	3.2	1.8	0.3	-0.3
Petroleum Products	0.1	1.7	1.8	1.3	0.9	0.3
Low						
Food and Products	2.4	1.8	1.1	1.1	0.5	0.7
Mining	1.1	-0.8	0.3	1.0	-0.2	0.5
Lumber and Wood Products	2.0	1.7	2.6	2.1	-2.6	-1.7
Printing and Publishing	3.9	1.5	-0.1	1.2	-1.3	0.2
Tobacco Products	0.2	-0.4	-0.8	-0.5	-0.9	-4.1
Apparel and Products	1.9	-0.7	-2.8	-2.7	-4.2	-2.9
Leather and Products	-3.7	-4.3	-8.0	-0.6	-8.0	-1.1
Summary						
Total Production	2.2	3.4	2.4	3.2	1.4	2.1
Manufacturing	2.4	3.8	2.5	3.3	1.5	2.1
Durables Manufacturing	2.6	5.4	3.1	4.0	2.3	3.6
Nondurables Manufacturing	2.2	1.9	1.7	2.8	0.4	0.6
Final Products	2.7	2.9	3.4	3.5	2.1	2.0
Consumer Goods	2.1	2.2	2.4	2.9	1.1	1.0
Business Equipment	2.8	5.8	5.2	5.1	3.9	4.0
Defense Equipment	5.1	-1.0	3.4	-0.6	3.4	-0.6
Intermediate Products	2.2	2.5	1.6	2.2	-0.5	0.6
Materials	1.7	4.3	8.1	10.2	7.6	9.2

Note: Industries are ranked according to their average annual growth rates in the trend scenario for the entire forecast period.

EXHIBIT 16
Contribution to New Jobs
(Cumulative percent change)

	History		Optim		Pessim	
	1976 -1986	1986 -2001	2002 -2007	2008 -2027	2002 -2007	2008 -2027
Manufacturing	4.5	-2.3	-1.8	-4.6	-19.0	-17.4
Mining and Construction	6.4	4.8	9.8	10.8	-10.6	-7.9
Government	8.4	12.4	8.7	15.5	11.5	10.5
Private Services	80.6	85.0	83.2	78.3	118.2	114.8
Total New Jobs (Millions)	20.4	34.4	11.6	25.9	5.8	13.8

Energy. The optimistic scenario assumes that energy availability is greater than in the trend, facilitating stronger economic growth by the United States and its major trading partners. Total U.S. energy usage is boosted to 167 quadrillion British thermal units (quads) by 2027 in this scenario, compared with 143 quads in the trend.

EIn the long run, production costs determine energy prices. Technological improvements lower production costs, but drilling deeper holes raises them. In all three scenarios, higher drilling costs win out: in both optim and trend, the real oil price rises to $28 per barrel by the end of the projection period (Exhibit 17). Energy-efficiency gains are made in all scenarios, but lower fuel prices hinder such developments in optim.

EXHIBIT 17
Foreign Oil Prices Rise
(Average refiners' acquisition price of imported oil, dollars/barrel)

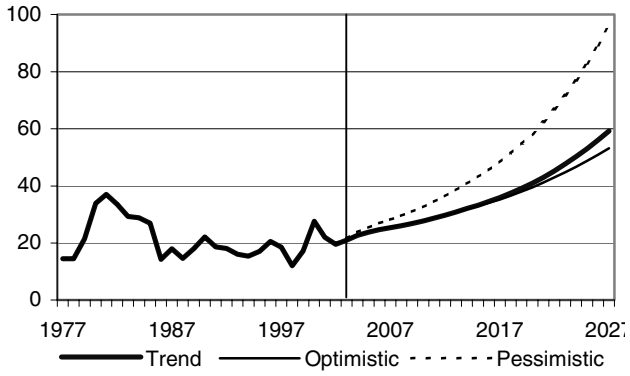


TABLE 1

Summary for the U.S. Economy - Optimistic Outlook

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Composition of Real GDP (Annual percent change)													
Gross Domestic Product	1.5	5.0	4.3	3.7	3.5	3.5	3.9	4.1	4.2	3.8	3.6	3.9	3.9
Final Sales	0.7	4.7	4.3	3.8	3.5	3.5	3.9	4.0	4.2	3.8	3.6	3.9	3.9
Gross National Product	1.7	4.6	4.1	3.7	3.4	3.4	3.8	4.0	4.1	3.7	3.7	3.8	3.8
Total Consumption	2.2	4.1	3.8	3.5	3.4	3.3	3.8	4.0	4.1	3.9	3.9	3.7	3.7
Durable Goods	0.7	8.0	4.8	3.5	4.2	4.3	4.3	5.5	5.9	5.1	3.9	4.9	5.3
Nondurable Goods	2.1	3.6	3.7	3.4	3.1	3.0	3.4	3.7	3.8	3.7	3.7	3.7	3.6
Services	2.5	3.6	3.7	3.6	3.4	3.3	3.8	3.9	3.8	3.8	3.9	3.5	3.4
Nonres. Fixed Investment	-3.9	9.5	9.4	6.8	5.6	6.2	6.9	7.0	7.4	6.5	6.6	7.1	6.6
Equipment	-1.7	10.2	10.8	7.8	6.4	6.7	7.7	8.1	8.2	7.7	7.6	8.1	7.9
Computers	11.1	15.3	18.8	20.4	20.6	20.2	19.8	19.1	18.7	18.1	18.2	18.0	17.3
Software	6.0	8.7	9.2	10.6	10.8	10.8	11.1	11.2	11.3	11.5	11.8	11.4	10.5
Communications	-8.5	12.7	14.0	9.3	8.9	7.0	7.0	7.7	7.8	6.5	6.4	7.6	7.0
Light Vehicles	-2.4	11.9	6.4	2.7	3.6	3.8	5.5	5.7	5.6	4.4	4.2	5.6	5.1
Other	-5.7	9.1	10.8	5.4	2.2	2.7	4.2	4.7	4.9	4.1	3.5	4.0	4.5
Private Nonres. Structures	-9.8	7.4	5.6	3.9	3.4	4.8	4.4	4.1	5.1	3.2	3.9	4.6	3.2
Buildings and Other	-8.2	10.7	6.2	4.6	4.2	4.8	5.4	5.4	6.2	3.6	4.3	5.3	3.6
Residential Fixed Investment	5.0	10.6	0.4	3.3	1.4	2.1	3.3	3.3	4.6	2.6	-2.8	1.9	3.1
Exports	-8.7	7.6	9.7	8.1	8.3	7.9	7.3	7.1	6.7	6.4	6.7	7.5	8.1
Imports	1.1	7.8	5.5	5.1	4.7	4.7	5.0	5.6	5.8	5.1	5.3	6.1	6.3
Federal Government	4.5	4.7	2.3	1.0	0.6	0.5	0.7	0.8	1.2	-0.2	0.8	1.0	1.0
State and Local Governments	2.1	2.3	2.2	2.3	2.0	1.8	1.7	1.8	2.0	1.6	1.7	2.0	2.1
Billions of Dollars													
Real GDP (Chained 1996 $)	9468.5	9943.7	10368.1	10750.6	11128.8	11521.3	11973.1	12459.1	12978.9	13466.6	13955.6	14500.3	15060.7
Gross Domestic Product	10496.9	11255.1	11983.9	12679.7	13384.5	14131.2	14969.1	15878.2	16878.9	17880.5	18920.5	20092.5	21359.5
Prices and Wages (Annual percent change)													
GDP Price Index (Chain-Wt.)	1.3	2.1	2.1	2.0	2.0	2.0	1.9	1.9	2.0	2.1	2.1	2.2	2.4
CPI - All Urban Consumers	1.5	2.6	2.5	2.4	2.3	2.2	2.1	2.1	2.2	2.2	2.3	2.5	2.6
Excl. Food & Energy	2.5	2.7	2.6	2.5	2.4	2.4	2.3	2.2	2.3	2.3	2.4	2.6	2.7
Producer Price Index - Fin. Gds.	-1.3	1.1	1.4	1.3	1.0	0.9	0.9	0.9	1.0	1.1	1.1	1.3	1.5
Emp. Cost Index - Total Comp.	3.3	3.0	3.1	3.1	3.3	3.4	3.5	3.5	3.7	3.9	4.1	4.1	4.3
Output per Hour	2.9	3.8	2.2	2.6	2.6	2.6	2.8	2.6	2.4	2.6	3.2	3.0	2.7
Other Key Measures													
Industrial Production (% ch)	-0.6	8.8	5.9	4.6	4.3	4.3	5.2	5.5	5.4	4.8	4.6	5.0	4.6
Nonfarm Inven. Accumulation (Billion chained 1996 $)	24.2	64.5	64.5	49.8	47.6	48.6	54.3	58.6	61.7	57.0	56.4	64.4	66.1
Consumer Confidence Index	95.3	94.3	97.0	95.8	93.6	93.4	93.9	95.6	97.4	95.9	92.5	93.5	93.7
Housing Starts (Mil. units)	1.831	1.964	2.019	2.085	2.082	2.118	2.164	2.225	2.321	2.309	2.175	2.235	2.297
Light-Vehicle Sales (Mil. units)	15.7	17.4	17.8	17.7	18.0	18.3	18.5	18.9	19.4	19.7	19.8	20.3	21.1
Unemployment Rate (%)	5.9	5.7	5.0	4.9	5.0	5.0	4.9	4.7	4.3	4.1	4.4	4.5	4.5
Payroll Employment (% ch.)	0.0	2.1	2.6	1.9	1.5	1.4	1.5	1.7	1.9	1.3	0.7	1.1	1.3
Federal Budget Surplus (Unified, FY, bil. $)	13.3	30.7	16.2	38.4	86.3	136.1	134.5	151.2	167.4	174.5	104.1	129.0	136.0
Foreign Trade													
Curr. Account Balance (Bil. $)	-468.6	-570.4	-607.6	-632.6	-654.8	-677.2	-710.7	-747.7	-799.6	-840.7	-883.8	-952.9	-1024.3
Foreign Crude Oil ($ per barrel)	19.6	21.1	22.9	24.1	25.0	25.7	26.4	27.1	27.9	28.9	29.8	30.8	31.9
Financial Markets													
Money Supply (M2, billion $)	5826.3	6153.9	6457.0	6778.4	7119.1	7481.2	7868.7	8283.5	8728.8	9203.8	9710.9	10251.9	10831.7
Percent Change	7.7	5.6	4.9	5.0	5.0	5.1	5.2	5.3	5.4	5.4	5.5	5.6	5.7
Thirty-Year Mortgage Rate (%)	7.0	7.4	7.4	7.3	7.3	7.5	7.5	7.5	7.6	7.7	7.7	7.8	7.9
Ten-Year Treasury Note Yield (%)	5.3	5.8	5.9	5.9	6.0	6.2	6.4	6.5	6.6	6.6	6.7	6.8	7.0
Treasury Bill Rate (%)	2.0	3.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Federal Funds Rate (%)	2.2	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Prime Rate (%)	5.2	7.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
S&P 500 Stock Index	1164.6	1339.8	1479.7	1646.3	1789.7	1911.9	2049.9	2206.2	2314.6	2479.9	2803.9	2962.7	3099.2
Incomes													
Personal Income (% ch)	2.9	6.3	6.3	5.4	5.3	5.3	5.7	5.9	6.2	6.1	5.8	6.0	6.2
Real Disposable Income (% ch)	2.5	4.1	4.1	3.4	3.0	3.1	3.9	4.1	4.2	4.0	3.5	3.6	3.7
Saving Rate (%)	2.0	1.9	2.1	1.9	1.4	1.1	1.2	1.3	1.4	1.5	1.2	1.1	1.2
Profits After Tax (% chya)	10.0	14.0	1.4	3.2	5.5	4.9	8.6	7.0	6.8	7.2	9.8	9.2	8.5

