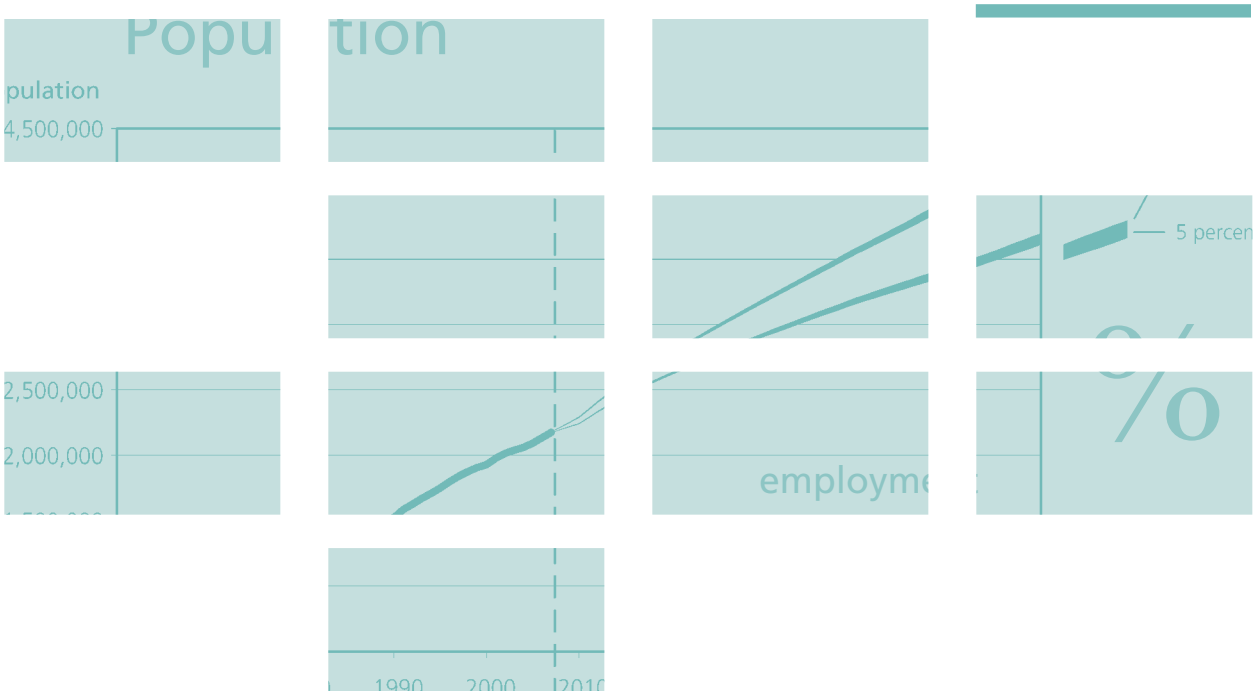


20 and 50 year

Regional population and employment range forecasts

September 2009

Metro | *People places. Open spaces.*

PURPOSE OF THE 2030 FORECASTS

Oregon land use laws require that Metro maintain a supply of buildable land inside the urban growth boundary to accommodate estimated housing needs for twenty years. Metro fulfills a similar role in determining whether or not there is adequate capacity for employment. This draft 2030 forecast is a necessary step towards Metro's compliance with these requirements and is the determination of how much growth is expected. A separate analysis of the region's capacity to accommodate growth is included in the urban growth report.

PURPOSE OF THE 2060 FORECASTS

The 2060 forecast is intended to inform the urban and rural reserves process. Metro and Clackamas, Multnomah and Washington counties are jointly leading this innovative regional effort to study and designate areas outside of the current urban growth boundary that are suitable for accommodating future population and job growth over the next 40 to 50 years (urban reserves) as well as areas that should be preserved for agriculture, forestry and natural resources (rural reserves).

A draft 2060 forecast was released by Metro in May 2008; the current forecast updates that release by starting with an updated 2030 forecast and responding to public comments and questions on the 2030 to 2060 component.

DISCLAIMER

These forecasts illustrate a range of possible population and employment outcomes and trends for the greater Portland metropolitan area over a 50-year period. These forecasts are intended to inform local and regional public policy discussions and do not represent any policy agenda or policy decision of the Metro Council.

EXECUTIVE SUMMARY

To inform the regional discussion of growth management choices and the possible implications of those choices, Metro has developed a range population and employment forecast. This forecast is derived from national economic and demographic information and is adjusted by Metro based on regional growth factors.

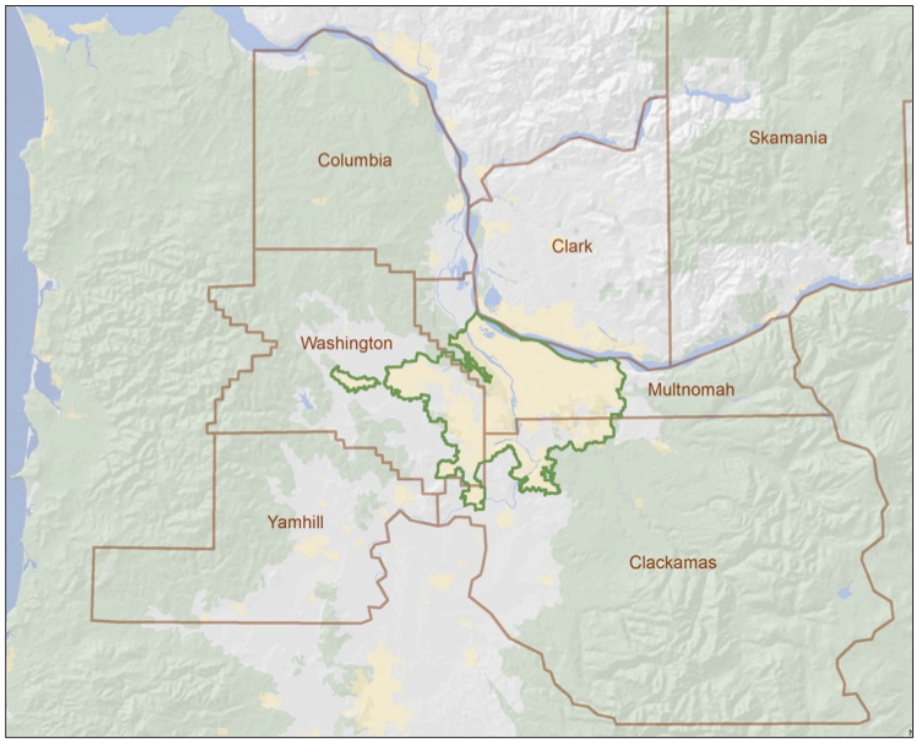
The forecasts cover the seven-county Portland-Beaverton-Vancouver Primary Metropolitan Statistical Area (PMSA), as defined by the U.S. Office of Management and Budget. It does not predict where within the statistical area future population and jobs may locate nor does it determine what portion may locate within the Metro urban growth boundary.

The region must make a number of choices about how it will accommodate forecast growth and what the possible implications of those choices may be.

Regional choices: Is the region willing and able to provide the necessary public facilities and services, governance and investments to accommodate population and employment growth and support the creation of sustainable, vibrant communities?

Local choices: How willing and able are the region's cities, counties and public service providers to make targeted investments and public improvements in their urban centers, transportation corridors and employment areas in order to support long-term population and employment growth?

Map 1: Portland-Beaverton-Vancouver OR-WA PMSA



Geographic extent of the regional forecast encompasses seven counties. The Metro urban growth boundary comprises a fraction of the land area of the region.

SUMMARY FORECAST RESULTS

Population and employment forecast ranges are provided for the years 2030 and 2060 for the entire seven-county Portland-Beaverton-Vancouver Primary Metropolitan Statistical Area, which consists of Clackamas, Columbia, Multnomah, Washington and Yamhill counties in Oregon as well as Clark and Skamania counties in Washington. Though this forecast does not predict where growth will occur within the seven-county statistical area, it is safe to say that not all of it will be within Metro's boundary.

The forecast indicates a 90 percent chance that the population of the seven-county statistical area in 2030 will be between 2.9 and 3.2 million people. For 2060, the forecast projects a 90 percent probability that the population of the same area will be between 3.6 and 4.4 million people. In 2000, the population was 1.9 million people.

On the employment side, the forecast indicates a 90 percent chance that there will be between 1.3 and 1.7 million jobs in the statistical area in 2030 and a 90 percent chance that there will be between 1.7 million and 2.4 million jobs in the same area in 2060. In 2000, there were approximately 973,000 jobs.

Where the region's population and employment numbers ultimately land will be affected by several factors. They include varying conditions in the local and global economies, changing population and workforce demographics, and policy decisions and investments made in local communities that may attract particular types of population and employment growth to certain areas of the region.

Next steps

Fall 2009: Metro has released a draft urban growth report with analyses of the region's capacity to accommodate the next twenty years of residential and employment growth within the existing urban growth boundary. The 2030 forecast informs these capacity analyses. The urban growth report discusses what share of the forecast growth may happen within the urban growth boundary.

December 2009: The Metro Council will, with Clackamas, Multnomah and Washington counties, adopt urban and rural reserves. Urban reserves will be informed by the 40-50 year population and employment range forecast.

The Metro Council will accept a 2030 population and employment range forecast and the final urban growth report, which describes any capacity gap to be addressed in 2010.

2010: Local and regional governments will continue to implement policies and investments to create and enhance great communities while accommodating anticipated growth. Metro Council will submit plans to accommodate at least 50 percent of any 20-year capacity need to the Oregon Land Conservation and Development Commission.

2011: If any additional 20-year capacity need remains, the Metro Council will consider urban growth boundary expansions into designated urban reserves.

ABOUT THE RANGE

Why use a range instead of a point forecast?

To plan for the future, it is important to have an idea what the future might look like. In making any prediction, it is necessary to acknowledge uncertainty. Predictions that declare absolute certainty can be regarded with skepticism.

Weather forecasting is an example. Which forecast is more trustworthy and provides more useful information for planning?

Five days from today, it will be sunny.
or…
Five days from today, there is a 65 percent chance of sunny weather.

If you rely on the first forecast, you may end up stuck in the rain without an umbrella. If you rely on the second forecast, you have the opportunity to consider whether or not it is worth taking an umbrella along.

Forecasting population and employment growth and subsequently making land use, transportation, and investment decisions is a similar exercise, though with higher stakes. The use of a range forecast allows for the consideration of a number of possible outcomes, rather than only planning for one future. Using a range forecast is more likely to result in growth management decisions that result in adaptable, resilient communities that are able to adjust course when conditions change. This ability to be adaptable is more critical than ever considering today's volatile fuel prices, an economic crisis of historic proportions, and the need to take significant and immediate actions to reduce greenhouse gas emissions.

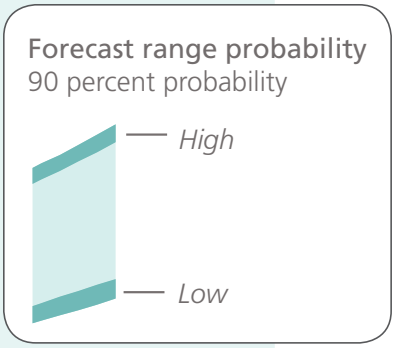
What does the range mean?

As with a weather forecast, this population and employment range forecast is expressed in terms of probability. The methodology for producing the range forecast is described in more detail later in this document.

Low end of range: There is a five percent chance that actual growth will be less than or equal to the low end of the range.

High end of range: There is a 95 percent chance that actual growth will be less than or equal to the high end of the range.

Stated differently, there is a 90 percent chance that growth will occur within the outer bounds of the forecast range.



What kinds of questions should we consider in light of the range forecast?

The range forecast prompts questions for policy makers to consider such as:

- What are the risks of planning for the high or low end of the forecast? Are there different risks associated with planning for land use, transportation investments or other infrastructure system investments?
- How might the success or failure of efforts to preserve the region's livability push population and employment growth higher or lower within the forecast range?
- How might particularly effective or ineffective economic development strategies push population and employment growth higher or lower within the forecast range?
- The range forecast does not account for a number of unknowns such as the possibility of climate change refugees – people who may be displaced by climate change. Future climate conditions could result in additional people entering or leaving the region. How might this additional uncertainty influence how we make decisions?

What are some of the variables that affect the forecast?

Some of the basic variables that inform this forecast are birth, death and immigration rates and anticipated economic conditions. The regional economy is increasingly subject to global and national forces that are beyond the region's influence and are not easily quantifiable through standard economic tools. Economic globalization affects the flow of trade, foreign exchange rates, and the cost and availability of foreign and domestic skilled and unskilled labor. Population growth in the region continues to reflect the region's status as one of the nation's more desirable metropolitan areas; in the early part of this decade, our region's population continued to grow even as employment stagnated during the recession.

These are but a few examples of the many factors that will ultimately affect both population and employment trends in the region.

How has recent global economic turmoil influenced the forecast?

Our region is not immune to the recent recession and other economic distress. In the short term, it is expected that job growth will slow in our region. Employment sectors that tend to be most sensitive to downturns in business cycles include construction, manufacturing and professional business services. However, by the year 2020, growth is expected to have returned to the average long-term trend (compared to older forecasts).

Managing in the fog

A recent article in *The Economist* refers to forward-thinking companies like Lego that use range forecasts instead of point forecasts. The article states that scenario planning, which considers a range of possible outcomes, is all the more important during uncertain times since it allows for contingency planning and adaptability.

The Economist (February 26, 2009) Managing in the Fog. Accessed online on March 5, 2009 at http://www.economist.com/business/displaystory.cfm?story_id=13184837

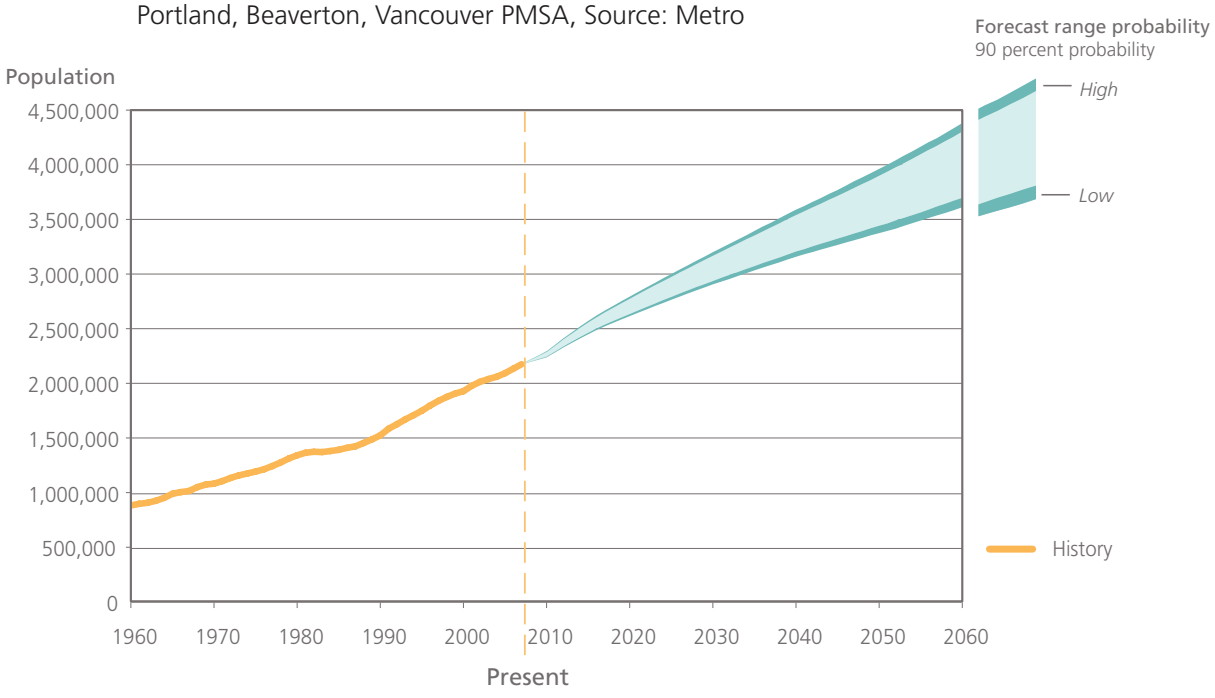
POPULATION RANGE FORECAST RESULTS

In the year 2000, the population of the seven-county statistical area was about 1.9 million people. This forecast estimates that, by the year 2030, the population could grow to a total of 2.9 to 3.2 million people. By the year 2060, the population could grow to a total of 3.6 to 4.4 million people.