TABLE 1 (Continued)

Summary for the U.S. Economy - Optimistic Outlook

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Composition of Real GDP (Annual percent change)													
Gross Domestic Product	3.8	3.9	3.7	3.7	3.6	3.5	3.2	3.2	3.4	3.6	3.4	3.6	3.5
Final Sales	3.8	3.9	3.7	3.7	3.6	3.5	3.2	3.2	3.4	3.6	3.4	3.5	3.5
Gross National Product	3.8	3.9	3.7	3.6	3.6	3.6	3.3	3.3	3.4	3.6	3.5	3.6	3.6
Total Consumption	3.7	3.7	3.6	3.7	3.7	3.6	3.3	3.3	3.5	3.8	3.6	3.7	3.8
Durable Goods	5.3	5.9	4.8	4.8	5.5	5.9	4.3	5.0	5.5	7.3	5.8	6.3	6.3
Nondurable Goods	3.7	3.8	3.7	3.8	3.8	3.8	3.6	3.6	3.8	3.9	3.9	4.0	4.1
Services	3.4	3.3	3.4	3.4	3.4	3.2	3.0	2.9	3.1	3.2	3.2	3.2	3.3
Nonres. Fixed Investment	6.3	6.6	5.7	5.5	5.4	5.0	4.8	4.1	4.5	5.1	4.9	4.9	5.0
Equipment	7.5	7.3	6.7	6.4	6.1	5.8	5.4	5.2	5.4	5.8	5.6	5.7	5.7
Computers	16.5	15.8	15.0	14.3	13.8	13.8	14.3	14.5	14.8	14.8	14.7	14.7	15.3
Software	9.8	9.1	8.3	7.5	6.7	6.1	5.3	4.7	4.6	4.8	4.8	4.8	4.9
Communications	6.5	6.8	6.2	6.3	6.2	5.9	5.4	4.9	4.9	5.5	5.2	5.2	5.1
Light Vehicles	4.7	5.3	4.4	4.5	4.7	4.5	3.9	4.1	4.5	5.4	4.5	4.8	4.8
Other	4.2	4.2	4.1	4.0	4.0	4.0	3.7	3.9	4.3	4.8	4.6	4.8	4.7
Private Nonres. Structures	3.2	4.7	2.9	2.9	3.6	2.9	3.4	1.2	2.1	3.2	2.8	2.8	2.8
Buildings and Other	3.6	5.4	3.3	3.2	4.0	3.2	3.8	1.3	2.4	3.6	3.1	3.1	3.1
Residential Fixed Investment	2.9	3.6	2.2	1.8	2.5	2.9	2.1	2.8	2.5	4.2	2.9	2.9	2.5
Exports	8.2	8.1	8.1	8.2	8.0	7.7	7.6	7.7	7.7	7.4	7.4	7.6	7.4
Imports	6.5	6.7	6.4	6.6	7.0	7.2	6.5	6.5	7.0	7.6	7.1	7.1	7.5
Federal Government	1.0	1.0	1.0	1.0	1.0	1.9	0.2	0.8	1.0	1.1	1.1	1.1	1.1
State and Local Governments	2.2	2.4	2.2	2.2	2.2	2.2	2.3	2.1	2.2	2.3	2.3	2.3	2.4
Billions of Dollars													
Real GDP (Chained 1996 $)	15634.2	16240.8	16840.3	17455.9	18091.7	18729.2	19331.6	19955.4	20630.3	21365.6	22098.0	22882.8	23687.1
Gross Domestic Product	22707.3	24185.2	25703.0	27300.2	28970.2	30700.8	32415.6	34211.2	36118.7	38197.7	40318.7	42610.0	45013.4
Prices and Wages (Annual percent change)													
GDP Price Index (Chain-Wt.)	2.4	2.5	2.5	2.5	2.4	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.1
CPI - All Urban Consumers	2.7	2.8	2.9	2.9	2.8	2.7	2.7	2.7	2.6	2.6	2.5	2.5	2.5
Excl. Food & Energy	2.8	3.0	3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6	2.7	2.6
Producer Price Index - Fin. Gds.	1.4	1.5	1.5	1.5	1.3	1.3	1.3	1.2	1.0	1.0	1.0	1.0	1.0
Emp. Cost Index - Total Comp.	4.3	4.4	4.5	4.4	4.2	4.2	4.0	4.0	3.7	3.8	3.7	3.7	3.6
Output per Hour	2.7	2.6	3.0	3.2	3.0	2.6	2.4	2.4	2.7	2.4	2.5	2.5	2.5
Other Key Measures													
Industrial Production (% ch)	4.2	4.3	4.0	4.2	4.1	4.0	3.8	3.6	3.6	3.5	3.2	3.2	3.1
Nonfarm Inven. Accumulation (Billion chained 1996 $)	67.2	69.9	67.4	69.1	72.0	71.8	66.3	67.7	73.7	79.2	75.0	79.1	79.7
Consumer Confidence Index	93.8	94.1	91.6	90.3	90.2	91.0	89.6	89.2	89.3	91.0	90.4	91.0	90.9
Housing Starts (Mil. units)	2.358	2.433	2.449	2.479	2.536	2.622	2.659	2.734	2.799	2.927	2.986	3.056	3.094
Light-Vehicle Sales (Mil. units)	21.8	22.5	22.8	22.9	23.3	23.7	23.7	23.9	24.2	25.1	25.5	26.0	26.5
Unemployment Rate (%)	4.5	4.4	4.5	4.7	4.9	4.9	5.0	5.0	5.1	5.0	5.0	4.9	5.0
Payroll Employment (% ch.)	1.3	1.5	1.0	0.8	1.0	1.2	1.1	1.0	0.9	1.3	1.1	1.2	1.3
Federal Budget Surplus (Unified, FY, bil. $)	143.1	158.0	149.2	140.4	142.9	187.8	245.0	273.0	229.7	210.3	177.3	133.6	97.1
Foreign Trade													
Curr. Account Balance (Bil. $)	-1085.9	-1153.1	-1213.7	-1279.1	-1357.8	-1440.3	-1499.1	-1567.6	-1654.1	-1777.6	-1887.4	-2013.5	-2139.9
Foreign Crude Oil ($ per barrel)	33.0	34.1	35.3	36.6	38.0	39.6	41.2	43.0	44.8	46.7	48.8	50.9	53.2
Financial Markets													
Money Supply (M2, billion $)	11452.4	12119.0	12831.3	13591.3	14399.5	15256.5	16158.2	17106.1	18105.3	19160.3	20271.2	21442.6	22679.0
Percent Change	5.7	5.8	5.9	5.9	5.9	6.0	5.9	5.9	5.8	5.8	5.8	5.8	5.8
Thirty-Year Mortgage Rate (%)	8.0	8.1	8.1	8.2	8.2	8.3	8.3	8.4	8.4	8.5	8.5	8.6	8.6
Ten-Year Treasury Note Yield (%)	7.0	7.1	7.2	7.2	7.3	7.3	7.3	7.3	7.3	7.4	7.4	7.4	7.5
Treasury Bill Rate (%)	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.6
Federal Funds Rate (%)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Prime Rate (%)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
S&P 500 Stock Index	3284.0	3514.1	3776.2	4046.8	4305.9	4601.4	4873.6	5042.1	5333.2	5636.0	6009.3	6263.5	6507.4
Incomes													
Personal Income (% ch)	6.3	6.6	6.3	6.2	6.2	6.2	5.9	5.8	5.7	5.9	5.8	5.9	5.9
Real Disposable Income (% ch)	3.7	3.7	3.5	3.4	3.4	3.2	2.8	2.9	3.2	3.4	3.3	3.4	3.4
Saving Rate (%)	1.2	1.3	1.2	1.0	0.7	0.3	-0.2	-0.5	-0.8	-1.1	-1.5	-1.8	-2.1
Profits After Tax (% chya)	7.4	7.6	8.0	8.7	7.4	4.9	4.2	3.3	5.1	3.8	3.6	3.6	3.4