Table 1: Population range forecast and annual percentage rate change from year 2000
Portland, Beaverton, Vancouver PMSA, Source: Metro

Year	Low end of range	High end of range
2000 *1,927,881 Actual*		
2030	2,903,300 1.37% APR	3,199,500 1.70% APR
2060	3,609,300 1.05% APR	4,376,100 1.38% APR

Figure 1: 2007 – 2060 Population forecast
Portland, Beaverton, Vancouver PMSA, Source: Metro



HOUSEHOLD RANGE FORECAST RESULTS

Using forecast household sizes, the population forecast is translated into a household range forecast.

In the year 2000, there were approximately 742,300 households in the seven-county statistical area. This forecast estimates that, by the year 2030, there could be between 1.2 to 1.3 million households. By the year 2060, there could be between 1.5 to 1.8 million households.

Table 2: Household forecast and annual percentage rate change from year 2000
Portland, Beaverton, Vancouver PMSA, Source: Metro

Year	Low end of range	High end of range
2000 *742,300 Actual*		
2030	1,181,300 1.56% APR	1,301,800 1.89% APR
2060	1,478,400 1.15% APR	1,792,500 1.48% APR

Figure 2: 2007 – 2060 Household forecast
Portland, Beaverton, Vancouver PMSA, Source: Metro

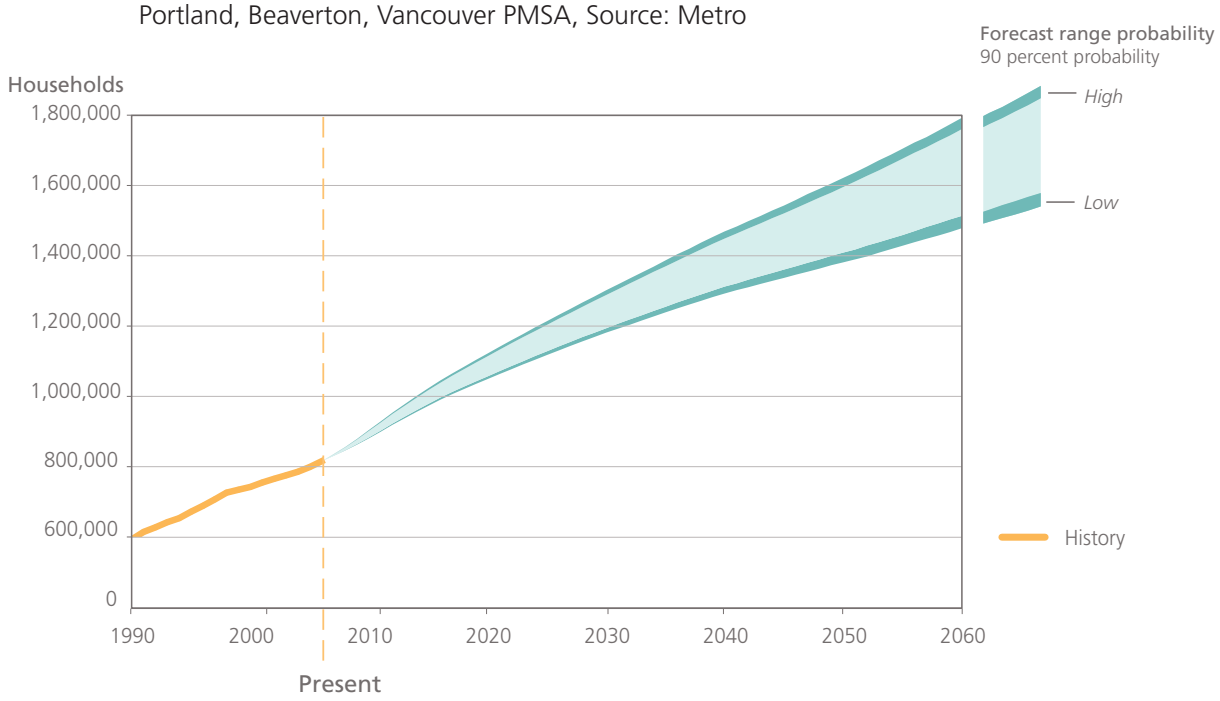
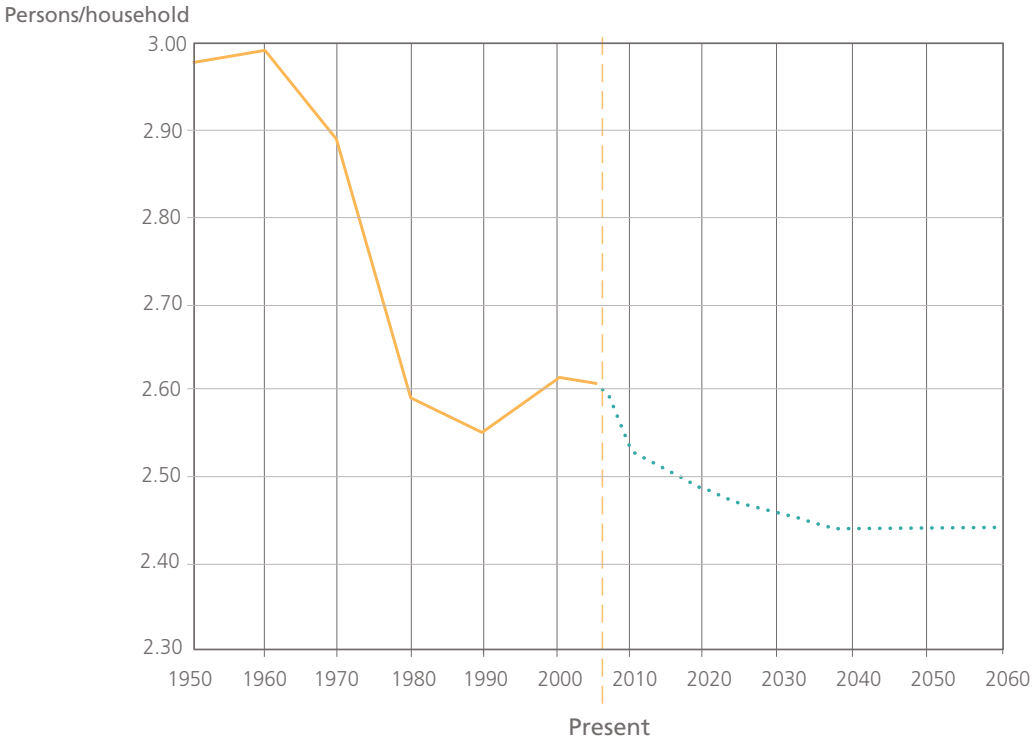


Figure 3: 2007 – 2060 Average household size forecast
Portland, Beaverton, Vancouver PMSA, Source: Metro



What are some expected demographic changes?

The region's population is forecast to be distributed fairly evenly among different age groups – a trend that is also predicted for the United States as a whole. This is a change from the past when there were progressively fewer people at more advanced ages. One implication of this anticipated change is that a greater percentage of households will be older and without children, resulting in a lower average household size. More demographic detail is presented in the full forecast report.

EMPLOYMENT RANGE FORECAST

This forecast also predicts how many jobs will be in the seven-county statistical area in the future. As with the population and household forecasts, this forecast does not predict where these jobs will be within the seven-county statistical area. Not all forecast jobs will be within Metro's jurisdiction.

In the year 2000, the number of jobs in the seven-county statistical area was 973,230. This forecast estimates that, by the year 2030, jobs could grow to a total of 1.3 to 1.7 million. By the year 2060, jobs could grow to a total of 1.6 to 2.4 million.

Economic lows and highs are to be expected at times throughout the course of the analysis period; this forecast focuses on the cumulative, long-term trends.

Table 3: Employment range forecast and annual percentage rate change from year 2000
Portland, Beaverton, Vancouver PMSA, Source: Metro

Year		Low end of range	High end of range
2000	*973,230 Actual*		
2030		1,252,200 0.84% APR	1,695,300 1.87% APR
2060		1,648,400 0.88% APR	2,422,900 1.53% APR

Figure 4: 2007 – 2060 Employment forecast (nonfarm)
Portland, Beaverton, Vancouver PMSA, Source: Metro

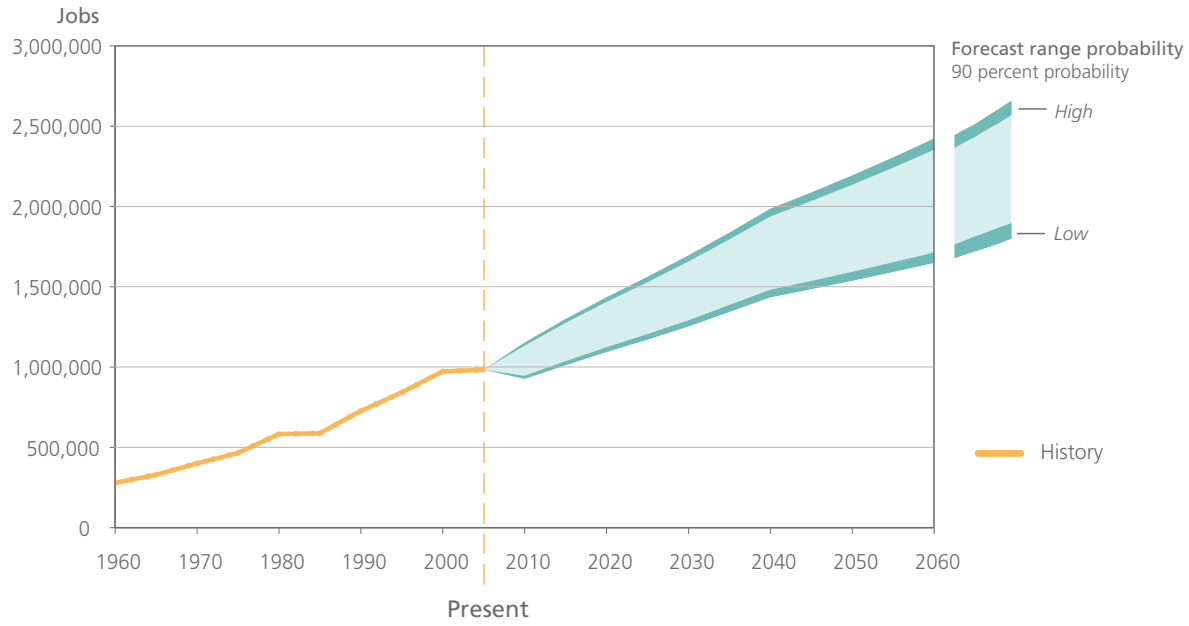
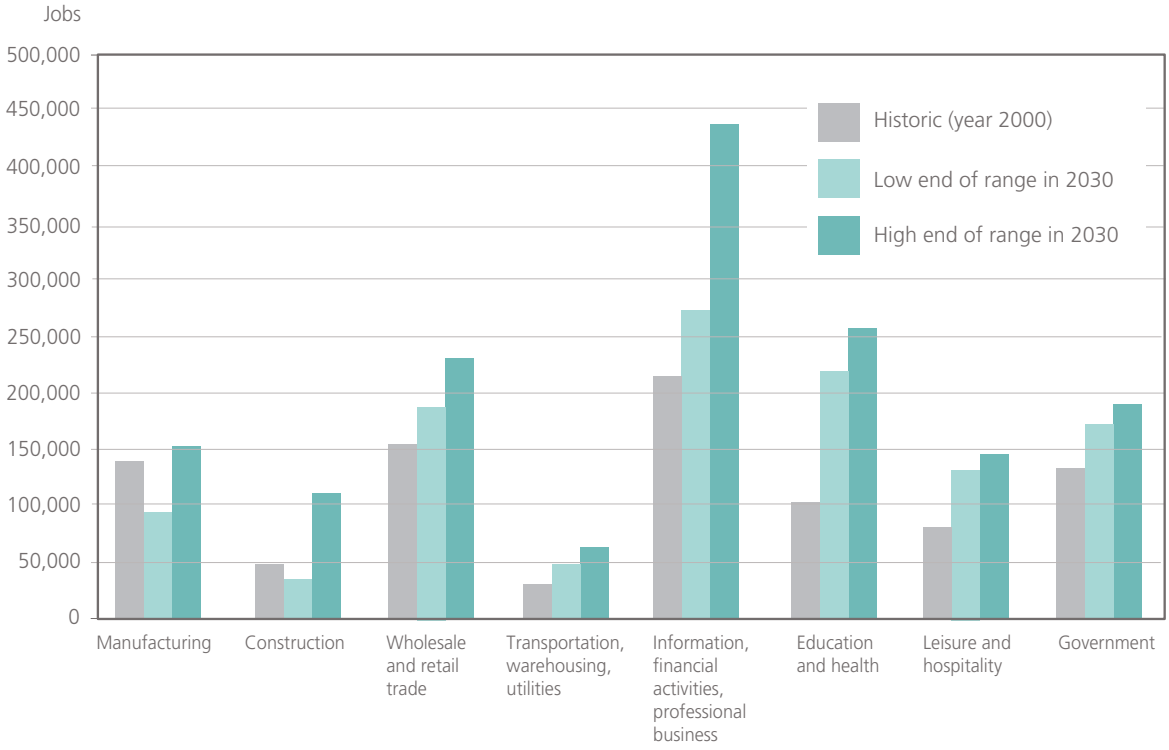


Figure 5: 2007– 2030 Employment forecast by sector
Portland, Beaverton, Vancouver PMSA, Source: Metro



How might the mix of employment in 2030 compare with 2000?

As in the past, the information, financial activities and professional business sectors are forecast to make up a substantial share of total future employment (about one-quarter of all jobs) in the seven-county statistical area.

Employment sectors that serve the resident population (e.g. the health and education and construction sectors) tend to show growth that is commensurate with overall population growth. From the years 2000 to 2030, employment in the education and health sectors is predicted to increase by 117 percent (low end of forecast range) to 154 percent (high end of forecast range).

The manufacturing sector is forecast to see relatively little growth as many of these jobs move overseas. It is likely that the manufacturing jobs that do remain will be those that require specialized training and command competitive wages.

ABOUT THE PROJECTIONS

How Metro produced the projections

Economic trend forecast: Metro first produces the "econometric trend" forecast through 2040 using its own state-of-the-art regional econometric model. This model has been thoroughly vetted by an independent panel of economic and demographic experts from across the U.S. It relies on national growth factors obtained from the economic forecasting firm Global Insight, Inc., as well as birth and death rates derived from the U.S. Census Bureau's most current "middle series" fertility and survival rates. Both the national economic data and national demographic forecast data are then regionalized based on regional growth factors; net migration into the region pegged to relative differences between regional and national economic growth factors; and actual birth and death rates derived from local vital statistics. Population and migration trends are directly linked to specific economic sectors modeled in the regional econometric model, so employment trends and population growth are dependent upon one another.

Range forecast: The economic trend forecast assumes certain trends for birth rates, death rates and migration rates. Yet there is a degree of uncertainty surrounding those trends. To account for that uncertainty, 10,000 scenarios (*Monte Carlo simulations*) were conducted to determine possible population and employment outcomes if these rates were to differ to a greater or lesser degree from the assumed trends. Using this method, the probability that actual population and employment growth in 2030 and 2060 will be less than or equal to a certain projected or forecast value was calculated. There is a 95 percent chance that actual growth will be less than or equal to the upper end of the range and a five percent chance that actual growth will be less than or equal to the bottom end of the range.