TABLE 2

U.S. Population - Optimistic Outlook

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Millions of Persons													
Total Population	281.2	284.4	287.8	291.3	295.0	298.6	302.4	306.2	310.1	314.1	318.2	322.4	326.7
Under 5	19.2	19.5	19.9	20.2	20.6	21.1	21.5	22.0	22.5	23.0	23.5	23.9	24.4
5 to 15	43.5	43.4	43.5	43.7	43.9	44.2	44.5	44.3	44.1	45.1	46.3	47.0	47.9
16 and Over	218.4	221.4	224.4	227.4	230.4	233.4	236.4	239.9	243.5	246.0	248.4	251.5	254.4
16 to 21	25.0	25.5	25.8	26.2	26.5	26.7	26.9	27.6	28.4	27.8	27.0	26.9	26.8
21 to 64	158.0	160.1	162.4	164.6	166.7	168.8	170.6	172.6	174.7	176.8	178.2	179.9	181.5
65 and Over	35.4	35.8	36.2	36.7	37.2	37.9	38.8	39.7	40.5	41.4	43.2	44.6	46.1
Annual Rate of Change													
Total Population	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Under 5	1.2	1.6	1.8	1.9	2.0	2.1	2.2	2.2	2.2	2.2	2.1	2.0	1.9
5 to 15	-0.5	-0.2	0.3	0.4	0.5	0.6	0.8	-0.5	-0.5	2.4	2.6	1.4	1.9
16 and Over	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.5	1.5	1.0	1.0	1.2	1.2
16 to 21	3.1	2.2	1.2	1.3	1.2	0.9	0.6	2.8	2.6	-2.1	-2.6	-0.4	-0.7
21 to 64	1.2	1.3	1.4	1.4	1.3	1.3	1.1	1.2	1.2	1.2	0.8	1.0	0.9
65 and Over	0.9	1.1	1.2	1.3	1.4	1.8	2.6	2.2	2.1	2.3	4.2	3.4	3.3
Population Structure - Percents of Total													
Under 5	6.8	6.9	6.9	6.9	7.0	7.1	7.1	7.2	7.3	7.3	7.4	7.4	7.5
5 to 15	15.5	15.3	15.1	15.0	14.9	14.8	14.7	14.5	14.2	14.4	14.6	14.6	14.7
16 and Over	77.7	77.9	78.0	78.1	78.1	78.2	78.2	78.4	78.5	78.3	78.1	78.0	77.9
16 to 21	8.9	9.0	9.0	9.0	9.0	9.0	8.9	9.0	9.1	8.8	8.5	8.4	8.2
21 to 64	56.2	56.3	56.4	56.5	56.5	56.5	56.4	56.4	56.3	56.3	56.0	55.8	55.6
65 and Over	12.6	12.6	12.6	12.6	12.6	12.7	12.8	13.0	13.1	13.2	13.6	13.8	14.1
Mortality													

Percent of Population 65 and Over	12.6	12.6	12.6	12.6	12.6	12.7	12.8	13.0	13.1	13.2	13.6	13.8	14.1
The Impact of Shifts in Population Age Groups													
Dependency Ratio (a)	0.96	0.95	0.94	0.93	0.93	0.93	0.94	0.93	0.93	0.94	0.96	0.97	0.98
Ratio of Stock of Cars to Driving-Age Population	0.58	0.57	0.56	0.55	0.55	0.54	0.53	0.53	0.52	0.52	0.52	0.51	0.51
Ratio of New Car Sales to Driving-Age Population	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Ratio of Stock of Houses and Mobile Homes to Population 21 and Over	0.62	0.62	0.62	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Ratio of Stock of Multi-Unit Houses to Population 21 and Over	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.16

a. The dependency ratio here is defined as the ratio of the number of people not in the civilian labor force or in the military to the number of people that are.

TABLE 2 Continued)

U.S. Population - Optimistic Outlook

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Millions of Persons													
Total Population	331.1	335.5	340.1	344.7	349.5	354.3	359.5	364.5	369.7	375.0	380.4	386.0	391.7
Under 5	24.8	25.3	25.7	26.1	26.5	26.9	27.4	27.8	28.2	28.7	29.1	29.6	30.1
5 to 15	48.2	48.7	49.9	51.2	52.5	53.4	54.4	55.5	56.6	57.6	58.7	59.7	60.8
16 and Over	258.0	261.5	264.5	267.5	270.4	274.0	277.7	281.3	284.9	288.7	292.6	296.6	300.8
16 to 21	27.3	27.8	27.8	27.9	27.9	28.5	28.9	29.4	29.9	30.5	31.1	31.8	32.5
21 to 64	183.1	184.5	185.8	187.0	188.1	189.1	190.5	191.4	192.5	193.6	194.9	196.2	197.7
65 and Over	47.6	49.2	50.9	52.6	54.5	56.4	58.3	60.4	62.5	64.5	66.6	68.6	70.6
Annual Rate of Change													
Total Population	1.3	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.5	1.5
Under 5	1.8	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.7	1.6
5 to 15	0.8	1.0	2.5	2.5	2.7	1.6	2.0	2.0	1.9	1.9	1.8	1.8	1.7
16 and Over	1.4	1.4	1.1	1.1	1.1	1.3	1.4	1.3	1.3	1.3	1.4	1.4	1.4
16 to 21	1.9	2.0	-0.1	0.2	0.0	2.2	1.6	1.7	1.8	1.9	2.1	2.1	2.2
21 to 64	0.8	0.8	0.7	0.6	0.6	0.6	0.7	0.5	0.5	0.6	0.6	0.7	0.8
65 and Over	3.3	3.3	3.4	3.4	3.5	3.5	3.5	3.6	3.4	3.2	3.2	3.0	2.9
Population Structure - Percents of Total													
Under 5	7.5	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.7	7.7	7.7
5 to 15	14.6	14.5	14.7	14.8	15.0	15.1	15.1	15.2	15.3	15.4	15.4	15.5	15.5
16 and Over	77.9	77.9	77.8	77.6	77.4	77.3	77.3	77.2	77.1	77.0	76.9	76.9	76.8
16 to 21	8.2	8.3	8.2	8.1	8.0	8.0	8.0	8.1	8.1	8.1	8.2	8.2	8.3
21 to 64	55.3	55.0	54.6	54.2	53.8	53.4	53.0	52.5	52.1	51.6	51.2	50.8	50.5
65 and Over	14.4	14.7	15.0	15.3	15.6	15.9	16.2	16.6	16.9	17.2	17.5	17.8	18.0
Mortality													

Percent of Population 65 and Over	14.4	14.7	15.0	15.3	15.6	15.9	16.2	16.6	16.9	17.2	17.5	17.8	18.0
The Impact of Shifts in Population Age Groups													
Dependency Ratio (a)	0.98	0.99	1.00	1.01	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.10	1.11
Ratio of Stock of Cars to Driving-Age Population	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Ratio of New Car Sales to Driving-Age Population	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.09	0.09	0.09	0.09	0.09
Ratio of Stock of Houses and Mobile Homes to Population 21 and Over	0.63	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.65	0.65
Ratio of Stock of Multi-Unit Houses to Population 21 and Over	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16

a. The dependency ratio here is defined as the ratio of the number of people not in the civilian labor force or in the military to the number of people that are.

TABLE 3

Supply Conditions - Optimistic Outlook

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Percent Change (SAAR)													
Unsmoothed Potential Output	3.1	3.3	3.4	3.5	3.5	3.5	3.4	3.7	3.8	3.5	3.4	3.6	3.6
Components													
Labor Hours	0.8	1.0	1.0	1.0	1.0	0.9	0.8	1.0	1.0	0.7	0.6	0.8	0.8
Capital Stock	1.4	0.8	1.0	1.2	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.6
Energy Usage	0.0	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2
Research and Development Stock	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Stock of Infrastructure Capital	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Smoothed Potential Output	3.3	3.2	3.4	3.5	3.5	3.5	3.4	3.6	3.8	3.6	3.4	3.6	3.6
Productivity													
Labor (Output per hour)	2.9	3.8	2.2	2.6	2.6	2.6	2.8	2.6	2.4	2.6	3.2	3.0	2.7
Percent													
Industrial Supply Conditions													
Vendor Performance	50.9	54.2	54.0	53.3	52.4	52.1	52.7	52.7	52.7	52.3	52.0	52.0	51.6
Manufacturing Capacity Utilization	0.73	0.77	0.78	0.79	0.79	0.80	0.80	0.81	0.82	0.82	0.82	0.82	0.82
Labor Availability													
Civilian Unemployment Rate	5.9	5.7	5.0	4.9	5.0	5.0	4.9	4.7	4.3	4.1	4.4	4.5	4.5
Full-Employment Unemployment Rate	5.1	5.1	5.0	5.0	4.9	4.8	4.7	4.7	4.6	4.5	4.5	4.5	4.5
Finance													
Net Mortgage Acquisitions (% change)	-19.8	6.8	-3.0	5.1	4.7	4.9	5.8	5.5	9.6	3.8	-3.5	4.9	4.7
Nominal Corp. Cost of Financial Capital (%)	5.0	4.9	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.2	5.2	5.2	5.3
Real Corp. Cost	3.8	3.8	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.9
Personal Saving Rate (%)	2.0	1.9	2.1	1.9	1.4	1.1	1.2	1.3	1.4	1.5	1.2	1.1	1.2
Money Supply (M2, % change)	7.7	5.6	4.9	5.0	5.0	5.1	5.2	5.3	5.4	5.4	5.5	5.6	5.7

TABLE 3 (Continued)