Extrapolating the forecast beyond the year 2040

Global Insight does not produce a U.S. macroeconomic outlook that extends more than 30 years into the future. Consequently, to complete the "econometric trend" forecast to the full 2060 horizon, the post-2040 population trend from the regional econometric forecast has simply been extrapolated forward to converge with the trend growth rate predicted for U.S. population.

The projected employment trend to 2040 is also derived from Metro's regional econometric model and driven by the Global Insight U.S. macroeconomic outlook. Post-2040 employment projections are extrapolated based on a stable employment-population ratio.

How do these projections compare with other projected growth rates?

To put Metro's forecast into context, Table 4 summarizes forecast annual percentage rates of population growth from several different sources for the entire United States, Oregon, and the Portland metro region. The annual percentage rates of growth are for the 2000 to 2030 time period. This table shows forecast growth rates increasing as the geography moves from nation to state to region. Of these three geographic scales, forecast growth rates for the entire United States are the lowest since the large geography includes a variety of urban and rural areas, many of which are forecast to grow slowly. Forecast growth rates for Oregon are higher than rates for the United States since the historic trend of coastal states growing faster than interior states is expected to continue. Finally, given that a substantial portion of the Portland metro region is urban, its forecast growth rates are even higher. Metro's regional forecasts (Table 4) are in keeping with regional forecasts conducted by the Oregon Office of Economic Analysis and Global Insight.

Table 4: Forecast comparisons

Population growth Annual percentage rate 2000 – 2030	**Geography of forecast**	**Forecast source**	
0.85%	United States	U.S. Census middle series (2004)	
0.95%	United States	Global Insight (4th quarter, 2008)	
1.14%	Oregon	Global Insight (2008)	
1.16%	Oregon	U.S. Census middle series (2005)	
1.18%	Oregon	OR Office of Economic Analysis (2004)	
1.28%	Portland metro region (3 counties)	OR Office of Economic Analysis (2004)	
1.40%	Portland metro region (7 counties)	Global Insight Regional Service (2008)	
1.37%	Portland metro region (7 counties)	Metro – low end of range (2009)	Current forecast
1.70%	Portland metro region (7 counties)	Metro – high end of range (2009)	

Source: US Census as compiled by Metro (for purposes of calculation consistency, the geographic extent of the PMSA used here is the same seven counties even though the PMSA's boundaries have changed over time)

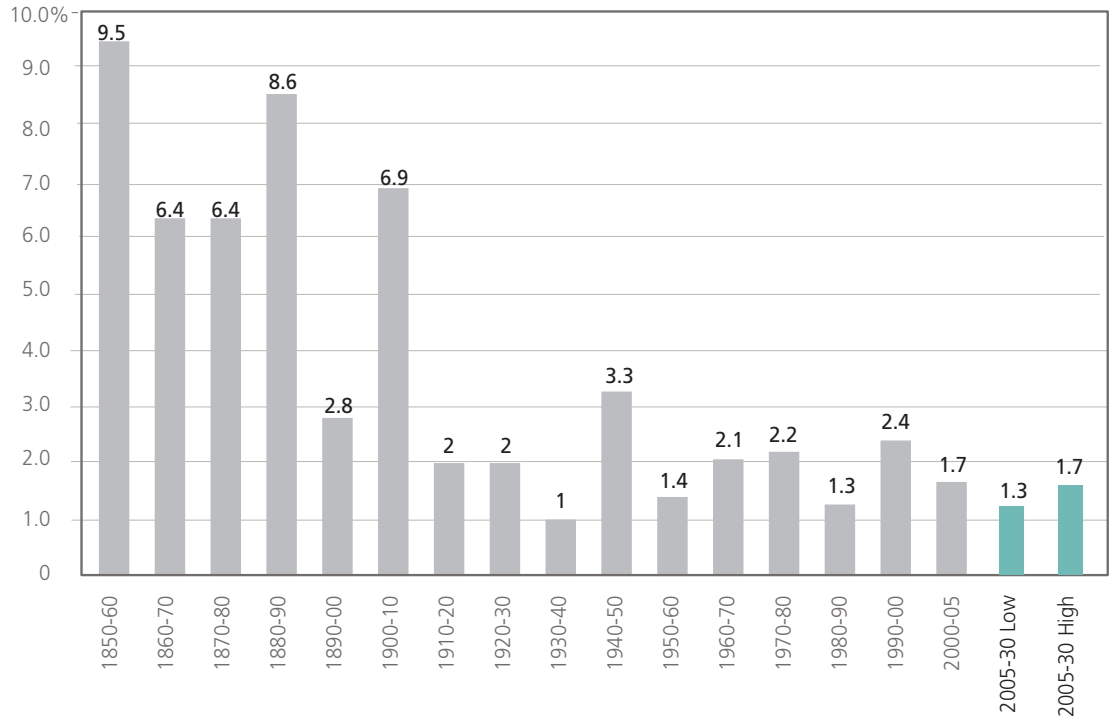
How do the projections compare to historical growth rates?

Figure 6 helps put the population range forecast in perspective with historical population trends. This forecast indicates slower population growth in the region for the next 50 years than has historically been experienced since the inception of the state.

Population trends have varied widely since 1850. At a glance, the historical data show two distinct periods of growth: first, a hyper-expansion phase that carried through the early pioneer days and ensuing decades through 1910, when the base population of the region was small, and second, a slower pace over the last century, reflecting the maturation of Portland as a metropolitan area.

Population growth in the region averaged 2.44 percent per year during the 20th century. At that rate, it took over 100 years before the region's population reached one million residents in 1966. More recently, the population doubled to about two million people in only 36 years. This doubling of the population occurred at the relatively modest growth rate of 1.9 percent per year. The more recent lower growth rate can be explained both by declining birth rates and the mathematics of compounding growth on a large population base (in absolute terms, the population increase is substantial despite a lower growth rate). Likewise, when forecasting population growth, we start with a large population base and even modest growth rates amount to big increases in population numbers.

Figure 6: Historical and forecast population growth rates



For more information on the forecasts, contact Ken Ray, Metro senior public affairs coordinator, at 503-797-1508 or ken.ray@oregonmetro.gov.

Visit www.oregonmetro.gov/forecasts

Metro | *People places. Open spaces.*

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

Metro representatives

Metro Council President – David Bragdon

Metro Councilors
Rod Park, District 1
Carlotta Collette, District 2
Carl Hosticka, District 3
Kathryn Harrington, District 4
Rex Burkholder, District 5
Robert Liberty, District 6

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Contents

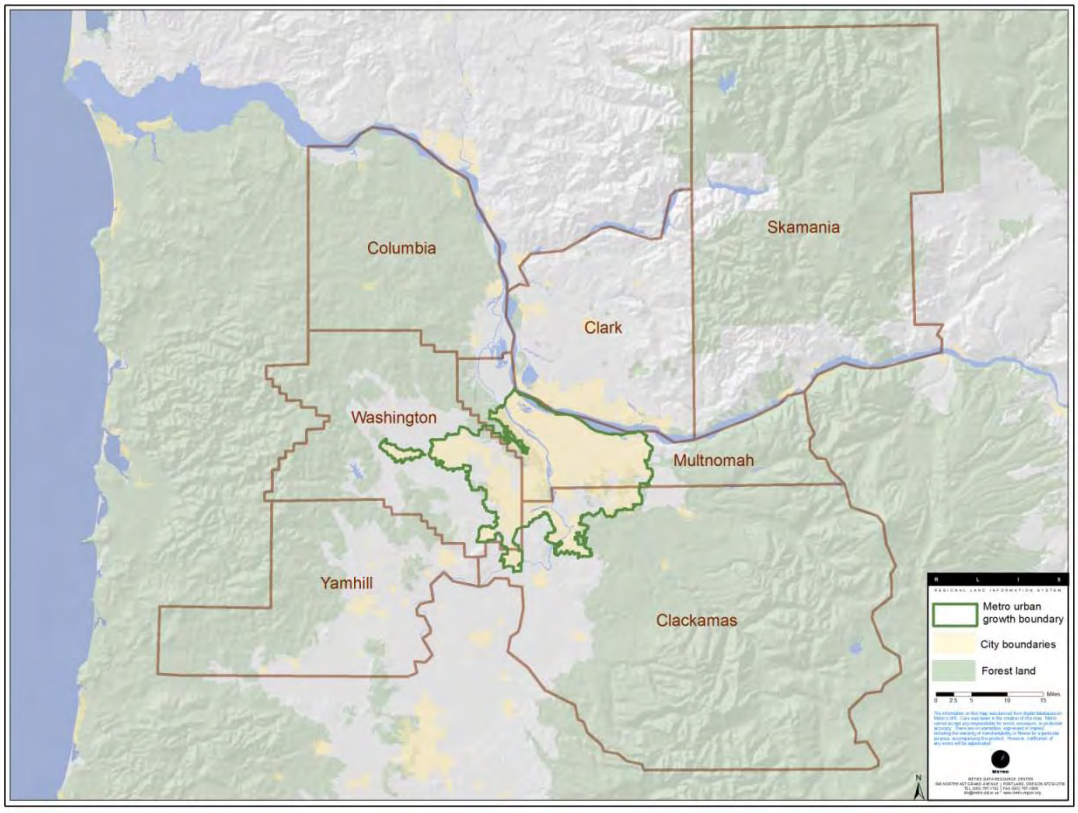
Preface

To inform the regional discussion of growth management choices and the possible implications of those choices, Metro has developed a range population and employment forecast. This forecast is derived from national economic and demographic information and adjusted by Metro based on regional growth factors. The forecast has two end dates (2030 and 2060) to serve two purposes, described below.

Forecast geography

These forecasts are for the seven-county Portland-Beaverton-Vancouver Primary Metropolitan Statistical area (PMSA), as defined by the U.S. Office of Management and Budget. The area includes Clackamas, Columbia, Multnomah, Washington and Yamhill counties in Oregon as well as Clark and Skamania counties in Washington (shown in Map 1 below). This forecast does not predict where within the PMSA future population and jobs may locate nor does it determine what portion may locate within the Metro urban growth boundary (UGB). These possible trends are discussed in the September 2009 Urban Growth Report (UGR).

Map 1. Portland-Beaverton-Vancouver OR\-WA Primary Metropolitan Statistical Area (PMSA)



The PMSA has changed during the years and has added additional counties as the region has grown in population and economic linkages. As defined in the Federal Register, the Portland-Beaverton-Vancouver OR-WA PMSA was expanded to 7-counties in 2004. This latest expansion added Skamania

County in Washington State. As commuter flows from adjacent counties increase and as the population and employment base of the greater metropolitan area expands, federal statisticians will occasionally revisit and revise the composition of the PMSA to reflect the closer integration of counties and define a new metropolitan area definition.

The Metro regional macro-econometric model produces detailed population and employment growth projections based on this new 7-county metropolitan PMSA definition. Regional growth factors are in part determined by international and national macro-economic factors. The assumptions for future macro-economic forces are inputs taken from IHS Global Insight's U.S. long-term forecast outlook. The U.S. outlook embodies economic, demographic as well as fiscal and monetary policies that impact regional growth trends.

Regional growth is partly influenced by national macro-economic trends which affect components of the regional economy and its production factors. These factors include wage and income trends, traded sector competitiveness, overall final demand measures like GDP, interest rates and cost of capital which impact regional growth trends. One factor of production that is extremely germane to the topic of the urban growth report is land supply. However, the regional forecast is implicitly silent on the question of land supply and its implication on future regional growth. The regional forecast is silent on this as it implicitly assumes that future land supplies will be present in the quantity and locations necessary to support regional growth trends that were present during the region's past. To get sub-county level population and employment estimates, MetroScope will be used to distribute growth based on land use and transportation implications and other growth allocation factors. At the point with MetroScope, future land supply assumptions become important. We will need to more explicitly account for land supplies, expansions, zoning, investments in infrastructure, and location efficiencies, but for the forecast we assume land supplies are available and unconstrained.

Purpose of 2030 forecast

This report highlights the major economic and demographic forecast results that underpin the capacity and demand projections contained in the 2009 Urban Growth Report (UGR). The regional forecast describes future employment, income, wage, population and household trends that make up the demand forecasts (including a range forecast) for deriving a 20-year demand for both residential and employment capacity[1]. The regional forecast includes three scenarios: high-growth, medium-growth (or sometimes referred to as the "baseline" forecast), and low-growth. These three economic scenarios convert to high and low demand ranges for housing and employment in the 2009 UGR.

1 Additional high and low growth scenarios for the region will accompany this baseline forecast to cover a range of uncertainty in the regional forecast. A probabilistic population methodology, which has been peer reviewed, has been developed to generate the regional range population forecast. The long-run employment forecast is derived from the population ranges. The short-run and midterm portion of the employment forecast is derived from the sample standard errors of the forecast which are generated from industry-sector based regression equations. A low-end supply range has also been estimated based on continuing existing policy and density assumptions, and a high-end supply range has been estimated based on potential new policies, public investments and housing subsidies that might increase the housing supply in the future.

The purpose of this document is to primarily describe the economic and demographic inputs that derive the regional medium-growth forecast scenario. The high- and low-growth scenarios are generated as statistical confidence intervals from the medium-growth (baseline) forecast. The population and demographic details of the regional forecast drive the derivation of housing demand in the Residential UGR and Metro's Housing Needs Analysis (HNA); while the details of the employment portion of the regional forecast drive the derivation of industrial and commercial employment capacity demand for the Nonresidential (employment-portion) UGR.

Purpose of 2060 forecast

The UGR and periodic review decision making process focus on the regional forecast through year 2030. However, there are a number of on-going planning studies and future transportation studies that also rely on discrete pieces of the 2060 regional economic and population projections[2]. The regional forecast must serve other planning purposes, for example, on-going land use and transportation studies may use truncated portions of the regional forecast for individual project planning needs. Corridor and regional transportation planning studies may require a 2035, 2040 or 2045 forecast horizon. The timing for the land use assumptions on many transportation projects depends on a 20-year horizon from when the project construction is expected to finish. Typically, transportation studies require a 35-year forecast horizon. They also require the regional forecast to be disaggregated to Transportation Analysis Zones (TAZ).

The 2060 forecast is intended to inform the urban and rural reserves process. Metro and Clackamas, Multnomah and Washington counties are jointly leading this innovative regional effort to study and designate areas outside of the current urban growth boundary that are suitable for accommodating future population and job growth over the next 40 to 50 years (urban reserves) as well as areas that should be preserved for agriculture, forestry and natural resources (rural reserves).

A draft 2060 forecast was released by Metro in May 2008; the current forecast updates that release by starting with an updated 2030 forecast and responding to public comments and questions received on the 2030 to 2060 component. The primary difference between the May 2008 forecast and the forecast described here is that this forecast takes into account worsening global economic conditions. The current economic downturn is anticipated to slow growth over the short term. However, in the longer term, it is expected that the region's population and employment growth will return to long-term trends which are similar (not necessarily the same) to past performances.

For any other uses, the 2060 Regional Forecast may be truncated to the appropriate planning horizons as needed.

2 Additional information is needed from other tasks under periodic review to make a final determination of UGB capacity need, e.g., urban/rural reserves and alternatives analyses, employment and economic trends analysis, MetroScope scenario operations and data regarding capture rates and refill rates, and other policy inputs with respect to matters of urban form and regional transportation plan (RTP) assumptions.

Does the regional forecast provide county-level or subarea details?

No. At this point, the regional forecast does **not** get disaggregated to smaller geographies like transportation analysis zones (TAZ). That step is left for MetroScope to complete. However, Metro will not generate a TAZ-level disaggregation of the regional forecast until the Metro Council and local governments have made decisions on urban reserves, UGB amendments, final regional transportation investment decisions, implementation of new land use regulations, and sundry land use real estate investment assumptions. These assumptions are critical, and without a clearer understanding from policy makers about where the region can reasonably anticipate the location of future capacity, valid steps to forecast where growth goes in the region will be subject to significant conjecture. The TAZ allocation process likely will not start until 2011.

However, there are plans to produce preliminary MetroScope growth distributions during the course of finalizing the UGR in 2009. These MetroScope scenarios will focus on refining various land use assumptions that could be utilized to fill the gap between housing or employment demand and capacity (as documented in the UGR that was released in September 2009). A key input to these MetroScope-based scenarios are the prospective land supply assumptions embedded into these analytical scenarios. These UGB expansion assumptions are based on the soil type and land hierarchy system established by state laws prior to recent legislation that now allows Metro (and counties) to establish urban reserves (and rural reserves). These scenarios would represent planning research that may inform decision makers on what policy actions may be needed to address regional needs. These scenarios were completed in mid-year 2009 to help inform the UGR to be adopted by Metro Council resolution at the end of 2009.

Methods Overview – how did Metro generate the regional forecast?

The Metro regional forecast provides the technical foundations for estimates of future employment and future residential land demand. A key implicit assumption in these regional growth projections are land supply conditions that do not constrain regional growth trends. Slower growth derives not from land shortages, but instead changes in demographic factors and economic conditions in the future outlook.

The regional forecast is created in two distinct time segments using two forecasting methods. The pre-2040 forecast period derives from Metro's regional econometric model. The period of the post-2040 regional forecast is prepared based on a Delphic method. A baseline forecast is prepared for the region employing the econometric method through the year 2040 and a Delphi[3] method that extends it to the year 2060.

Projected ranges are produced in conjunction with the baseline forecast. These ranges represent a 90% confidence interval or roughly +/- 2 standard deviations from the baseline trend forecast. These range

[3] The Delphi method refers to a forecasting approach which relies on a panel of independent experts. It is based on the assumption that group judgments are more valid than individual judgment. In our case, the independent experts included the review of U.S., Oregon and PMSA population growth forecasts prepared by the U.S. Census, Global Insight, Pew Research Center, United Nations, World Bank, and the Oregon Office of Economic Analysis. A range of national, state and regional population forecasts were analyzed and heuristic population growth estimates for the Portland region were derived from the projections of the experts.

projections accompany the baseline forecast for population and employment totals in order to give policy makers flexibility in managing future land use and transportation growth decisions. Growth ranges help to explicitly recognize the extent of our current understanding of future trends and the degree of uncertainty and possible risk inherent with extremely long-run regional growth projections. The use of a range forecast allows for the consideration of a number of possible outcomes, rather than only planning for one future. Using a range forecast is more likely to result in growth management decisions that result in adaptable, resilient communities that are able to adjust course when conditions change.

Econometric Method

An economic model based on econometric theories is employed to generate an employment forecast for the Portland PMSA. Detailed national economic assumptions are used to derive the regional growth forecast through to year 2040. Typical national variables used in the modeling of the regional economic forecast include the following items: components of GDP – such as consumption, investment, government spending and net exports; interest rates, foreign exchange variables, employment-productivity assumptions, U.S. employment trends, income and wage terms, inflation variables, population and demographics, etc. These details are empirically estimated into the economic coefficients of the Metro regional econometric model. The forecast of these detailed variables and assumptions feed into the growth projections for regional population and employment. The geographic extent of the regional econometric model is a 7-county region (i.e., Portland-Beaverton-Vancouver, OR-WA PMSA) delineated by federal authorities[4].

Regional totals are generated from aggregating the demand projections for employment on an industry sector-by-sector basis. Since forecast ranges are also needed, we go back to the regression analysis and utilize the forecast standard errors from employment equations and derive ranges that are +/- 2 standard deviations from the expected trend forecast. These details are available through year 2040.

Embedded into the econometric model is a standard cohort-component population module that simultaneously works with the economic modules. As the economy grows, both income / wages and employment in the region expands and begins to attract more in-migration which in turn bolsters regional population trends. Meanwhile, traded-sector portions of the economy derive the majority of its growth through the national growth factors supplied by the Global Insight national macro-economic forecast. Population serving industry sector draw their growth factor from the population forecast and through indirect and induced feedback from traded sector economic growth trends. As each major sector changes, its impact ripples across all other industry sectors. The dynamic nature of population, migration, employment, wages and income play itself out through the regional forecast. The econometric model simulates these interactions and the forecast for the region presents itself as a

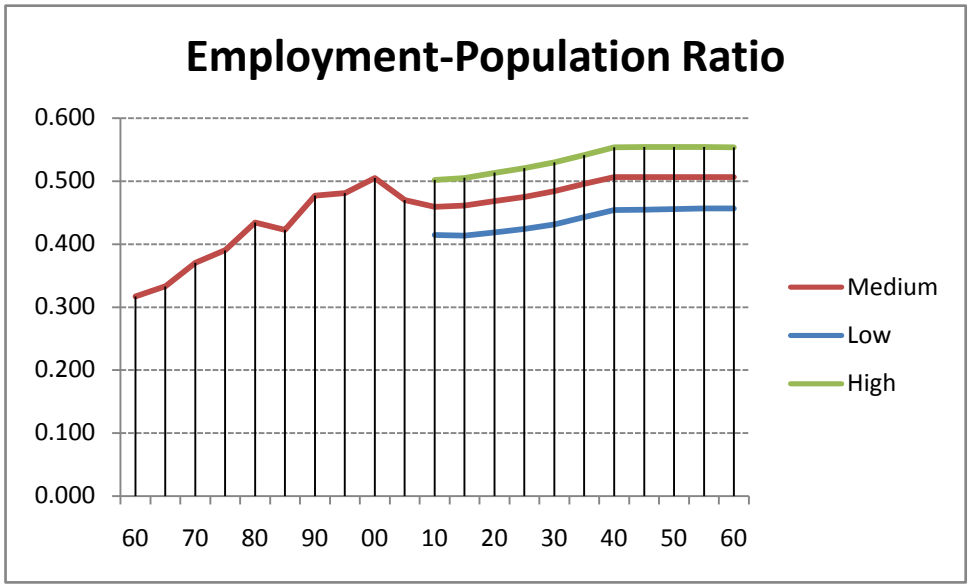
4 The PMSA designation is delineated by the federal government to describe a group of counties in a metropolitan area that possess a strong social and economic affinity with one another. The Portland area PMSA includes the following Oregon counties: Clackamas, Columbia, Multnomah, Washington and Yamhill, plus Clark and Skamania counties in Washington State.

consequence of these feedbacks in production, employment and population as well as through the assumptions of the national macro-economic forecast.

Employment-Population Ratio Method

After 2040, we switch to a fixed-factor extrapolation to calculate the range values for regional employment through year 2060. The rate of future employment growth between 2040 and 2060 is pegged to population trends projected for the same time span. This fixed factor is based on the employment-to-population (e-p) ratio evident in year 2040 and carried forward through 2060. This approach ensures that future population and employment trends are consistent for each range projection.

A chart nearby shows the e-p ratio used to translate the population range projections during the post-2040 time period into employment projections. Shown in the chart are historical e-p experiences for the Portland PMSA region and the e-p ratio assumptions for the low, medium, and high growth regional forecast scenario ranges. E-p ratios in the near term dip due to the downturn in the regional business cycle, but are expected to gradually rebound. In the high growth scenario, e-p ratios in the future rise above late-90's levels and level out after 2040. In the medium scenario, projected e-p ratios are assumed to more slowly recover to pre-recession levels by about 2040 and level off from that point forward in time. The low-growth e-p ratio alternative assumes much more muted rebound in the e-p ratio and the ratio never returning to pre-recession levels of the ratio. The e-p ratio is not likely to see much greater appreciation in value in the long-term due to long-term expectations of the labor force participation rates having already reached or soon to reach its zenith. The fact is, the proportion of women entering the labor force is nearly topped out and male labor force participation rates overall are expected to slide as the aging baby boom population saunters into its retirement years. Thus, expected labor force participation rates and employment-population ratios are made to be consistent.



Employment growth from year-to-year in the short-run may temporarily outpace population growth rates in the region, especially due to cyclical business activity. However, employment growth in the long-run is not expected to significantly outpace or differ from expected population growth. Accordingly, the extreme long-run portion of the regional employment forecast is thus pegged closely to expected population growth rates for the Portland PMSA. This is of course shown in the e-p ratios (see chart above).

Population totals are generated by building-up the regional population forecast on an age-specific cohort basis. A standard cohort component population model is embedded with the regional econometric model in order to capture feedbacks that exist between population growth and economic growth considerations. The econometric part of the forecast is from present to year 2040.

Post-2040, the population forecast for the region is extended using only the cohort-component population model and independent of the econometric model. We do this simply by decoupling the direct feedback that the economy / econometric model has with regional migration. Instead, we trend out the regional migration parameter without running the regional econometric model and replace the migration parameter with a fixed-value migration parameter that keeps the share of migration constant. Natural growth (from births and deaths) are aged and carried forward in typical cohort-fashion based on age-specific growth assumptions derived from the US Census Bureau. High and low growth population projections are generated for the 2060 forecast using Monte Carlo simulation routines in the same fashion that the 2030 population projections had been generated. There is consistency between methods and assumptions between preparing the range forecast for 2030 or 2060 as forecast endpoints. The 2060 population forecast is merely a statistical continuation of the Monte Carlo range forecast for year 2030; with the only difference being how regional migration is treated in the two time spans.

Of course there is good amount of distinction between how pre-2040 employment ranges were developed and post-2040 employment ranges were generated. This had partly to do with the fact that the Global Insight Forecast went out only to 2040 and we had to use a different approach to forecast the remaining years out to 2060 (hence use of the e-p ratio). But there is also theoretical merit in using the e-p ratio in the distant out years in order to maintain better consistency between population formation and employment. The linkage in the long-term has to consider that employment growth rates cannot continually exceed population growth without economic dislocations and inefficiencies. Thus, the extreme long-term has to consider labor force participation and be constrained in some fashion to available population and inevitable labor force growth.

Typically, commercial and industrial capacity demand (need) is derived from sector level employment forecasts and by projections of employment density and floor-to-area-ratios (FAR) for each building type[5]. Therefore, the regional forecast pays careful attention in generating the detailed employment

5 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.

forecasts for the nonresidential UGR. (The endpoint for the UGR is 2030. The econometric model forecast period is extends well past 2030 and up to year 2040.)

How is the regional population range calculated?

Ranges for the regional population forecast are generated from a peer reviewed probabilistic population forecast model. This model builds on the standard cohort component population model previously described as embedded in the econometric model. The cohort component population model is exported to risk/uncertainty generation software that allows us to estimate probability distributions and create Monte Carlo simulations of future population scenarios. Ten thousand simulations were completed and their probabilities were compiled together in a way that we could statistically enumerate a 90 percent confidence interval or a likely range for future population growth, that is a high and low growth range.

How is the regional population converted into projections of households?

Future residential capacity demand (need) is determined from household forecasts generated from the Metro regional forecast. Future regional population is estimated using an age-cohort survival model with the final result a forecast of population by age. U.S. Census "middle-series" age-specific birth and age-specific mortality rates form the baseline assumptions for projecting natural population growth in the region. These age-specific rates are calibrated to regional vital statistics data to create composite regional age-specific birth and death rates used in estimating natural increases in regional population[6]. The migration component is estimated net of in- and outflows and is linked to the economic forecast and regional econometric model through wage rates and employment change.

The completed population forecast is then converted to an estimate of the number of households and dwelling units. Age-specific headship rates[7] derived from the U.S. decennial Census and projected over time (based on extrapolations from Global Insight national trend assumptions) are used to derive age-specific household projections for the regional household forecast. Headship rates are calculated by dividing the number of householders by the population in each age cohort. The household cohorts are summed together to generate the total household forecast. Finally, an average regional vacancy rate[8] is applied to the total household projections to convert the future household outlook into dwellings or housing units.

The regional household forecast truncated to year 2030 is the basis for estimating the statutorily required 20-year housing demand forecast that is found in the residential UGR demand/capacity analysis. The regional employment forecast by industry provides the economic trends to forecast the non-residential capacity demand projections for the non-residential UGR demand analysis.

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6 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 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.

7 Headship rates are the number of people counted as heads of households.

8 The vacancy rate according to the US Census for the Portland-Vancouver OR-WA PMSA was 5.8% for all units; 2.3% for single-family / owned units; and 6.7% for multi-family rental units (source: U.S. Census, Demographic Profiles).

Perhaps the best means of examining the changes in headship rates is to see the resulting household size changes between population and household formation projections / results. Historically, the region has seen household sizes fall much more rapidly than what is being projected for the future. Going back even further in time, the U.S. (like many other industrialized nations) has seen its average household sizes in its metropolitan areas decline drastically. Portland has shared in this overall declining household size trend. A table nearby shows the historical rates and compares them to the current regional forecast.

	Household Size (Portland PMSA)
1950	2.97
1960	2.99
1970	2.89
1980	2.59
1990	2.57
2000	2.60
2010	2.54
2020	2.49
2030	2.46
2040	2.44
2050	2.44
2060	2.44

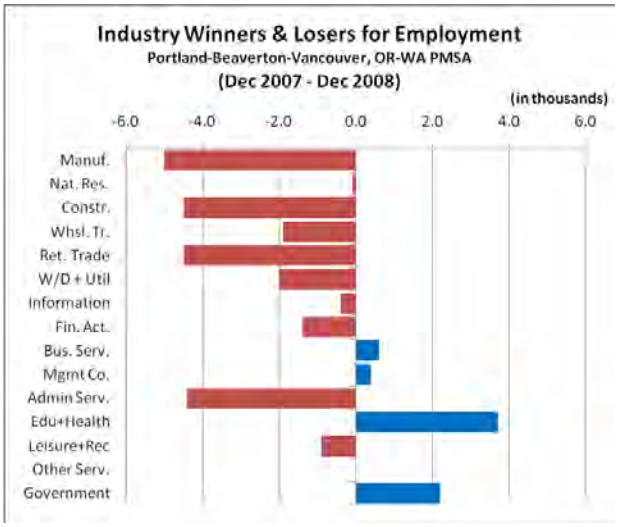
Demographers believe that the limits for the decline in household size may be coming to an end, but there is room for declines but at much slower rates. For example, between 1960 and 2000, the household sizes fell 0.37 points as compared to our projection period from 2000 to 2060 of average household size declining a mere 0.16 points. Demographic trends such as with aging baby boomers, increases in teen pregnancies, surge in divorce rates, and growing welfare rolls (until recent welfare reforms) were cited as possible reasons why average household sizes nationwide (and the region too) would experience further declining sizes. Consequently, the regional forecast for households in the region anticipates the impact of these long-term demographic trends.

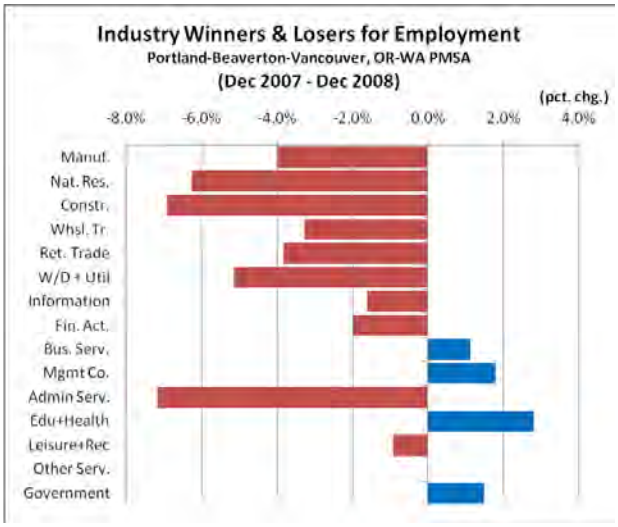
Summary of recent trends

Recent economic trends

- Majority of economists believe the economy is still shrinking. (Recent expectations of US GDP predict a decline of -4.6 percent in 2009Q1 followed by a dip of -1.5% in the 2nd quarter.)
- Portland area unemployment rate is up to 8.1% in December 2008 and now 9.8 percent in January 2009.
- Nonfarm wage and salary employment is down -1.7% from a year ago December.
- Job losses are mounting – 18,200 Portlanders have lost their jobs since last year.
- Losses are distributed unevenly with losses heaviest in manufacturing, construction and retail trade sectors. . .indications suggest the recession contagion has spread to other sectors and will worsen if the economic slide is not halted soon.
- U.S. housing crunch has infected the regional housing market – sharp declines in residential construction activity, region-wide permits numbers are in recession levels, home prices are down -12 to -14 percent. . .construction activity has yet to hit bottom.
- Fed Chairman Bernanke said that even if financial markets stabilize today, he doubts the recession will end until later this year.