Supply Conditions - Optimistic Outlook

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Percent Change (SAAR)													
Unsmoothed Potential Output	3.7	3.7	3.4	3.3	3.2	3.3	3.3	3.1	3.1	3.2	3.2	3.2	3.3
Components													
Labor Hours	0.9	0.8	0.5	0.5	0.5	0.6	0.7	0.6	0.6	0.6	0.6	0.7	0.7
Capital Stock	1.6	1.6	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.2
Energy Usage	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Research and Development Stock	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Stock of Infrastructure Capital	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Smoothed Potential Output	3.6	3.7	3.5	3.3	3.2	3.2	3.3	3.2	3.1	3.2	3.2	3.2	3.2
Productivity													
Labor (Output per hour)	2.7	2.6	3.0	3.2	3.0	2.6	2.4	2.4	2.7	2.4	2.5	2.5	2.5
Percent													
Industrial Supply Conditions													
Vendor Performance	51.2	51.0	50.9	51.0	51.1	50.7	49.8	49.9	50.3	50.6	50.4	50.7	50.5
Manufacturing Capacity Utilization	0.82	0.82	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.77
Labor Availability													
Civilian Unemployment Rate	4.5	4.4	4.5	4.7	4.9	4.9	5.0	5.0	5.1	5.0	5.0	4.9	5.0
Full-Employment Unemployment Rate	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Finance													
Net Mortgage Acquisitions (% change)	4.7	7.8	4.4	4.5	3.5	1.9	1.3	-0.5	0.4	3.9	1.5	1.8	1.3
Nominal Corp. Cost of Financial Capital (%)	5.4	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5	5.5	5.5
Real Corp. Cost	3.9	4.0	4.0	4.0	3.9	3.9	3.8	3.8	3.7	3.7	3.6	3.6	3.6
Personal Saving Rate (%)	1.2	1.3	1.2	1.0	0.7	0.3	-0.2	-0.5	-0.8	-1.1	-1.5	-1.8	-2.1
Money Supply (M2, % change)	5.7	5.8	5.9	5.9	5.9	6.0	5.9	5.9	5.8	5.8	5.8	5.8	5.8

TABLE 4

Summary for the U.S. Economy - Pessimistic Outlook

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Composition of Real GDP (Annual percent change)													
Gross Domestic Product	0.6	2.9	3.6	2.6	2.5	2.7	3.0	2.8	3.3	2.8	2.8	2.8	3.0
Final Sales	-0.1	2.6	3.5	2.7	2.5	2.7	3.0	2.8	3.2	2.9	2.8	2.8	3.0
Gross National Product	0.7	2.6	3.3	2.6	2.4	2.6	2.9	2.7	3.2	2.8	2.8	2.6	2.8
Total Consumption	1.7	2.8	2.9	2.4	2.2	2.3	2.6	2.5	3.0	2.7	2.8	2.7	2.9
Durable Goods	-1.5	3.9	4.6	2.3	3.0	3.4	2.7	1.8	4.5	3.4	1.9	1.9	4.1
Nondurable Goods	1.8	2.8	3.0	2.5	2.1	2.1	2.4	2.3	2.7	2.6	3.0	3.0	3.2
Services	2.3	2.5	2.5	2.3	2.1	2.2	2.7	2.6	2.8	2.7	2.9	2.8	2.7
Nonres. Fixed Investment	-5.2	4.1	7.4	5.4	4.5	5.5	6.5	5.8	6.5	6.2	6.6	5.9	6.4
Equipment	-2.6	6.4	9.6	7.1	6.1	6.4	7.5	7.2	7.5	7.4	7.4	7.2	7.2
Computers	10.8	14.1	17.5	19.4	19.7	19.3	18.6	17.9	17.3	16.7	17.2	17.4	16.7
Software	6.0	8.3	8.7	10.2	10.4	10.4	10.6	10.7	10.8	10.9	11.4	11.0	10.2
Communications	-9.5	5.0	6.1	5.3	8.1	8.1	8.1	7.3	7.2	7.3	6.4	5.5	5.2
Light Vehicles	-4.1	5.5	6.7	1.6	2.5	3.6	5.1	3.6	4.8	4.1	3.7	3.5	4.6
Other	-6.9	4.4	10.2	5.2	2.0	2.1	4.0	3.7	4.0	3.7	3.3	3.1	3.5
Private Nonres. Structures	-12.0	-2.4	0.7	0.1	-0.7	2.4	3.2	1.1	3.1	2.4	3.9	1.4	3.5
Buildings and Other	-11.3	-2.4	-0.1	-0.3	-1.0	1.7	3.9	1.6	4.0	2.7	4.6	1.5	4.2
Residential Fixed Investment	-4.4	-7.2	2.2	0.5	-0.4	0.6	1.7	0.0	2.6	0.8	-5.6	-1.8	1.1
Exports	-8.6	7.6	9.1	7.6	7.7	7.3	6.9	6.9	6.6	6.2	6.4	6.8	6.9
Imports	0.3	5.1	4.9	4.3	4.0	4.1	4.1	4.0	4.8	4.5	5.1	6.0	6.8
Federal Government	4.5	4.7	2.3	1.0	0.6	0.5	0.7	0.8	1.2	-0.2	0.8	1.0	1.0
State and Local Governments	1.6	1.9	1.5	1.8	1.6	1.2	1.3	1.0	1.2	1.0	1.2	1.3	1.6
Billions of Dollars													
Real GDP (Chained 1996 $)	9377.9	9651.4	9996.4	10253.8	10511.4	10791.4	11118.0	11424.5	11796.6	12132.3	12475.9	12823.3	13212.7
Gross Domestic Product	10384.9	10885.1	11511.0	12068.2	12633.6	13253.9	13968.1	14683.6	15534.7	16407.0	17362.4	18382.3	19566.5
Prices and Wages (Annual percent change)													
GDP Price Index (Chain-Wt.)	1.2	1.9	2.1	2.2	2.1	2.2	2.3	2.3	2.5	2.7	2.9	3.0	3.3
CPI - All Urban Consumers	1.4	2.4	2.5	2.6	2.5	2.5	2.6	2.6	2.7	2.9	3.2	3.3	3.6
Excl. Food & Energy	2.5	2.5	2.6	2.7	2.6	2.7	2.7	2.7	2.8	3.0	3.2	3.4	3.7
Producer Price Index - Fin. Gds.	-1.4	0.8	1.3	1.5	1.2	1.2	1.4	1.3	1.5	1.8	2.0	2.1	2.3
Emp. Cost Index - Total Comp.	3.3	2.7	2.7	2.7	2.8	2.9	3.2	3.3	3.5	3.9	4.1	4.2	4.6
Output per Hour	2.6	3.0	2.2	2.0	2.1	2.0	2.1	2.2	2.0	1.9	2.3	2.3	2.0
Other Key Measures													
Industrial Production (% ch)	-0.8	6.1	5.4	3.7	3.3	3.3	3.9	3.7	4.0	3.4	3.1	2.8	2.5
Nonfarm Inven. Accumulation (Billion chained 1996 $)	9.2	40.4	55.2	36.8	35.2	37.2	41.1	38.5	47.2	43.2	43.9	45.5	52.6
Consumer Confidence Index	91.6	87.3	91.2	90.0	89.5	90.4	91.2	90.5	94.2	93.4	89.9	88.9	90.3
Housing Starts (Mil. units)	1.391	1.242	1.311	1.306	1.279	1.283	1.284	1.251	1.291	1.238	1.079	1.043	1.046
Light-Vehicle Sales (Mil. units)	15.2	16.1	16.6	16.4	16.6	17.0	17.0	16.8	17.2	17.3	17.1	16.8	17.2
Unemployment Rate (%)	6.1	6.1	5.4	5.2	5.3	5.2	5.0	4.9	4.5	4.3	4.6	4.7	4.7
Payroll Employment (% ch.)	-0.7	0.8	1.5	0.9	0.8	1.0	1.2	0.9	1.5	1.2	0.8	0.6	1.1
Federal Budget Surplus (Unified, FY, bil. $)	-5.4	-70.8	-118.8	-131.1	-106.6	-74.3	-56.9	-43.2	-36.3	-35.6	-160.9	-242.5	-320.5
Foreign Trade													
Curr. Account Balance (Bil. $)	-454.7	-511.9	-547.2	-557.2	-563.1	-569.2	-582.7	-587.6	-606.0	-621.9	-660.2	-716.9	-796.5
Foreign Crude Oil ($ per barrel)	19.8	21.6	23.8	25.5	27.0	28.3	29.6	31.0	32.6	34.5	36.4	38.5	40.7
Financial Markets													
Money Supply (M2, billion $)	5818.7	6119.9	6395.2	6683.3	6984.1	7300.5	7635.2	7981.6	8347.7	8734.7	9129.9	9541.6	9964.2
Percent Change	7.5	5.2	4.5	4.5	4.5	4.5	4.6	4.5	4.6	4.6	4.5	4.5	4.4
Thirty-Year Mortgage Rate (%)	7.1	7.5	7.7	7.6	7.7	7.7	7.7	7.8	7.9	8.0	8.4	8.9	9.3
Ten-Year Treasury Note Yield (%)	5.3	5.8	6.1	6.1	6.2	6.2	6.3	6.5	6.6	6.8	7.2	7.6	8.1
Treasury Bill Rate (%)	2.0	3.7	4.6	4.6	4.6	4.6	4.7	4.9	5.0	5.1	5.5	5.9	6.3
Federal Funds Rate (%)	2.2	4.0	5.0	5.0	5.0	5.0	5.1	5.3	5.4	5.5	5.9	6.3	6.8
Prime Rate (%)	5.2	7.0	8.0	8.0	8.0	8.0	8.1	8.3	8.4	8.5	8.9	9.3	9.8
S&P 500 Stock Index	1152.8	1017.2	1002.5	1105.4	1226.7	1292.2	1362.9	1434.8	1491.1	1554.9	1622.7	1633.1	1649.9
Incomes													
Personal Income (% ch)	2.3	4.4	5.3	4.5	4.5	4.7	5.3	5.2	5.7	5.9	6.1	6.1	6.7
Real Disposable Income (% ch)	1.9	2.9	3.4	2.3	1.8	2.0	2.7	2.5	3.1	3.0	3.1	3.1	3.3
Saving Rate (%)	1.9	2.0	2.5	2.3	1.8	1.4	1.4	1.5	1.7	2.0	2.3	2.7	3.2
Profits After Tax (% chya)	1.9	3.4	1.0	1.5	5.6	5.3	7.1	4.1	7.1	3.9	6.0	4.6	5.5

TABLE 4 (Continued)