Although a recession officially had been declared in December 2007 for the U.S. economy, the region's economic landscape remained relatively unscathed through the first three quarters of 2008. On a year-over-year basis, the regional economy managed to keep itself afloat over the summer despite mounting losses in the national housing and construction industries and worrisome signs emerging on Wall Street. Regional conditions deteriorated rapidly after the economic meltdown on Wall Street. By the time the financial crisis erupted in September 2008, regional employment had fallen to no growth and in the 4th quarter began posting increasingly negative job readings.



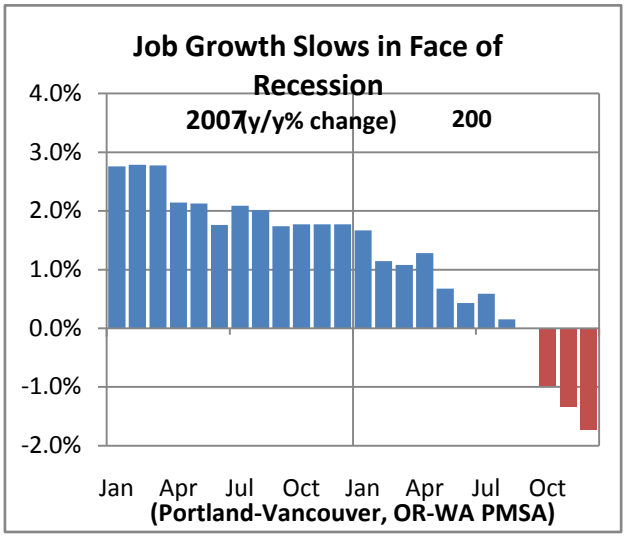


At the same time that job growth began sliding lower, the Portland area unemployment rate began its steep increase. The region's unemployment rate has ratcheted up almost a whole percentage point each month since September. As of December 2008, the regional rate stood at 8.1 percent unemployment

(not seasonally adjusted) as compared to Oregon State of 8.8 percent, and nationally the rate is 7.1 percent. Only a year ago, employment levels stood at 1,056,100 jobs – since then there has been a loss of over 18,200 Portland area jobs. Region-wide total nonfarm wage and salary employment now stands near 1,037,900 jobs.

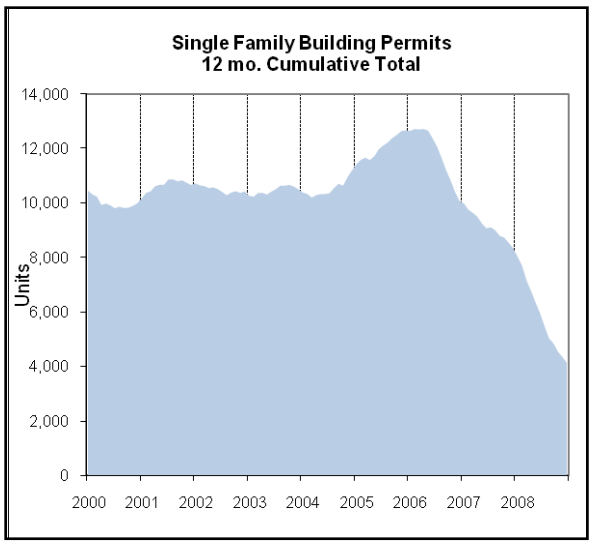
Job losses across metropolitan area industries have been uneven. Durable manufacturing, construction, temporary help agencies and retail establishments have so far during this recession shed the largest number of jobs from the workforce. On a percentage basis, the administrative services sector (which includes firms specializing in providing temporary help to manufacturers and businesses) has had the sharpest decline, followed by the construction industry. The region's manufacturing industry has suffered the largest total losses, but on a percentage basis is only fifth in percentage decline in employment.

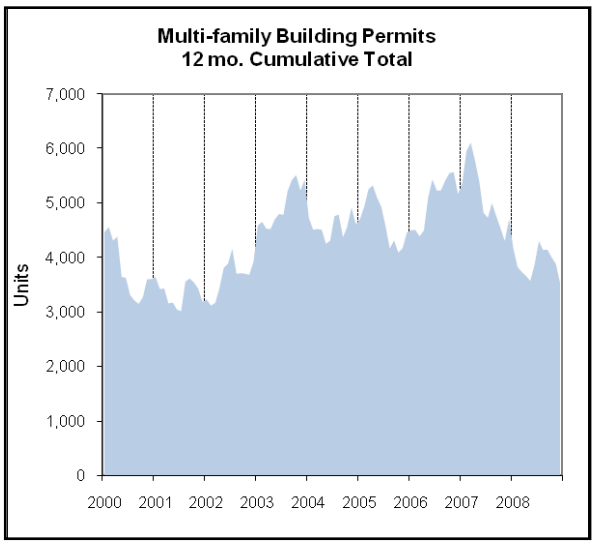
At this stage of the recession, the logistics industries – including the wholesale trade sector and the warehousing and distribution subsector – are exhibiting sharper declines that may presage a broader and deepening recession for the region. The sector comprising warehousing and distribution recorded the fourth steepest decline on a percentage basis followed closely by the wholesale trade sector. Combined the industry losses of these two sectors almost add up to the losses in the construction industry.



Construction and Housing Markets

The housing market continues to exert downward pressure on the regional real estate market and construction industry. National housing markets remain severely depressed. Standard & Poor's Case-Shiller price indices report a -25.3 percent annual decline in the composite home prices of the top-20 metropolitan U.S. cities. Portland shows a decline of -11.9% as of December 2008. The data indicate home prices continue to spiral lower at an accelerating pace.

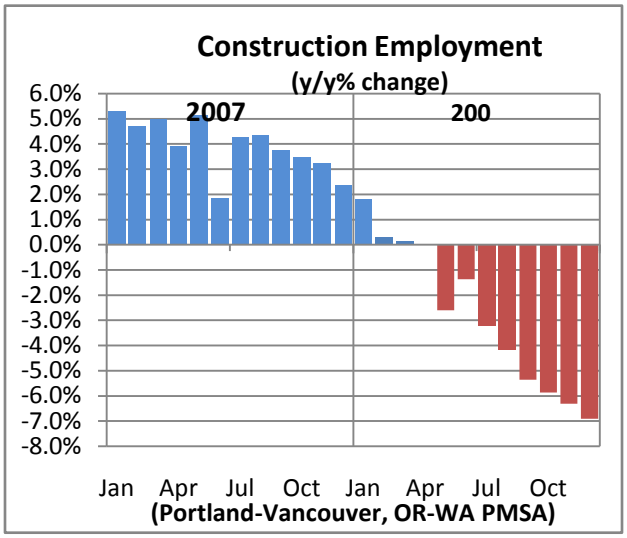




Phoenix AZ (-43.2%), Las Vegas NV (-42.8%), and Miami FL (-40.9%) lead the pack in terms of racing to the bottom. The California housing markets, particularly, San Francisco (-38.3%), Los Angeles (-35.7%) and San Diego (-35.4%) report home price declines nearly as bad as Arizona, Nevada and Florida.

Residential development activity in the Portland metropolitan area has like for the rest of the nation been a harbinger of ill economic news for some time. According to Census reports, building permit issues for single family and multifamily development have seen fairly sharp decreases since early 2007. In fact, single family residential permit reached an annualized peak of over 12,700 issued permits as recent as 2006 Q1. Single family permits remained above 10,000 units for all of 2006 and still remained fairly strong in the early half of 2007. Permit activity began falling sharply in late-2007, coinciding with the brewing turmoil in the home construction industry at the national level.

Multi-family construction in the Portland area has remained aloft longer, but has also come down to recession levels as well. This lag may have more to do with commercial development practices. Multifamily development projects typically take longer to plan and to complete than for single family. This lag may have little correlation with the recession.



The prices for median single family homes continue to see significant downward pressures. According to the Portland-Beaverton-Vancouver PMSA regional RMLS data, the median sale price for existing and new homes sold in December 2008 is $252,900 and the average is $300,800. Both figures are down -8.5 percent and -14.5 percent from the same month a year ago. These values are the lowest since the first quarter of 2006, thus all of the real estate gains since the last economic recovery in the region have been given back during this current recession.

In the same RMLS database, new listings and pending sales for December 2008 fell to 1,880 homes and 810 sold, respectively. These are the lowest December readings in over a decade. One may have to reach all the way back to the 1980-82 recession in order to identify such low levels for both these statistics.

Construction employment is -6.9 percent lower than a year ago December. Almost 5,000 construction workers have lost their jobs since the recession began a year ago. The subsector – residential building construction – has been hardest hit during the recent downturn, which has been confirmed by the negative news in home sales and home prices. The nonresidential building construction and specialty trade construction subsectors have maintained employment levels to a greater degree than residential employment construction, but as this recession lingers there will be mounting pressures to shed employment even in these construction subsectors.

This forecast anticipates further deterioration in the construction industry for the rest of 2009. Home price values will have to improve and prospects for renewed residential construction activity will need to rebound before the region will see construction employment levels begin to recover. Expect the construction industry to be an early indicator of an economic turnaround for the regional economy.

Manufacturing Sector

Manufacturers have decreased their employment levels -4 percent since December 2007. Heavy industrial goods manufacturers have been racing to the bottom at a faster pace than other manufacturers. Durable goods dropped -4.8 percent while nondurable goods fell -1.3 percent.

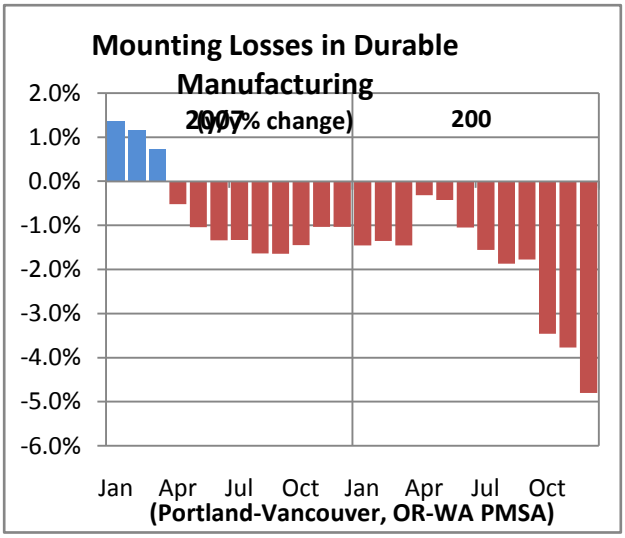
Manufacturing Subsector (NAICS)	%change Dec. 2007-08
Wood Products (321)	-17.0%
Primary Metals (331)	1.5%
Fabricated Metals (332)	-3.0%
Machinery (333)	-4.6%
Computer & Electronics Machines (334)	-5.4%
Transportation Equipment (336)	-7.8%
Other Durable Goods	-1.9%
Food Processers (311)	1.1%
Paper (322)	-6.5%
Other Nondurable Goods	-1.2%

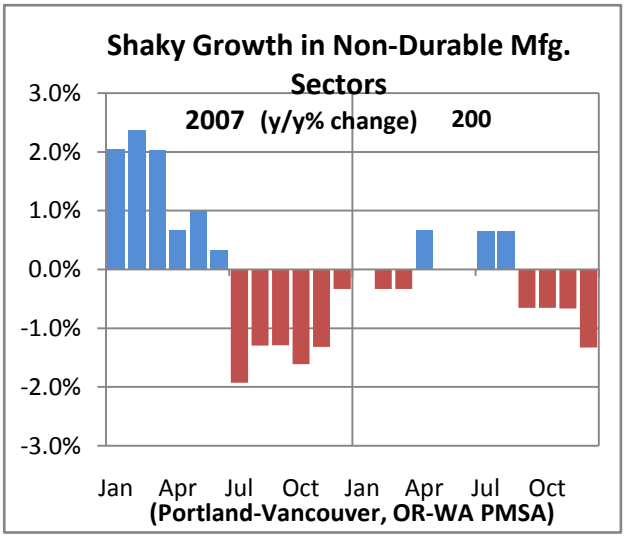
Gains (as of December 2008, year-over-year change in jobs):

- The Primary Metals and Food Processing industries report small gains in employment of 100 jobs each since December 2007.

Losses (as of December 2008, year-over-year change in jobs):

- The wood products industry has trimmed over 900 jobs .
- Fabricated metals shed 400 employees.
- Machinery declined by 400 employees.
- The computer/electronics and electrical industry eliminated 2,000 workers.
- Transportation equipment manufacturers cut 700 jobs.
- The paper and pulp producers trimmed 300 employees.

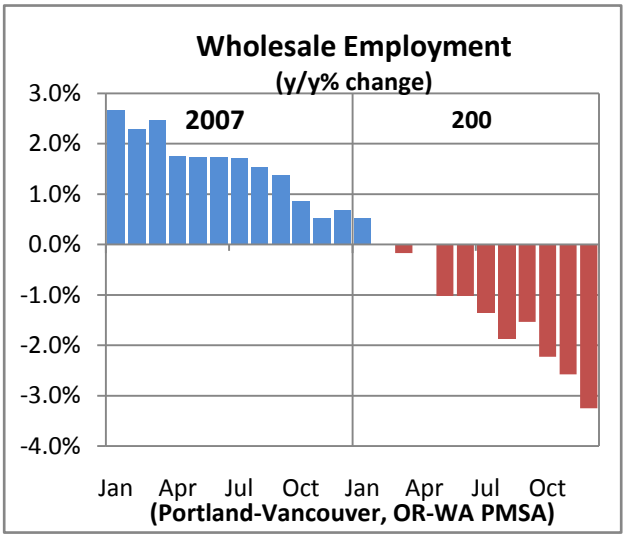




Logistics Industries: Wholesale Trade, Warehousing, Distribution and Utilities[9]

Wholesale trade, which comprises establishments engaged in wholesaling merchandise, generally without transformation, and providing services related to the intermediate step of distributing merchandise to retailers and other businesses. The wholesale sector has seen a drop of -3.3 percent of employment since December of year ago. These losses have been dominated by losses in durable wholesale goods.

Employment in wholesale trade is a cornerstone of this region's economic base. Thus the warehousing and transport of goods is a vital economic indicator of the region's health. Recent figures for the transport of goods by air and ground indicate substantial weaknesses. Employment levels are -10 percent lower in air transportation jobs and -6.3 percent lower in the truck transportation subsector. Other subsectors in transportation and warehousing show signs of weakening, but not to the degree seen in air and truck transportation.



This forecast anticipates further weakness in wholesale employment through the remainder of 2009.

Retail Trade Sector

The retail trade sector serves as a barometer for population serving industries and a gauge for how consumers are reacting to economic stimulus. Over the last 14 months, the U.S. economy has served up very little rosy news for consumers. As a result, the region has seen retail employment slip -3.8 percent on a regional basis. Substantial employment declines have occurred in the sales of motor vehicles (-11.1

[9] NAICS coding protocols include Utilities with the subsector warehousing and distribution.

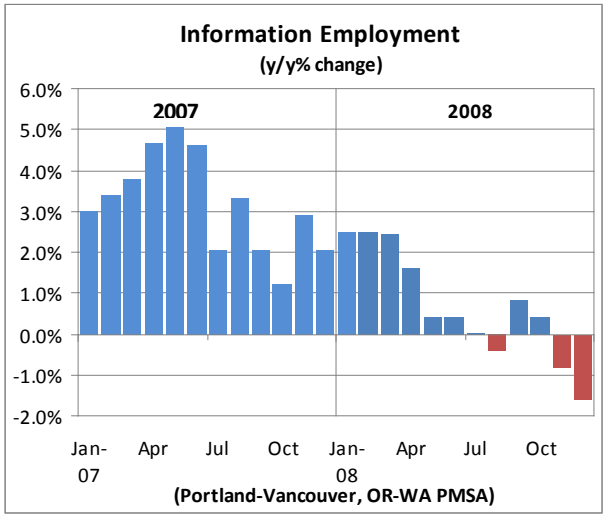
percent) and clothing retailers (-15.7 percent). The remaining larger subsector retailers have experienced modest declines in food stores (-1 percent) and general mechandisers (-4.4 percent). In a somewhat surprising development, these year-over-year declines have been partially offset by a 1.1 percent increase in all other categories of retail establishments.

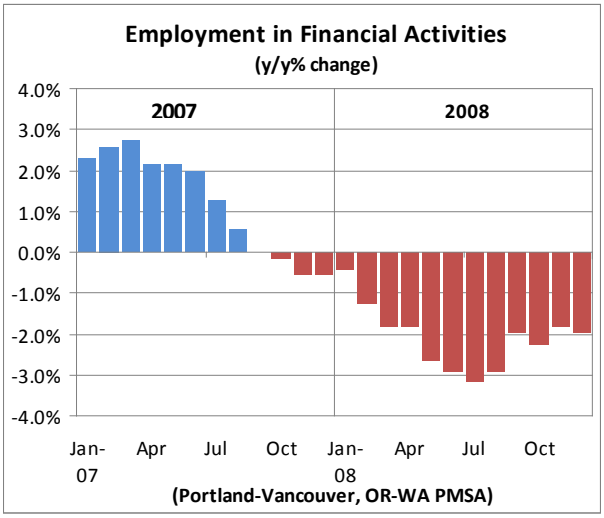
Information Sector

A moderate decrease of -1.6 percent in information service employment occurred over the last year. This compares almost equally with an overall decrease in total nonfarm employment of -1.7 percent in the same time span. Information services is predominately divided into two major subsectors: conventional printing and publishing and data processing which includes internet publishing.

Financial Activities Sector

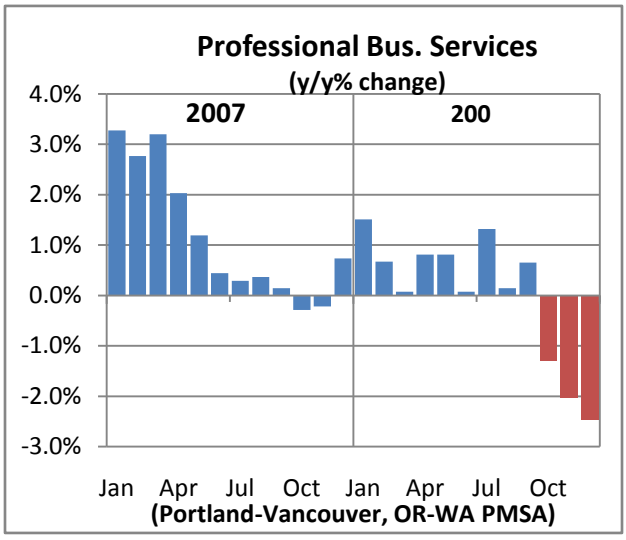
The region's financial activities sector has recently experienced a moderate employment decline in the order of -2 percent on a year-over-year basis as of December 2008. The declines in finance, insurance and the real estate subsectors seem to have stabilized since the onset of the U.S. recession over 14 months ago and from the fallout from Wall Street last September.





Professional Business Services

The professional business services sector is the largest and most diverse industry sector in the region. It encompasses a wide range of occupations including professional, technical and scientific employment; top-management employees of companies; adminstrative technicians and temporary help workers; and finally occupations in waste management and recovery. Weakness in this sector has been focused primarily in a subsector comprised of adminstrative services and temporary workers. Year-over-year



decreases in the "admin and temp" employment market continue to erode with losses now reaching 9.2 percent lower as of December 2008. Up until the financial meltdown on Wall Street, the professional business services sector has been a source of job growth in the region.

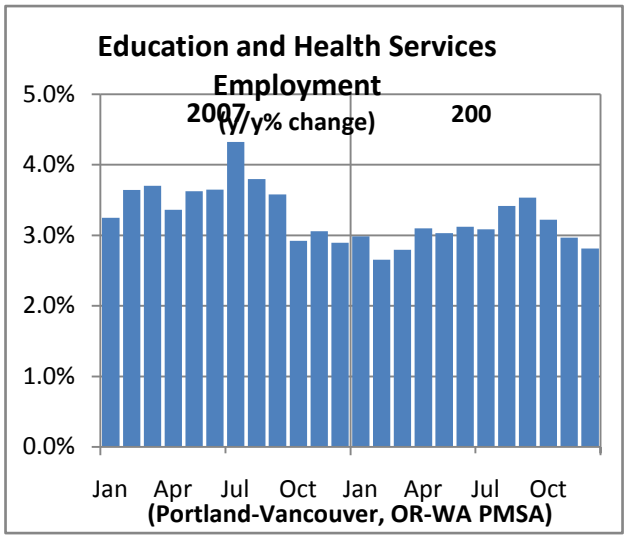
This was the last sector to register negative growth, but with the recession now fully underway, it seems more likely that job declines in professional services will accellerate as the region sinks to lower economic levels of distress. We anticipate further decreases as the other subsectors of this broad services category succumb to the overall regional malaise – this will be especially true for the professional, scientific and technical service jobs.

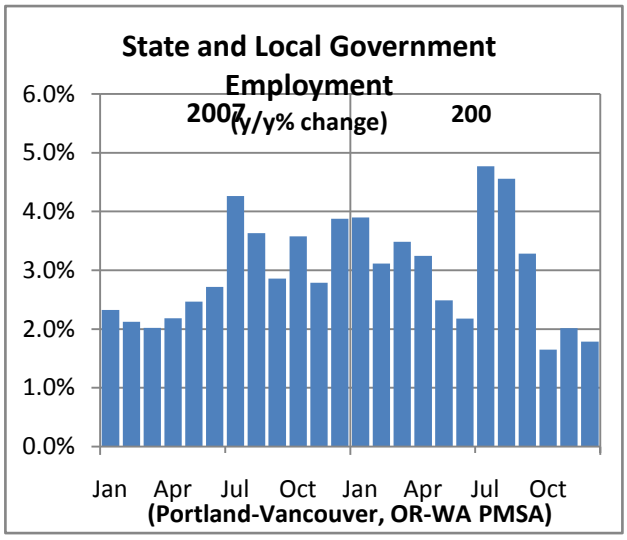
Leisure and Hospitality Services

Weakness in the regional economy also spread across to the hospitality service industry which saw a modest decrease in fourth quarter 2008 employment on a year-over-year basis. Food services and a range of accommodation establishments are included in hospitality services. As the economic downturn spread to the broader economy outside of construction and finance, the number of business travelers decreased while consumer spending on eating out were curtailed.

The arts, entertainment and recreation subsector posted surprising resiliency in the face of deteriorating economic conditions. Losses in this subsector seem to be stabilizing.

We anticipate losses in this sector to mount as the recession drags on into the summer and perhaps beyond if government bailouts fail to arrest the freefall in the national economy. Tourism and business travel will likely retrench as the recession eats away consumer confidence and businesses cut back on discretionary travel arrangements. The overall tourist markets in the region will consequently suffer from fewer consumers willing to spend and to travel to conventions and local events in the Portland area.





Education and Health Services

The education and health service subsectors both report relatively strong year-over-year employment growth in December 2008. Education advanced 1.7 percent and Health Care rose 3.1 percent on an annualized basis. These industries do not normally show drastic changes in employment levels because each industry caters to specific population-serving demand segments. The recession has so far done little to impact educational or medical needs, especially since people tend to postpone medical treatment / services in only the most dire of economic circumstances. However, next year's school budgets may tell a different story. Already, the state legislature is wrestling with potential forecasted funding gaps to pay for K-12 education. This may necessitate cuts in teacher employment.

Growth rates slowed since September 2008 but remain high relative to total growth rates in the region. This forecast projects industry growth to slide lower, but remain positive at year-end. Growth is not likely to turn negative, but if U.S. conditions worsen and the recession deepens in the state, education and health care employment may not be able to sustain positive growth in 2009 – albeit at much reduced rates.

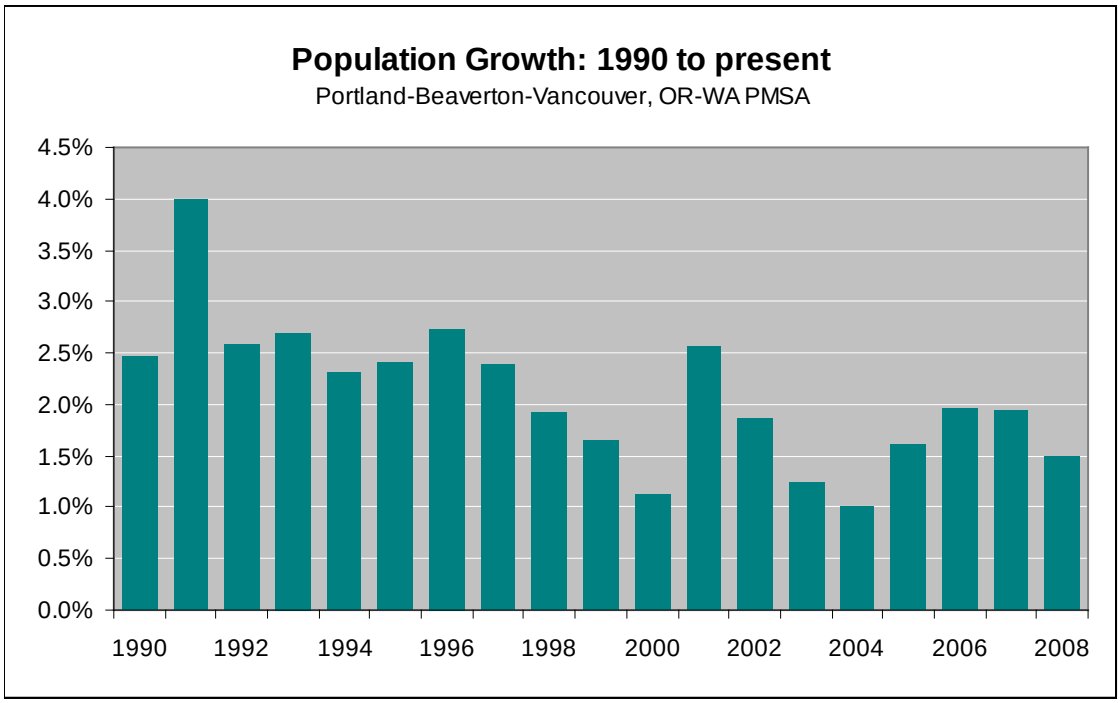
State and Local Government

State and local government is one of two industry sectors in the region still showing positive employment growth from a year ago. Although state and local budgets are being squeezed by the recession, revenues appropriated for this fiscal year are already in government coffers. The risk to state and local government employment will be in the next year or two as revenues and budgets for next year are being prepared now. If the recession continues to persist, employment levels will have to be cut to balance projected budgets. This is the last resort for local governments, but they may have no choice over the next few years.

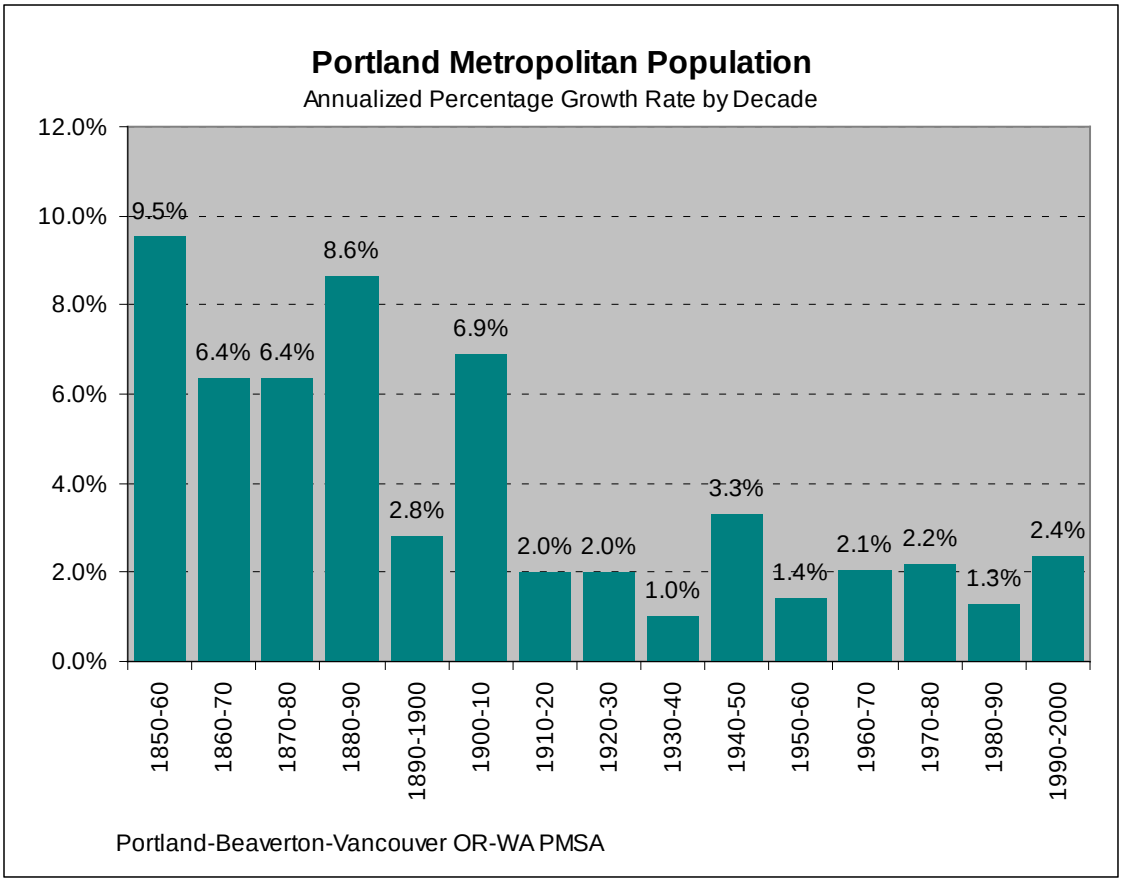
This forecast includes an expectation that job growth in 2009 will stagnate and will actually begin to see modest cuts in government employment levels through 2012 and not return to pre-recession levels until 2014.

Population trends

Population growth, particularly in-migration, in the region has been susceptible to shifting economic growth trends. The region's annual average population growth has slowed considerably in the current decade as two recessions have chipped away at regional economic vitality. A recession at the turn of the century sapped away much of the economic momentum gained during the 1990's. Population growth in the decade of the 90's was estimated to be 2.4 percent average per year. Recent annual population growth from the Census estimates 1.5 percent growth in 2008. And just as the regional economy began to recover from the 2001 recession, the latest recession hit the region in 2008 and has caused population growth to again taper off.



Population trends for the Portland region tend not to swing as wildly as employment trends, and in fact, have been fairly stable since 1910. Based on Census data collected since 1850, the region has experienced two distinct growth periods. During the pioneer exploration and discovery period prior to 1910, the region experienced decades of growth that ranged between 6.4 to 9.5 percent annual growth per year (except the recession between 1890-1900 that swept across America). After 1910, decade-by-decade estimates of population growth for the region stabilized in a tight band between 2.0 to 2.4 percent annual average growth (except for World War II and the subsequent baby boom generation). The growth rate for regional population since 2000 has been 1.7 percent per year. This tighter growth band occurs when regions mature and its population base becomes fairly large. Mature metropolitan areas normally do not experience large swings in population growth without large unforeseen economic or demographic causes such as plagues, other natural disasters or human spawned technological innovation that re-orders human behaviors.