Summary for the U.S. Economy - Pessimistic Outlook

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Composition of Real GDP (Annual percent change)													
Gross Domestic Product	2.7	2.8	2.7	2.7	2.5	2.5	2.3	2.4	2.5	2.6	2.6	2.7	2.8
Final Sales	2.7	2.8	2.7	2.7	2.5	2.5	2.3	2.4	2.4	2.6	2.6	2.7	2.8
Gross National Product	2.5	2.7	2.6	2.5	2.4	2.4	2.3	2.2	2.3	2.5	2.4	2.5	2.7
Total Consumption	2.7	2.9	2.8	2.7	2.7	2.6	2.4	2.4	2.5	2.7	2.6	2.8	2.9
Durable Goods	2.7	4.4	3.1	3.0	3.5	4.4	3.0	3.7	3.7	5.6	4.1	4.9	5.1
Nondurable Goods	3.1	3.2	3.1	3.2	3.1	3.0	2.8	2.7	2.8	2.9	3.0	3.1	3.1
Services	2.6	2.6	2.6	2.5	2.5	2.3	2.2	2.1	2.2	2.3	2.3	2.4	2.6
Nonres. Fixed Investment	5.8	5.3	5.4	5.1	4.2	4.0	4.2	3.5	3.3	3.7	3.7	3.7	3.7
Equipment	6.7	6.4	6.3	5.9	5.3	4.9	4.6	4.4	4.4	4.6	4.4	4.4	4.5
Computers	16.2	15.4	14.4	13.6	13.3	13.1	13.4	13.4	13.5	13.5	13.3	13.2	13.6
Software	9.5	8.7	7.7	6.9	6.1	5.3	4.4	3.5	3.3	3.4	3.2	3.1	3.0
Communications	4.8	4.6	5.9	5.4	4.4	4.4	5.1	5.4	5.0	5.3	5.4	5.4	5.5
Light Vehicles	3.3	3.8	4.1	3.9	3.0	3.4	3.2	3.6	3.4	4.1	3.6	3.8	4.0
Other	3.2	3.0	3.3	3.5	3.2	3.0	3.0	3.5	3.6	3.9	3.8	3.9	4.0
Private Nonres. Structures	2.4	1.3	2.5	2.4	0.3	0.8	2.6	-0.1	-0.7	0.4	0.9	0.8	0.9
Buildings and Other	2.7	1.4	3.0	2.7	0.1	0.8	3.1	-0.3	-1.1	0.2	0.9	0.6	0.7
Residential Fixed Investment	0.1	0.7	0.0	0.1	-0.1	0.3	-0.6	0.0	-0.5	0.8	-0.3	0.2	1.5
Exports	6.5	6.2	6.4	6.8	6.9	6.9	7.1	7.6	7.9	8.0	8.1	8.3	8.5
Imports	6.8	6.9	6.6	6.8	6.9	7.1	6.5	6.5	6.7	7.3	7.0	7.2	7.5
Federal Government	1.0	1.0	1.0	1.0	1.0	1.9	0.3	0.9	1.1	1.1	1.2	1.2	1.2
State and Local Governments	1.5	1.5	1.6	1.8	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.7
Billions of Dollars													
Real GDP (Chained 1996 $)	13567.8	13943.9	14326.6	14716.4	15089.5	15466.2	15826.2	16201.9	16600.5	17037.9	17478.3	17956.3	18465.3
Gross Domestic Product	20789.0	22140.5	23612.4	25237.7	26943.6	28777.4	30700.8	32827.1	35149.2	37755.4	40570.7	43717.9	47208.0
Prices and Wages (Annual percent change)													
GDP Price Index (Chain-Wt.)	3.5	3.6	3.8	4.1	4.1	4.2	4.3	4.5	4.5	4.7	4.8	4.9	5.0
CPI - All Urban Consumers	3.8	3.9	4.2	4.5	4.6	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7
Excl. Food & Energy	3.9	4.1	4.3	4.6	4.7	4.8	4.9	5.2	5.2	5.4	5.6	5.7	5.9
Producer Price Index - Fin. Gds.	2.4	2.5	2.7	3.0	3.0	3.1	3.2	3.5	3.5	3.7	3.8	4.0	4.1
Emp. Cost Index - Total Comp.	4.7	5.0	5.2	5.3	5.2	5.4	5.3	5.5	5.4	5.6	5.6	5.7	5.7
Output per Hour	2.0	2.1	2.3	2.1	2.0	2.0	2.1	1.8	2.1	1.7	1.9	2.0	2.0
Other Key Measures													
Industrial Production (% ch)	1.4	1.2	1.2	1.3	0.9	0.8	0.8	0.7	1.1	1.5	1.9	2.5	3.3
Nonfarm Inven. Accumulation (Billion chained 1996 $)	47.6	50.9	51.4	53.7	52.4	54.4	53.5	56.5	61.1	68.0	68.9	75.1	80.8
Consumer Confidence Index	88.6	89.1	87.2	86.7	85.4	85.1	83.9	83.7	83.6	84.9	84.0	84.6	84.5
Housing Starts (Mil. units)	1.019	1.019	0.995	0.981	0.961	0.956	0.931	0.920	0.901	0.903	0.873	0.869	0.880
Light-Vehicle Sales (Mil. units)	17.1	17.3	17.1	16.9	16.7	16.8	16.6	16.6	16.5	16.9	16.8	16.9	17.0
Unemployment Rate (%)	4.7	4.6	4.7	4.9	5.1	5.1	5.2	5.2	5.3	5.2	5.2	5.1	5.2
Payroll Employment (% ch.)	0.8	0.8	0.6	0.8	0.7	0.7	0.5	0.7	0.6	1.0	0.8	0.9	1.0
Federal Budget Surplus (Unified, FY, bil. $)	-436.0	-543.3	-677.7	-830.3	-1019.2	-1169.0	-1320.0	-1500.4	-1775.3	-2051.7	-2388.6	-2760.1	-3142.5
Foreign Trade													
Curr. Account Balance (Bil. $)	-869.4	-945.6	-1045.9	-1163.7	-1273.4	-1398.9	-1513.8	-1656.8	-1811.0	-1993.8	-2205.8	-2443.4	-2694.8
Foreign Crude Oil ($ per barrel)	43.1	45.6	48.3	51.3	54.7	58.4	62.4	66.9	71.8	77.1	83.0	89.3	96.2
Financial Markets													
Money Supply (M2, billion $)	10413.1	10895.1	11405.1	11943.1	12526.9	13154.0	13828.7	14546.4	15318.0	16150.6	17036.7	17997.0	19054.6
Percent Change	4.5	4.6	4.7	4.7	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.9
Thirty-Year Mortgage Rate (%)	9.7	10.0	10.4	10.8	11.1	11.4	11.6	11.9	12.2	12.5	12.9	13.1	13.3
Ten-Year Treasury Note Yield (%)	8.4	8.7	9.0	9.4	9.7	9.9	10.1	10.4	10.7	11.0	11.3	11.6	11.8
Treasury Bill Rate (%)	6.6	6.8	7.1	7.4	7.6	7.8	7.9	8.2	8.4	8.6	8.8	9.0	9.1
Federal Funds Rate (%)	7.0	7.2	7.5	7.9	8.0	8.2	8.3	8.6	8.8	8.9	9.3	9.4	9.5
Prime Rate (%)	10.0	10.2	10.5	10.9	11.0	11.2	11.3	11.6	11.8	11.9	12.3	12.4	12.5
S&P 500 Stock Index	1669.7	1772.4	1833.7	1864.4	1912.8	2031.7	2170.6	2280.0	2400.3	2589.9	2772.4	2968.1	3212.7
Incomes													
Personal Income (% ch)	6.7	6.9	7.1	7.3	7.3	7.4	7.3	7.5	7.5	7.9	8.0	8.3	8.4
Real Disposable Income (% ch)	3.2	3.1	3.0	3.0	2.9	2.5	2.2	2.3	2.5	2.7	2.6	2.7	2.7
Saving Rate (%)	3.7	3.9	4.2	4.4	4.6	4.6	4.5	4.4	4.5	4.5	4.5	4.5	4.4
Profits After Tax (% chya)	3.5	6.2	5.8	4.8	4.6	3.6	5.1	2.1	4.3	3.7	3.2	5.3	8.3

TABLE 5

U.S. Population - Pessimistic Outlook

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Millions of Persons													
Total Population	279.9	281.7	283.5	285.1	286.7	288.2	289.7	291.1	292.5	293.9	295.2	296.5	297.8
Under 5	18.9	18.8	18.7	18.6	18.6	18.5	18.5	18.5	18.6	18.6	18.6	18.7	18.7
5 to 15	43.7	43.6	43.4	43.2	42.8	42.4	41.8	42.3	41.6	42.0	41.3	41.5	40.8
16 and Over	217.3	219.3	221.3	223.3	225.3	227.3	229.3	230.3	232.3	233.3	235.3	236.3	238.3
16 to 21	24.5	24.8	25.0	25.3	25.8	26.2	26.6	26.1	26.6	26.0	26.3	25.6	25.9
21 to 64	157.5	159.0	160.4	161.8	163.0	164.1	164.8	165.7	166.6	167.6	167.9	168.4	168.8
65 and Over	35.3	35.6	35.9	36.2	36.6	37.1	37.9	38.5	39.2	39.7	41.2	42.4	43.6
Annual Rate of Change													
Total Population	0.6	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4
Under 5	-0.6	-0.4	-0.5	-0.4	-0.3	-0.2	0.0	0.1	0.1	0.2	0.2	0.2	0.1
5 to 15	-0.1	-0.2	-0.4	-0.7	-0.8	-1.0	-1.2	1.0	-1.5	0.8	-1.7	0.7	-1.8
16 and Over	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.4	0.9	0.4	0.9	0.4	0.8
16 to 21	1.2	1.0	0.9	1.3	1.7	1.5	1.7	-2.0	1.8	-2.2	1.1	-2.7	1.4
21 to 64	0.9	0.9	0.9	0.8	0.7	0.7	0.5	0.5	0.5	0.6	0.1	0.3	0.3
65 and Over	0.5	0.8	0.8	0.9	1.0	1.3	2.2	1.7	1.6	1.4	3.7	3.0	2.8
Population Structure - Percents of Total													
Under 5	6.7	6.7	6.6	6.5	6.5	6.4	6.4	6.4	6.3	6.3	6.3	6.3	6.3
5 to 15	15.6	15.5	15.3	15.1	14.9	14.7	14.4	14.5	14.2	14.3	14.0	14.0	13.7
16 and Over	77.6	77.8	78.1	78.3	78.6	78.9	79.2	79.1	79.4	79.4	79.7	79.7	80.0
16 to 21	8.8	8.8	8.8	8.9	9.0	9.1	9.2	9.0	9.1	8.8	8.9	8.6	8.7
21 to 64	56.3	56.4	56.6	56.7	56.8	56.9	56.9	56.9	57.0	57.0	56.9	56.8	56.7
65 and Over	12.6	12.6	12.7	12.7	12.8	12.9	13.1	13.2	13.4	13.5	14.0	14.3	14.6
Mortality													