Regional population growth is expected to trend up during the next business cycle up-turn. In the long-term, we anticipate future population growth to taper off – consistent with national and state trends. Births and deaths are expected to converge towards national averages over the long-run. Life expectancies and female fertility rates in the region are expected to trend toward national rates as the regional forecast incorporates the growth trends of the Census middle series population and demographic assumptions[10].

Why does regional population growth slow in the forecast?

- Birth rates are expected to slowly decrease in the long-run and stabilize towards the national average.

- Life expectancies are expected to rise a little more but not as sharply as the U.S. and the region has experienced during the last half of the 20th century – as medical care and geriatric services have dramatically improved life spans.

- Migration trends in the past century have generally favored states on the west coast, gulf coast and eastern seaboard. However, the mass exodus from rural states to more metropolitan areas around the country has slowed considerably, and in some corners of the country we see the tide

[10] For an abstract and detailed discussion of the Census Bureau's population projections of the U.S., please see: http://www.census.gov/population/www/documentation/twps0038/twps0038.html

of migration flowing back towards rural communities as population densities have made it more desirable for some population segments to reach back to a quieter life style.

- The regional forecast has been made consistent with national and statewide population trends, which show population growth tapering off in the long-term.

Population Forecast Comparison Table: U.S., Oregon and Portland PMSA

	U.S. Population Global Insight, 2008		Oregon Population Oregon Office of Economic Analysis, 2004		Portland PMSA Population Metro, 2008	
1990-00	282,810,000	1.24%	3,437,000	1.9%	1,927,900	2.4%
2000-10	311,370,000	0.97%	3,844,000	1.1%	2,265,500	1.6%
2010-20	342,610,000	0.96%	4,359,000	1.3%	2,703,600	1.8%
2020-30	375,120,000	0.91%	4,891,000	1.2%	3,050,100	1.2%
2030-40	407,870,000	0.84%	5,425,000	1.0%	3,371,500	1.0%

Table Notes:
Global Insight, 2008 "The US Economy 30-Year Focus"
Oregon Office of Economic is from their 2000-2040 county population forecast
Portland PMSA = Portland-Beaverton-Vancouver, OR-WA PMSA (7 counties)

Portland regional population growth is anticipated to rebound after the current recession and thus is expected to rise to 1.8 percent annually in keeping with the acceleration expected in regional economic growth.

The Appendix of this report will provide further forecast details for regional population growth.

Population Forecast trends and ranges

The Portland-Beaverton-Vancouver, OR-WA PMSA population forecast and probabilistic range

	Low	Base	High		Low	Base	High
2010	2,235,600	2,265,500	2,295,800		1.33%	1.60%	1.87%
2015	2,445,900	2,509,600	2,572,200		1.81%	2.07%	2.30%
2020	2,612,600	2,703,600	2,793,900		1.33%	1.50%	1.67%
2025	2,762,000	2,881,800	2,999,900		1.12%	1.28%	1.43%
2030	2,903,300	3,050,100	3,199,500		1.00%	1.14%	1.30%
2035	3,031,300	3,210,700	3,392,900		0.87%	1.03%	1.18%
2040	3,155,700	3,371,500	3,587,200		0.81%	0.98%	1.12%
2045	3,263,900	3,517,200	3,766,500		0.68%	0.85%	0.98%
2050	3,372,200	3,669,300	3,959,000		0.65%	0.85%	1.00%
2055	3,487,500	3,827,900	4,161,400		0.67%	0.85%	1.00%
2060	3,609,300	3,993,400	4,376,100		0.69%	0.85%	1.01%

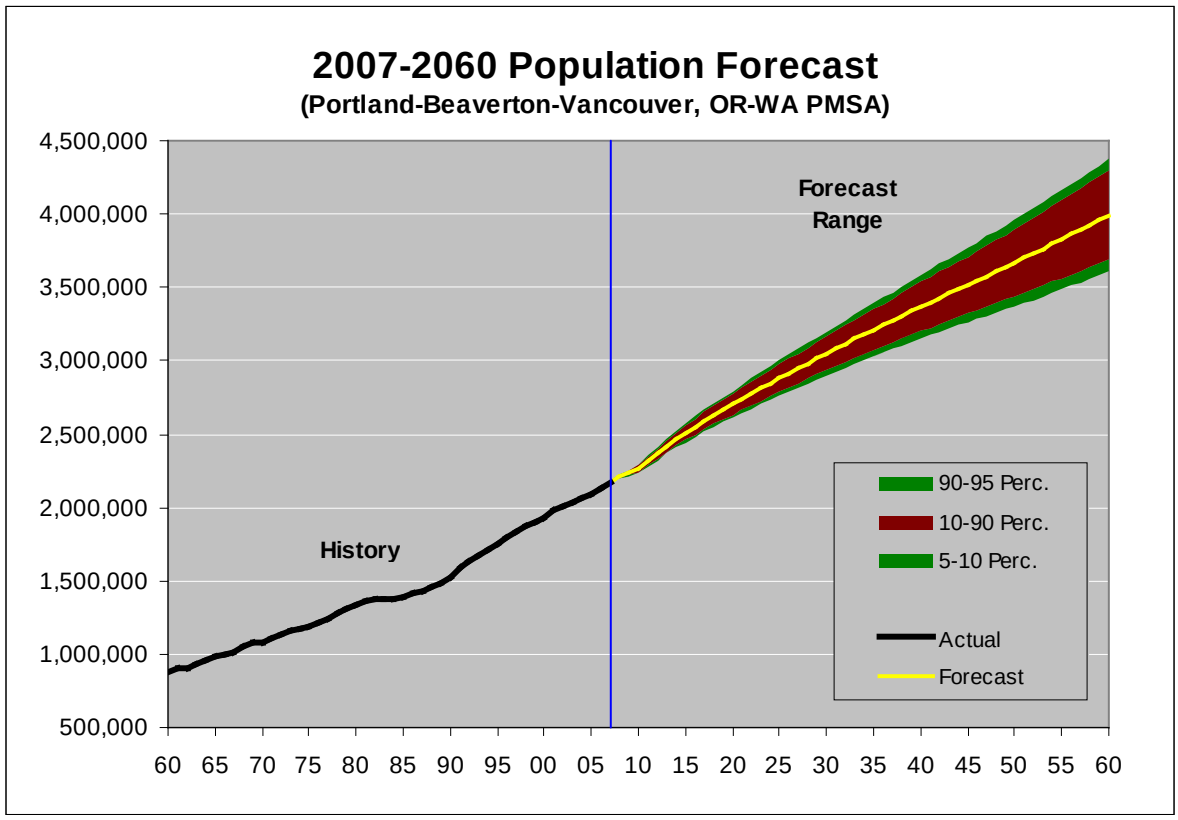


Chart Notes:

The chart above depicts the forecast range for total population in the region. The yellow line represents the "forecast mean". The red and green wedges represents the forecast uncertainty. The green wedges represent the 5% forecast uncertainty at the "part of the tail ends of the forecast distribution".

Statewide Economic Conditions

Oftentimes, the regional forecast is compared to what's expected for the state as a whole. Following is a short passage from the state economist's latest economic and revenue forecast. Although the statewide forecast is not explicitly an input into the regional forecast, it is important to pay attention to statewide trends because some of these trends impact the regional outlook. For the majority, statewide conditions are mirrored in the local and regional economy.

Excerpts from Oregon Economic and Revenue Forecast, March 2009:

The fourth quarter of 2008 posted the fourth consecutive quarter of job losses. The preliminary estimate of fourth quarter job loss in Oregon is negative 6.8 percent at an annualized rate. Under the newer North American Industrial Classification System which goes back to 1990, this is the largest single quarterly job decline. On a year-over-year (Y/Y) basis, jobs decreased by 2.5 percent in the fourth quarter.

Most sectors were hit hard in the fourth quarter. Manufacturing and construction continued to lose jobs at a high rate. Joining in heavy job losses were retail and wholesale trades, transportation services, warehousing and utilities, professional and business services, financial activities, and local government education. The only sectors not experiencing declines were food processors, private education and health services, and state government.

The recession in Oregon took a sharp turn downward in the fourth quarter of 2008. The financial crisis and steep drops in consumer spending has spread this recession to all corners of the economy. From December 2007 to December 2008, around two-thirds of all the jobs losses occurred in the last quarter of 2008.

The total private employment sector declined 7.5 percent in the fourth quarter with a Y/Y decline of 3.5 percent. This is considerably larger than the drop of 1.4 percent in the third quarter of last year. Manufacturing lost 5,064 during the quarter, accounting for 18.4 percent of the job drop in total private employment. The manufacturing employment sector is down 10.1 percent in the fourth quarter with a Y/Y decline of 7.2 percent. Private nonmanufacturing employment was down 7.1 percent in the fourth quarter. The government sector lost jobs at a rate of 3.6 percent in the fourth quarter due mainly to local government job losses.

Most manufacturing sectors declined by double-digit amounts. Within manufacturing, transportation equipment decreased 37.9 percent, with a loss of 1,610 jobs. Wood products continued to slide with job losses at 17.6 percent. Since the first quarter of 2006, wood products have lost 7,300 jobs for a decline of 20.0 percent over this period. Metal and machinery, which had been holding up, lost jobs at a rate of 9.8 percent. Computer and electronic products also felt the recession impacts of slower consumer and business spending with job losses of 16.0 percent. The "Other" category for durable goods, which includes electrical equipment, appliance, and furniture products, lost 1,000 jobs, for a decline of 17.5 percent.

In the nondurables manufacturing sectors, food processing increased 42.4 percent in this highly seasonal employment sector. The other nondurable manufacturing sector, which includes paper and allied products, had job declines of 8.1 percent.

The collapse of the housing market and the broadening recession continued to impact construction. Employment in construction decreased 18.1 percent with job losses of 4,500. From the first quarter of 2007 to the fourth quarter of 2008, construction has lost 15,700 jobs or 15.0 percent.

The dismal holiday season shopping is evident in retail job losses of 10.8 percent as this seasonally adjusted number dramatically declined due to low seasonal hiring. Wholesale trade jobs are down 7.9 percent.

The information sector, which includes software publishers, had job losses of 5.1 percent. Newspapers are also feeling the effect of lower advertising dollars from retailers.

Financial Activities continue to feel pressure from the broadening financial system problems with jobs down 8.2 percent.

Professional and business services jobs declined 12.9 percent, a dramatic change which caused the Y/Y jobs to decline 3.7 percent. Other than a slight Y/Y job loss in the third quarter of 2008, this is the first Y/Y decline since the fourth quarter of 2003.

Educational and Health Services continued to show positive job gains with 2.4 percent. The Y/Y job growth continues at a high rate of 3.9 percent.

Discretionary spending by households sharply declined in the fourth quarter as customer traffic slowed at sit-down eating establishments. Leisure and Hospitality job losses were at 1.2 percent. The Y/Y job losses of 0.6 percent are the first since the second quarter of 2002.

Overall government decreased jobs 3.6 percent. The sector within government that is mainly responsible for the decline is local government education with a job loss of 8.3 percent. Federal government was essentially flat while state government jobs were up 4.0 percent, partly a reflection of the upcoming legislative session.

2030 / 2060 Regional Range Forecast Results

Employment

The recession is a heavy burden on the region's economy. As of March 2009, the recession is 15 months old and shows very little sign of abatement. There is little evidence that the recession is anywhere near its trough. In fact, most mainstream economic forecasters and pundits believe the recession will stretch out through the third quarter of this year. This would mean a recession that would be at least 22 months in length – making it the longest since 1980-82.

How deep the economy falls and how long it will continue sliding is a subject of endless debate. Putting it into perspective as a range, an optimistic outlook might have a rebound begin this summer or a pessimistic outlook might anticipate a rebound beginning in the first quarter of 2010. In other words the recession could last another 3 to 12 months – maybe even longer if global conditions worsen to exacerbate the domestic situation. The longer the recession persists the deeper the job losses and the longer it will take for the region to climb back to pre-recession levels.

Current conditions remain pretty gloomy and this is reflected in the near term estimates depicted in the regional forecast and range growth rates – particularly the "low growth" scenario and to a lesser degree the "medium" baseline econometric trend model projection. The details of the regional forecast are mainly focused on the baseline trend model projections, while the range forecast values represent statistical confidence intervals that are plus/minus approximately 2 standard deviations from the baselines. Both near term and long-term economic conditions are directly modeled into the baseline while the ranges merely depict probable outcomes based on statistical forecast errors (i.e., standard deviations).

Annual Employment Change: 2009 to 2015
(Portland-Beaverton-Vancouver, OR-WA PMSA – 7 county total)

	2008	2009	2010	2011	2012	2013	2014	2015
High		0.3%	1.0%	2.1%	2.6%	2.5%	2.4%	2.3%
Medium	0.5%	-0.6%	0.4%	1.7%	2.3%	2.2%	2.3%	2.3%
Low		-1.8%	-0.5%	1.1%	1.9%	1.8%	2.0%	1.9%

Nonfarm wage and salary employment in the 7-county PMSA is expected to decline into negative growth territory in 2009 in the medium or baseline scenario (-0.6 percent). This forecast is based on economic conditions and futures assumptions from December 2008. In comparison, the statewide forecast predicted a decline in total employment of -1.5 percent for 2009. The statewide forecast is from the December 2008 (Vol. XXVIII, No. 4) Oregon Economic Forecast.

Current conditions have worsened in the first quarter of 2009 which makes the regional forecast a bit outdated for predicting near term economic growth trends. A recently updated Oregon Economic Forecast (March 2009, Vol. XXIX, No. 1) predicts much steeper job declines for 2009 of -4.3 percent for total nonfarm wage and salary employment in the state.

It is an expectation of the current regional forecast that the Portland regional economy will not see as sharp an economic / employment decline as the state as a whole. The Portland metropolitan economy represents nearly half of the economic growth of the state and is oftentimes the engine that drives statewide growth. The state forecast has to consider and include rural economies which generally fare worse than urban areas during a recession. Consequently, the Portland region, comprising mostly urban attributes, will see fewer job declines.

Moreover, the near term conditions do not necessarily invalidate the long-term projections of the regional forecast. Indeed, past experience indicates that economic growth will rebound and for a period grow faster. This fortuitous cyclic behavior should smooth out near term fluctuations to make the long-term portion of the forecast more plausible. In fact, this will eventually repeat itself in the current recession. After playing out the short-term business cycle effects of the recession and incorporating subsequent recovery assumptions, the regional forecast begins playing to its strength in its ability to forecast the innate long-term economic trends in the region.

In this long-term trend scenario, the forecast anticipates growth in the near term to play out the current business cycle and resulting in initially negative growth, transitioning into a short duration of faster growth to reflect a business recovery. Afterwards, the long-term trend begins to speak for itself. Employment growth in the long-run is dependent on population growth, which influences the economic sectors that are predominately population serving, such as services and retail trade. In traded sector industries, growth projections more heavily factor in national and global trends. Regional sectors such as warehousing and distribution and manufacturing subsectors such as high-tech electronics, metals, timber and transportation equipment producers are influenced by productivity trends and domestic investment expenditures and global trade factors.

The range forecast for both jobs and population reflects these economic influences except that the high growth forecast will accentuate the factors that push growth in the region faster while the low growth scenario will accentuate factors that pull the region towards slower growth. However, in order to produce statistical confidence intervals, we rely on statistical measures to generate the high and low growth forecasts. There are alternative means of creating high and low growth forecasts which are scenario based. We have opted not to use the scenario approach[11].