Percent of Population 65 and Over	12.6	12.6	12.7	12.7	12.8	12.9	13.1	13.2	13.4	13.5	14.0	14.3	14.6
The Impact of Shifts in Population Age Groups													
Dependency Ratio (a)	0.96	0.95	0.94	0.92	0.91	0.90	0.90	0.90	0.89	0.89	0.89	0.90	0.89
Ratio of Stock of Cars to Driving-Age Population	0.58	0.57	0.56	0.55	0.55	0.54	0.53	0.53	0.52	0.52	0.51	0.51	0.50
Ratio of New Car Sales to Driving-Age Population	0.07	0.07	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Ratio of Stock of Houses and Mobile Homes to Population 21 and Over	0.62	0.62	0.62	0.62	0.62	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.62
Ratio of Stock of Multi-Unit Houses to Population 21 and Over	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16

a. The dependency ratio here is defined as the ratio of the number of people not in the civilian labor force or in the military to the number of people that are.

TABLE 5 (Continued)

U.S. Population - Pessimistic Outlook

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Millions of Persons													
Total Population	299.1	300.3	301.5	302.6	303.7	304.8	305.8	306.7	307.7	308.5	309.3	310.1	310.9
Under 5	18.7	18.7	18.7	18.7	18.6	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9
5 to 15	41.1	41.3	41.5	40.7	40.8	40.9	40.9	41.0	41.0	41.0	40.9	40.9	40.8
16 and Over	239.3	240.3	241.3	243.3	244.3	245.3	246.3	247.3	248.3	249.3	250.3	251.2	252.1
16 to 21	25.4	25.0	24.6	25.4	25.1	24.9	24.8	24.7	24.6	24.6	24.6	24.6	24.6
21 to 64	169.1	169.3	169.2	169.1	168.9	168.5	168.1	167.5	167.0	166.4	165.8	165.2	164.7
65 and Over	44.8	46.1	47.5	48.9	50.3	51.9	53.5	55.1	56.7	58.3	59.9	61.4	62.8
Annual Rate of Change													
Total Population	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2
Under 5	0.1	0.0	-0.1	-0.2	-0.2	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.6
5 to 15	0.6	0.5	0.5	-2.0	0.3	0.2	0.1	0.1	0.0	0.0	-0.1	-0.2	-0.1
16 and Over	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
16 to 21	-2.0	-1.7	-1.4	3.0	-1.0	-0.8	-0.6	-0.3	-0.2	-0.1	0.0	0.1	0.1
21 to 64	0.2	0.1	0.0	-0.1	-0.1	-0.2	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.3
65 and Over	2.8	2.8	3.0	3.0	3.0	3.0	3.1	3.1	2.9	2.7	2.7	2.5	2.3
Population Structure - Percents of Total													
Under 5	6.3	6.2	6.2	6.2	6.1	6.1	6.0	6.0	6.0	5.9	5.9	5.8	5.8
5 to 15	13.7	13.7	13.8	13.4	13.4	13.4	13.4	13.4	13.3	13.3	13.2	13.2	13.1
16 and Over	80.0	80.0	80.0	80.4	80.4	80.5	80.6	80.6	80.7	80.8	80.9	81.0	81.1
16 to 21	8.5	8.3	8.2	8.4	8.3	8.2	8.1	8.0	8.0	8.0	8.0	7.9	7.9
21 to 64	56.5	56.4	56.1	55.9	55.6	55.3	55.0	54.6	54.3	53.9	53.6	53.3	53.0
65 and Over	15.0	15.3	15.7	16.1	16.6	17.0	17.5	18.0	18.4	18.9	19.4	19.8	20.2
Mortality													

Percent of Population 65 and Over	15.0	15.3	15.7	16.1	16.6	17.0	17.5	18.0	18.4	18.9	19.4	19.8	20.2
The Impact of Shifts in Population Age Groups													
Dependency Ratio (a)	0.89	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Ratio of Stock of Cars to Driving-Age Population	0.50	0.50	0.49	0.49	0.48	0.48	0.48	0.48	0.47	0.47	0.47	0.47	0.46
Ratio of New Car Sales to Driving-Age Population	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Ratio of Stock of Houses and Mobile Homes to Population 21 and Over	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Ratio of Stock of Multi-Unit Houses to Population 21 and Over	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15

a. The dependency ratio here is defined as the ratio of the number of people not in the civilian labor force or in the military to the number of people that are.

TABLE 6

Supply Conditions - Pessimistic Outlook

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Percent Change (SAAR)													
Unsmoothed Potential Output	2.8	2.6	2.5	2.5	2.5	2.5	2.5	2.2	2.6	2.4	2.6	2.3	2.7
Components													
Labor Hours	0.5	0.7	0.8	0.8	0.8	0.7	0.7	0.3	0.7	0.5	0.7	0.4	0.7
Capital Stock	1.4	0.8	0.8	0.9	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.4
Energy Usage	-0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Research and Development Stock	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Stock of Infrastructure Capital	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Smoothed Potential Output	3.1	2.7	2.5	2.5	2.5	2.5	2.5	2.3	2.5	2.4	2.6	2.4	2.5
Productivity													
Labor (Output per hour)	2.6	3.0	2.2	2.0	2.1	2.0	2.1	2.2	2.0	1.9	2.3	2.3	2.0
Percent													
Industrial Supply Conditions													
Vendor Performance	49.7	51.7	53.3	52.5	52.1	52.1	52.5	52.5	53.2	52.6	52.0	52.1	52.0
Manufacturing Capacity Utilization	0.73	0.74	0.76	0.76	0.77	0.77	0.78	0.78	0.79	0.80	0.80	0.80	0.81
Labor Availability													
Civilian Unemployment Rate	6.1	6.1	5.4	5.2	5.3	5.2	5.0	4.9	4.5	4.3	4.6	4.7	4.7
Full-Employment Unemployment Rate	5.1	5.1	5.0	5.0	4.9	4.8	4.7	4.7	4.6	4.5	4.5	4.5	4.5
Finance													
Net Mortgage Acquisitions (% change)	-34.7	-28.6	-12.8	-7.8	-0.8	13.7	22.7	13.6	12.5	5.8	-4.5	-0.2	7.5
Nominal Corp. Cost of Financial Capital (%)	4.9	5.1	5.3	5.3	5.3	5.4	5.4	5.5	5.5	5.6	5.8	6.1	6.4
Real Corp. Cost	3.8	3.9	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.2	4.4	4.6	4.9
Personal Saving Rate (%)	1.9	2.0	2.5	2.3	1.8	1.4	1.4	1.5	1.7	2.0	2.3	2.7	3.2
Money Supply (M2, % change)	7.5	5.2	4.5	4.5	4.5	4.5	4.6	4.5	4.6	4.6	4.5	4.5	4.4

TABLE 6 (Continued)

Supply Conditions - Pessimistic Outlook

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Percent Change (SAAR)													
Unsmoothed Potential Output	2.3	2.3	2.2	2.4	2.0	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6
Components													
Labor Hours	0.3	0.3	0.2	0.5	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2
Capital Stock	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.0	0.9	0.9	0.9	0.9
Energy Usage	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Research and Development Stock	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Stock of Infrastructure Capital	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Smoothed Potential Output	2.4	2.3	2.2	2.4	2.1	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.6
Productivity													
Labor (Output per hour)	2.0	2.1	2.3	2.1	2.0	2.0	2.1	1.8	2.1	1.7	1.9	2.0	2.0
Percent													
Industrial Supply Conditions													
Vendor Performance	51.5	51.8	51.8	51.3	51.3	51.5	51.3	51.3	51.7	52.1	52.3	53.0	53.6
Manufacturing Capacity Utilization	0.80	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.82	0.82	0.83
Labor Availability													
Civilian Unemployment Rate	4.7	4.6	4.7	4.9	5.1	5.1	5.2	5.2	5.3	5.2	5.2	5.1	5.2
Full-Employment Unemployment Rate	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Finance													
Net Mortgage Acquisitions (% change)	4.2	6.4	6.9	8.4	3.3	2.8	4.2	0.9	0.4	4.5	3.7	6.3	10.1
Nominal Corp. Cost of Financial Capital (%)	6.7	6.9	7.1	7.4	7.7	7.8	8.0	8.1	8.3	8.5	8.7	8.8	9.0
Real Corp. Cost	5.1	5.2	5.4	5.6	5.8	5.9	5.9	6.0	6.1	6.1	6.2	6.3	6.3
Personal Saving Rate (%)	3.7	3.9	4.2	4.4	4.6	4.6	4.5	4.4	4.5	4.5	4.5	4.5	4.4
Money Supply (M2, % change)	4.5	4.6	4.7	4.7	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.9

Appendix C:
Metro Economic Review Panel

Dennis Yee, chief economist	Metro
Karen Larson, GIS economist	Metro
Richard Bolen, DRC manager	Metro
Robert Anderson, economist	Bonneville Power Administration
Thomas Aston, economist	U.S. Department of Housing and Urban Development
Betty Atteberry, director	Westside Economic Alliance
Joe Cortright, consultant	Impresa, Inc.
Eric Hovee, consultant	E. D. Hovee & Company
Steve Kelly, senior planner	Washington County
Gene Leverton, consultant	Gene Leverton & Associates
John McConnaughey, transportation planner	WSDOT
Eric Moore, employment economist	Oregon Employment Department
Amy Vanderbuilt, employment economist	Oregon Employment Department
Hossein Parandvash, chief economist	City of Portland Water Bureau
Ken Pearrow, GIS demographer	Clark County
Tom Potiowsky, state economist	Oregon Office of Economic Analysis
Lynn Peterson, transportation planner	Tri-Met
Tony Rufolo, professor	Portland State University

Not in attendance:

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George Hough Jr., demographer	Portland State University - CPRC
Kanhaiya Vaidya, state demographer	Oregon Office of Economic Analysis

Metro Economic Development Review Panel

Community & Economic Development officials:

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Janet Young	Beaverton City
Larry Pederson	Hillsboro City
Mary Gibson	Port of Portland
Mike Ogan	Portland Development Commission
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Shelly Parini	Gresham City

The views and economic outlook in this report are the sole responsibility of Metro's Data Resource Center. The review panels were instructed to offer any insights they may have, critique and then evaluate the accuracy and reasonableness of the regional forecast. The comments of the review committees were considered and incorporated into the regional forecast as interpreted by the Metro chief economist.

Appendix D:
Model Documentation Summary

Metro Regional Economic Model

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Metro Regional Economic Model

0. Abstract

Portland Metro presents its version of a regional economic model with embedded input-output coefficients as explanatory variables in the model's employment sector equations. The Metro model implements the integration strategy as described by Coomes et al (1991), Stover (1994), and Rey (1997). Coomes et al first described the I-SAMIS model technique for linking I-O and econometric models. Stover evaluates the efficacy of using Census benchmark I-O tables as technical coefficients for creating the inter-industry demand variables (IDV) in each industry employment equation. Rey clarifies the theoretical underpinnings of the IDV and the use of a national I-O matrix as a proxy for an unavailable regional matrix. The regional model implemented by Metro is based on this integrated approach as described by the literature. This paper describes Metro's regional model and presents the empirical estimates and some results from our study. It is shown that the Metro model contains reasonable parameter estimates and produces forecast estimates within tolerable limits.

Key words: integrated regional econometric and input-output model; inter-industry demand variable; forecasting

1. Introduction.

For metropolitan areas, the federal ISTEA (Intermodal Surface Transportation Efficiency Act) legislation has generated a considerable amount of study into the relationship between urban growth and transportation. ISTEA requires an understanding of how choices made in transportation and land-use simultaneously impact each other. In addition, Metro (the metropolitan planning organization for the Portland, OR metropolitan region) initiated its own 50-year regional planning framework to encourage more compact urban development. Influence from the Metro Region 2040 Framework plan and ongoing interest to link transportation and land use modeling has been the main stimulus behind Portland Metro's regional model development.

In Portland, Metro has responded to the planning and information demands of ISTEA and Region 2040 with two operational models: one designed and patterned after so-called integrated regional econometric and input-output methodologies and the second a micro-simulation model based on theories between the interaction of land-use and transportation. The two models taken together are used by Metro planners to forecast regional economic and population growth, future real estate and land prices, and future population or household distributions in each forecast analysis zone.

The focus of this paper is to describe the regional economic and demographic model. The organization of this paper begins with an introduction in section 1, followed in section 2 by a description of the integrated econometric and I-O modeling approach for the Metro model's employment equations, and concluding in section 3 with empirical results and our conclusions.

The region is defined to be the Portland-Vancouver CMSA[14]. The regional model includes a fully described employment sector with manufacturing industries disaggregated to two-digit SIC and nonmanufacturing in one-digit SIC. The model also includes econometrically estimated regional wage rates, components of regional personal income, and non-stochastic equations which estimate regional production (indexed). Also included in the model is a cohort-component population model linked by a stochastic net migration equation to regional economic/employment growth.

[14] The CMSA includes the Oregon counties of Multnomah, Clackamas, Washington, Yamhill, and the Washington county of Clark.

2. Metropolitan Regional Model Described

Integration strategies for combining econometric and input-output models for regional forecasting and policy analysis have been gaining attention in regional economic literature. This attention is based on blending the analytical and policy properties found in input-output modeling with the strengths and features available from traditional econometric forecasting models. Input-output models generally perform well in analyzing inter-industry impacts and policy alternatives, but are not as well suited in forecasting future years. Structural econometric models are designed for forecasting and are constructed in a fashion to maximize this capability. The integration of a structural econometric model with an input-output matrix for regional forecasting and analysis is the marriage of these two approaches in an effort to create a combined model that exceeds the capabilities of the traditional models taken individually. However, Metro has so far employed the regional model as a device for forecasting population and employment growth in the region.

The initial theoretical approach of the Metro economic model was fundamentally based on a traditional export-based structural econometric model formulation for the Portland-Vancouver MSA. A structural econometric model of the Portland region had never before been constructed for long-range planning in the history of Metro and its predecessor the Columbia Regional Association of Governments (CRAG). The structural model included detailed stochastic estimates of industry manufacturing and nonmanufacturing employment, wage rates for aggregations for groupings of manufacturing and nonmanufacturing industries, components of regional income, and a net-migration equation linking economic growth with future population increases. A five-year age-cohort survival model provided annual estimates of population growth along with changes in employment, wages, and income from the econometric half of the model.

Early testing of the structural model yielded surprisingly effective inter-industry employment impact estimates. However, continued concern over the model's lack of specific input-output features prompted a make-over in the theoretical formulation of the model. Research into integrating regional econometric models with input-output models revealed three main strategies for combining regional econometric and input-output models*: linking, coupling, and embedding* strategies.
The Portland Metro economic model adopts an embedding integration strategy similar to the one used by the I-SAMIS (integrated-small area modeling of the industrial sector) model from the St. Louis MSA (metropolitan statistical area). This paper describes Metro's results from its attempt at combining a traditional export-based regional econometric model and the technical coefficients of a national input-output matrix.

2.1 Data and Methodology

The input-output table used in the embedding strategy derives from the U.S. Bureau of Economic Analysis (BEA) industry-commodity flow table. The table includes considerably wider industry detail than is possible in a regional model. The disaggregate industry data is collapsed into broader aggregate estimates of industry-commodity flow which match the desired industry employment detail of the Metro economic model. This means that the 90 industries/commodities shown in the national input-output matrix collapses to 20 industries in the desired Metro model.

The procedure combines the input-output matrix to the econometric model using an *inter-industry demand variable* (IDV) in equations for industry employment in the model. The parameter of the IDV is determined by regression and therefore not pre-determined or fixed as in other embeddding strategies. Generalization of the industry employment equations in the Metro economic model are as follows:

$$E_{jt} = \beta_j * IDV_{jt} + \sum_{a=1}^{m} \nu_{aj} N_{ajt} + \sum_{b=1}^{n} \rho_{bj} R_{bjt} + \varepsilon_{jt}$$

where,

E_{jt} = employment in industry *j* at time *t*
IDV_{jt} = inter-industry dependent variable for industry *j* at time *t*
N_{ajt} = national variables $a_1 \ldots a_m$ for industry *j* at time *t*
R_{bjt} = national variables $b_1 \ldots b_n$ for industry *j* at time *t*
β_j = regression parameter for inter-industry variable for industry *j* at time *t*

ν_{aj} = parameter estimate for national variables for industry *j*

ρ_{aj} = parameter estimate for national variables for industry *j*

ε_{jt} = stochastic error term for industry *j* at time *t*.

The employment equation represents one of twenty manufacturing or nonmanufacturing industry sector. Explanatory variables for employment in any industry *j* may (or may not) include national drivers and/or aggregate regional macroeconomic drivers, such as: population, personal income, sector wage rates, land development activity, productivity or output production indexes, etc.

The inter-industry dependent variable is defined as follows:

$$\text{IDV}_{jt} = \sum_{\substack{i=1 \\ j \neq i}}^{n} C_{ij} E_{jt}$$

where,

C_{ij} = commodity by industry direct requirements coefficient

E_{it} = employment in industry *i* at time *t*

The commodity by industry direct requirements coefficient is taken from the 1987 *Use of Commodities by Industry Table* and groupings of each industry/commodity are collapsed to the desired industry detail. The cross product of the direct requirement coefficients matrix and the industry employment matrix results in an IDV term for an industry *j* with an historical time-series equal to the number of time periods for the matrix of employment. Thus, the IDV term provides an historical measurement of the inter-industry demand linkage between industry *j* and all the other industries in the region.

3. Empirical Results

Table 1, nearby, summarizes the employment demand equations from the Metro economic model. In all but one equation, the IDV term is statistically significant at the 1 percent level (except in health services in which the term was not positive and significant). Specification of employment equations with the IDV variable seems to provide both satisfactory statistical fit and explanatory information. (In the following section, we shall compare an ex ante forecast with actual employment data to see how the model equations have performed in an out of sample forecast.)

According to the findings made by Stover, he suggests that "in general, the IDV is a useful explanatory variable in those industrial sectors where the output serves as an input for other local industries." The health service industry (SIC 80) is certainly an industry which serves mostly final demand and has little interaction with other industries in the region, and therefore the IDV term was found to be insignificant and not a useful explanatory variable in the Metro health service employment equation.

Stover goes on to suggest that the estimated coefficient for the IDV term may be an indicator of the degree of inter-industry interactions and a measure of the strength of this relationship[15]. In our log-log formulation of each employment equation, the IDV term may be interpreted in terms of an elasticity measurement. The empirical results in each equation show the estimated IDV to be relatively inelastic – although some more inelastic than others. Our interpretation is that the more inelastic IDV's indicate a lesser dependence of the particular industry with all other industries in the regional economy. Generally, the inelastic nature of the IDV term in each of the employment equations suggests to us that the regional industries in the Portland MSA are relatively less dependent and have less inter-industry interactions with one another than perhaps in other regional economies. This also suggests that the mix of industries in the Portland MSA may have stronger commodity flow relationships with industry sectors outside of the region.

The empirical findings of the model estimations reveal no major surprises with the use of the IDV as an explanatory term and seems consistent with the recent literature on the matter. The Metro model in all but one equation found satisfactory fits, and in the industry sector that produced unsatisfactory statistics, the IDV term was excluded.

[15] Rey also agrees so long as the estimation of the employment equations with the IDV term is unrestricted.

3.1 Equation Listing

Table 1. Metro Regional Economic Model – Employment Equations

Industry	Intercept	Inter-Industry Demand Variable	Real Industry Wage Rate	Other Regional Explanatory Variable(s)	Industry Output Index	Industry Product-ivity Index	Other National Explanatory Variable(s)	Durbin-Watson	Adj.-R^2
Food Processing	0.8951 (4.33)	0.4313 (7.86)						1.43	0.90
Textile & Apparel	1.8235 (3.51)	0.5364 (3.24)			0.6339 (4.10)	-0.9456 (4.45)		2.06	0.96
Lumber & Wood Products	3.9579 (6.33)	0.1931 (3.49)	-0.7740 (4.45)	0.0392[a] (2.52)	0.1665 (2.17)		0.1259[b] (1.82) 0.1854[c] (3.05)	1.84	0.99
Paper & Pulp	2.8822 (5.37)	0.4538 (6.68)	-0.2147 (2.69)	Dummy[d]		-0.3167 (2.37)		2.12	0.86
Printing & Publishing	-0.8372 (2.36)	0.7828 (12.95)		Dummy[d]	0.5009 (12.95)	-0.2917 (1.75)		1.98	0.99
Metals	3.2341 (5.31)	0.6420 (11.08)	-0.3558 (2.18)	Dummy[d]			0.2324[e] (3.42) -0.1267[f] (1.84)		
Nonelectrical Machinery	0.1343 (0.52)	0.6500 (8.33)			0.2472 (3.98)	-0.1664 (2.03)	0.1307[g] (2.94)	1.98	0.99
Electrical Mach. & Instruments	1.6767 (2.47)	0.4399 (6.59)	0.4657 (2.88)		0.2203 (2.22)		0.2424[h] (2.37)	1.59	0.99
Transportation Equipment	1.5380 (1.63)	0.7122 (8.66)	-0.2629 (2.27)				-0.3074[f] (1.85)	1.94	0.93
Other Durable Goods	-1.1273 (2.20)	0.6684 (9.32)			0.3547 (3.11)			1.95	0.98
Other Nondurable Goods	-3.6252 (8.87)	0.6360 (7.08)			0.6457 (5.81)			1.87	0.99
Construction & Mining	-0.7889 (0.65)	0.4222 (5.91)		0.0490[a] (2.25)	0.3062 (4.38)			1.81	0.99
Transp., Comm. & Utilities	1.2896 (6.09)	0.6672 (15.98)				-0.0803 (3.00)		1.03	0.99
Wholesale Trade	1.0729 (4.14)	0.5493 (7.65)		0.2121[i] (2.60)		-0.0934 (2.04)		2.09	0.99
Retail Trade	-0.4829 (0.58)	0.2614 (7.46)				-0.1976 (4.61)			
Finance, Ins. & Real Estate	1.1425 (2.38)	0.4526 (3.18)		0.0207[a] (2.00)			4.4556[j] (1.91)	2.03	0.99
Health Services	-4.7777 (7.63)		-0.3480 (2.73)	0.40540[k] (4.01)			0.4933[l] (7.15)	2.13	0.99
Nonhealth Other Services	-0.0397 (0.11)	0.3706 (5.76)	-0.1535 (1.53)				0.1294[m] (4.09) 0.9847[n] (7.64)	1.70	0.99
State & Local Government	0.2365 (0.26)	0.2881 (5.21)	-0.2537 (4.95)					1.44	0.99

a. Regional building permits, number of dwelling units
b. (U.S. fixed investment in nonresidential structures, 1992$)/(Gross Domestic Product, 1992$)

c. (U.S. fixed investment in residential structures, 1992$)/(Gross Domestic Product, 1992$)
d. dummy variable(s) for periods of work stoppages
e. (U.S. fixed investment in nonresidential producer durable industrial equipment, 1992$)/(Gross Domestic Product, 1992$)
f. 1990$ exchange rate index, weighted average, U.S. dollar vs. 18 countries, Morgan Guaranty. A polynomial distributed lags was used in the employment equation for the metals industry (the exchange rate statistic reported is a summation of the lags).
g. Exports of Computer Goods, nominal $
h. (U.S. investments in information processing equipment)/(Gross Domestic Product) in nominal $
i. Regional retail trade employment
j. U.S. employment in Finance, Insurance & Real Estate (FIRE)
k. Regional total personal income, 1992$
l. Regional proxy of per capita share of U.S. consumption of medical services, 1992$
m. U.S. exports of Services, total, 1992$
n. U.S. Service employment, less employment in health services (SIC 80)

Each employment equation is specified in log-log form and estimated using OLS and corrected for autocorrelation. Since the data are quarterly frequency, the Durbin-Watson statistic that we report is modified to detect the existence of a fourth-order autocorrelation.[16] Durbin Watson statistics to test for first-order autocorrelation report generally nothing significant.

3.2 Forecast Results and Conclusions

Table 2. Employment Forecast

	1995			1996			1997			MAPE*
Wage & Salary Employment	**Forecast**	**Actual**	**%diff**	**Forecast**	**Actual**	**%diff**	**Forecast**	**Actual**	**%diff**	**1995-97**
Nonfarm, Total	813,288	812,800	0.06%	848,981	851,800	-0.33%	878,852	897,400	-2.07%	0.8%
Food Processing	9,875	10,100	-2.23%	9,855	10,000	-1.45%	9,985	9,700	2.94%	2.2%
Textile & Apparel	4,967	4,900	1.37%	4,957	4,600	7.76%	4,942	4,500	9.82%	6.3%
Lumber & Wood	7,666	7,800	-1.72%	7,449	7,700	-3.26%	7,218	7,800	-7.46%	4.1%
Paper & Pulp	6,956	7,100	-2.03%	6,641	6,500	2.17%	6,549	6,300	3.95%	2.7%
Printing	10,304	10,200	1.02%	10,469	9,900	5.75%	10,698	10,300	3.86%	3.5%
Metals	18,159	18,700	-2.89%	18,770	19,000	-1.21%	18,592	19,600	-5.14%	3.1%
Nonelectrical	18,496	18,700	-1.09%	19,032	19,900	-4.36%	19,432	21,300	-8.77%	4.7%
Electrical Mach. & Instruments	29,350	30,600	-4.08%	31,728	34,200	-7.23%	34,562	36,900	-6.34%	5.9%
Transportation	10,210	10,600	-3.68%	9,884	10,400	-4.96%	9,748	10,900	-10.57%	6.4%
Other Durable	10,049	8,200	22.55%	10,192	8,200	24.29%	10,193	8,300	22.81%	23.2%
Other Nondurable	7,957	8,000	-0.54%	8,469	8,800	-3.76%	8,669	9,400	-7.78%	4.0%
Construction & Mining	44,640	44,900	-0.58%	46,578	51,600	-9.73%	48,920	64,500	-24.16%	11.5%
Transp., Comm. & Utilities	46,926	47,800	-1.83%	48,708	49,400	-1.40%	50,461	50,600	-0.27%	1.2%
Wholesale Trade	63,077	61,800	2.07%	65,790	63,600	3.44%	67,959	66,700	1.89%	2.5%
Retail Trade	147,364	147,000	0.25%	155,832	153,100	1.78%	160,366	160,800	-0.27%	0.8%
FIRE	61,392	59,800	2.66%	64,379	63,000	2.19%	67,166	65,900	1.92%	2.3%
Health Services	55,847	56,100	-0.45%	57,167	57,700	-0.92%	58,892	59,100	-0.35%	0.6%
Nonhealth Services	170,243	169,900	0.20%	180,287	180,300	-0.01%	189,612	189,600	0.01%	0.1%
State & Local Government	89,810	90,600	-0.87%	92,794	93,900	-1.18%	94,888	95,200	-0.33%	0.8%

In total, the mean absolute percent error is under 0.8 of a percent for the forecast years nonfarm wage and salary employment. In particular, the employment equations for nonl

*Mean Absolute Percent Error

[16] Wallis test for fourth-order autocorrelation; J. Johnston, *Econometric Methods*, 3rd Edition, p. 317

industries exhibit consistently lower MAPE's than the manufacturing and producer industry equations. The two highest being other nondurables (includes SIC 25, 32, and 39) and construction and mining. The high MAPE's do not necessarily point to a misspecification, but could mean that these two particular industries are just subject to wider variance. This is probably more likely in the manufacturing sector than in nonmanufacturing as the results reveal.

During this periods, the Portland Metro area has experienced above average employment growth which has exceeded the U.S. average. The regional model has apparently captured the current trend and seems to have produced reasonably accurate projections for this short term period. Of course as the forecast period extends out, we see increasing volatility from the 1994 base year. Nevertheless, we have deemed the regional forecast to be sufficient for our planning purposes and are generally pleased with the model's performance and accuracy.

In this paper, we have described the employment sector of the Portland Metro economic model. We took an econometrically estimated structural model and re-estimated each of its employment equations by embedding the technical coefficients of a national input-output table using the so-called inter-industry demand variable. The IDV is purported to indicate the degree of inter-industry trade between a particular industry and all others in the region.

The Metro formulation with the IDV is in log-log specification which in turn easily shows the degree of elasticity of this inter-industry relationship. A higher elasticity in the IDV term suggests greater economic relationship between the particular industry and other industries in the region. More inelastic IDV's suggest that the particular industry is more highly linked or dependent to national trends and trade conditions. All the regional employment IDV's indicate inelastic coefficients which suggest the latter regional inter-industry conditions may exist.

In closing, the IDV appears to be a useful explanatory variable. Integration of an input-output table produces significant parameter estimates, and also provides reasonable and statistically good fitting model equations overall. Sensitivity tests of the multiplier impacts (incomplete and not reported in this paper) also reveal reasonable results.

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