As the recession fades from memory, long-term growth factors that include population growth, productivity, GDP and consumption spending and domestic investment assumptions begin to exert greater influence on the regional forecast. On a global scale, exchange rates, interest rates, and relative growth potentials between the U.S. and its chief competitors also begin to play a larger role in influencing long-term employment growth of the region.

[11] The Metro Council directed staff to develop a probabilistic population model and forecast. The Council, on its own, deemed that a forecast that utilizes a statistical inference approach for generating valid confidence intervals for population would better serve their needs in the deliberation of UGB management decisions. It was stated by a panel of forecasting experts that a range forecast approach would help provide the Metro Council with flexibility in recognizing the inherent forecast risks and uncertainties in UGB planning.

The following table illustrates the range of employment growth rates for key industries in the Portland region. Although the forecast counts on certain long-term trends to be major drivers of regional employment growth, there still remains some uncertainty of the actual growth trends of these global and national economic variables. Thus the annualized percentage growth rates that approximate a 90 percent confidence interval for individual sector-by-sector growth for the high and low growth forecasts are shown.

Annualized Wage & Salary Employment Growth Range (%APR): 2008 to 2040

Industry Sector (NAICS)	High Growth Rate	Low Growth Rate
Nonfarm total employment	1.8%	0.7%
Manufacturing, total	0.6%	-1.1%
Durable Goods, total	0.6%	-1.2%
Wood Products (321)	0.2%	-1.8%
Primary Metals (331)	-0.8%	-3.7%
Fabricated Metals (332)	-0.1%	-0.9%
Machinery	-0.5%	-1.0%
Electronics	1.0%	-0.9%
Transportation Equipment	0.7%	-1.5%
Nondurable Goods, total	0.4%	-0.8%
Nonmanufacturing, total	2.0%	-0.9%
Construction	2.0%	-2.5%
Wholesale Trade	1.5%	1.2%
Retail Trade	1.0%	0.2%
Transport., Warehousing, Utilities	1.7%	1.4%
Information Services	2.2%	0.5%
Financial Activities	1.8%	1.2%
Business Services	2.4%	0.6%
Education & Health Services	2.7%	2.2%
Leisure & Hospitality	1.6%	1.3%
Other & Personal Services	2.4%	1.1%
Government, civilian total	1.1%	0.8%
Federal	0.0%	-0.2%
State & Local	1.3%	1.0%

In the medium baseline forecast, total nonfarm wage and salary employment is expected to have an annual average growth rate between 2008 and 2040 of about 1.3 percent; total manufacturing of -0.2 percent; private non-manufacturing of 1.5 percent; and state & local government of 1.1 percent. More and more of the region's job base is expected to switch to population serving growth sectors. This translates into relatively faster employment growth in nonmanufacturing sectors and government. This economic trend is exhibited in the forecast ranges.

In the medium baseline forecast, the share of manufacturing jobs in 2008 is about 12 percent of all nonfarm employment in the region. By 2040, this share drops to eight percent. Manufacturing has a total in 2008 of about 142,000 employees. Manufacturing employment levels are expected to decline in the medium scenario to almost 134,000 jobs. A steeper decline in regional manufacturing jobs is offset by growth projected in the region's high tech electronics industries. This differs from national assumptions which call for a decrease in high tech employment levels in the future.

Most manufacturing subsectors in the region are expected to see little growth or expansion through 2040. This trend mimics the general tone of the U.S. manufacturing sector, except that the Portland region's overall decline is less steep than anticipated at the overall national level. Close to 4 million American manufacturing jobs are projected to disappear over the next three decades as the nation continues to transition towards fewer domestic manufacturing activities. The average rate of employment deceleration for the U.S. is -0.6 percent according to the national forecaster – Global Insight.

The regional forecast analyzes and projects the baseline regional forecast for both population and employment. The reason for this is that the ranges which we define to be 90 percent confidence intervals are spawned from the baseline trends projections. The baseline employment forecast and the baseline population forecast determine the projected midpoint of the range and represent the value that is statistically the most likely representation of future trends. In a statistical sense of a "bell-shaped" distribution, the baseline regional forecast values provide the "mean" for the bell shaped range forecast distribution.

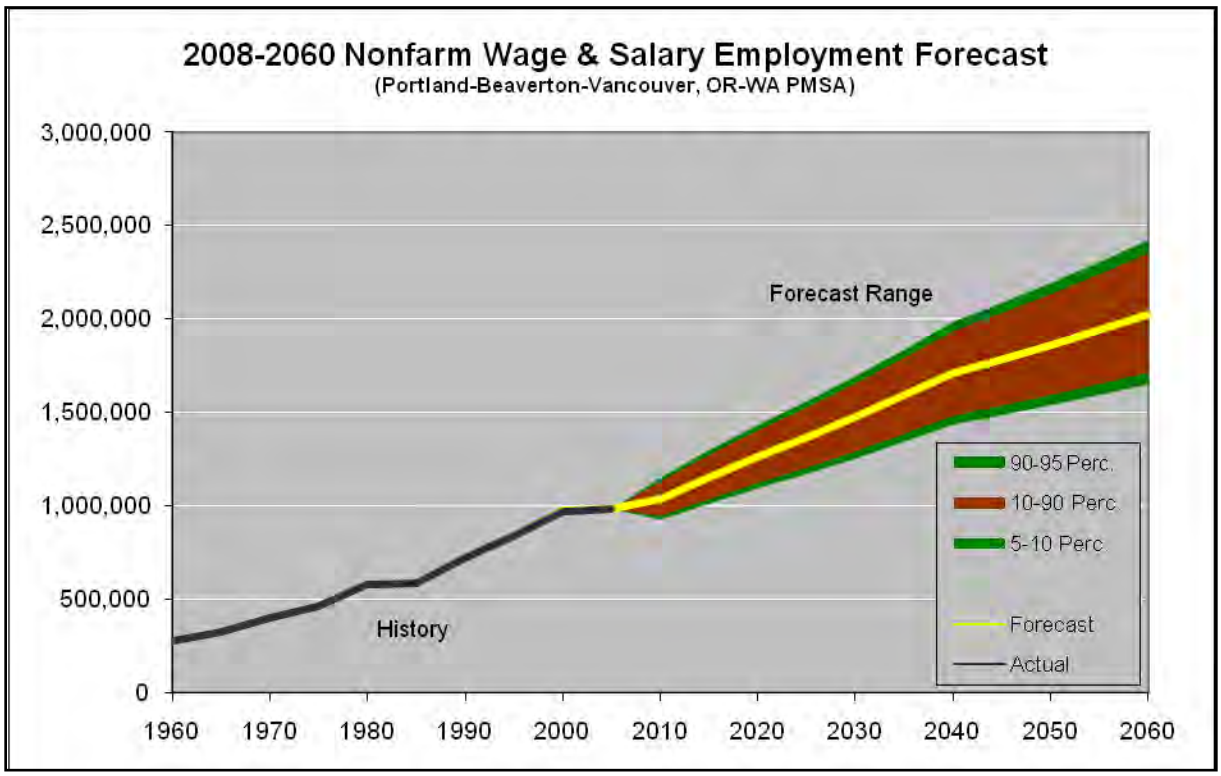


Chart Notes:

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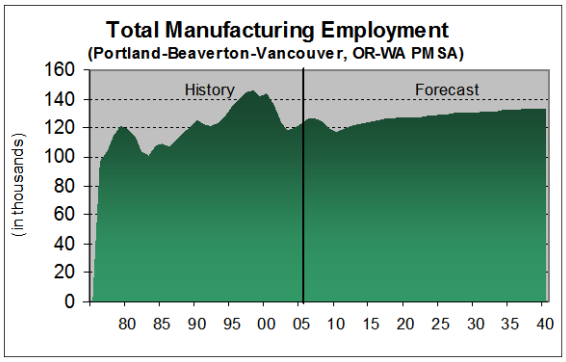
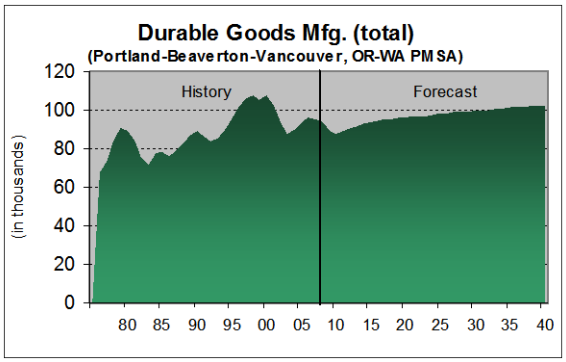
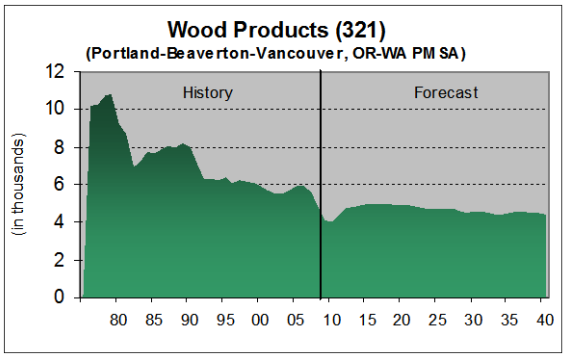
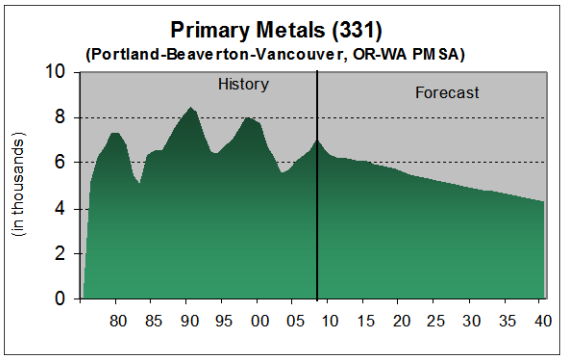
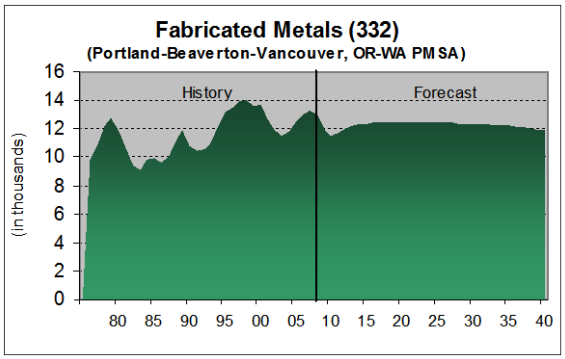
Durable Manufacturing Industry Trends

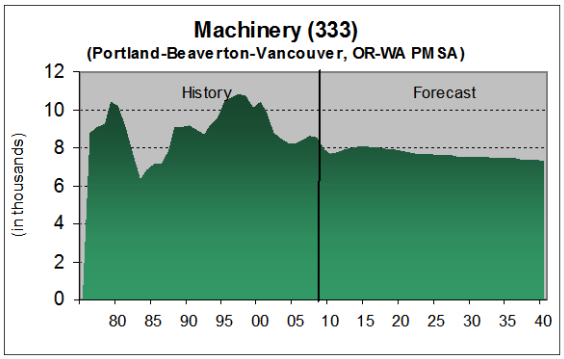


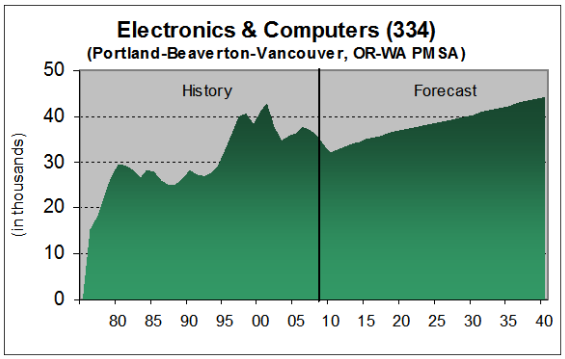


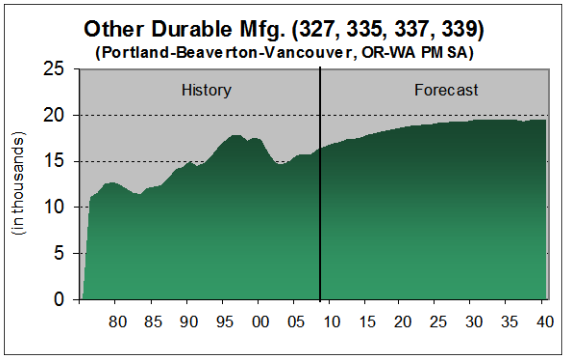




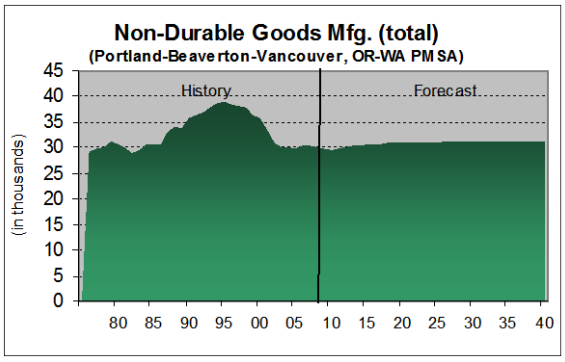


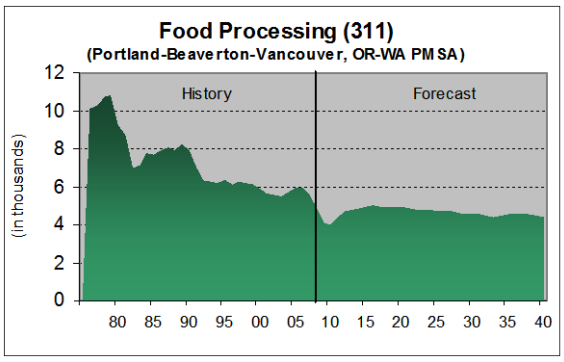


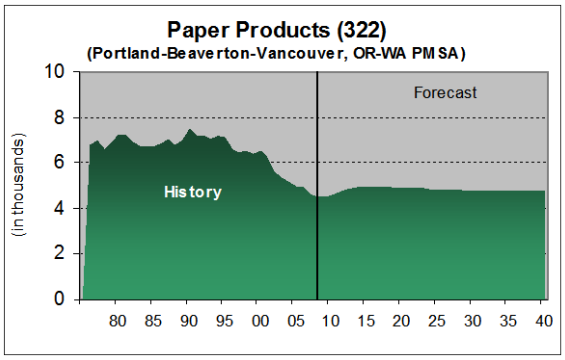


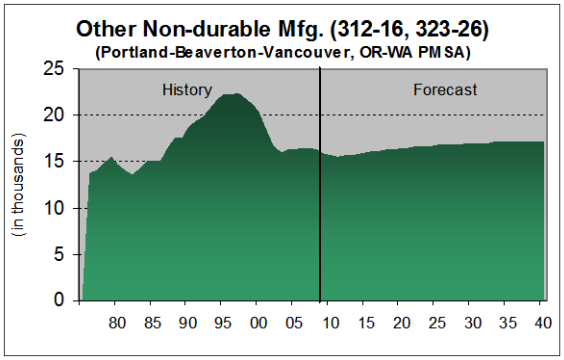


Non-durable Manufacturing Industry Trends









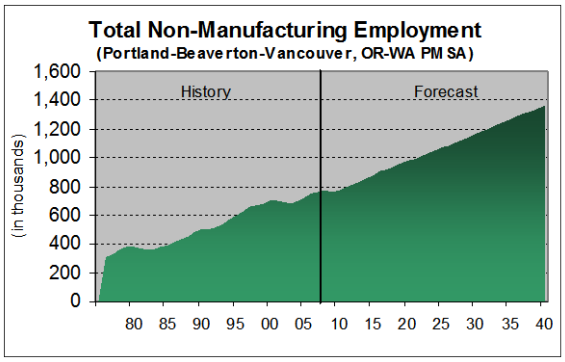
Manufacturing employment is expected to modestly rebound from today's recession battered levels. The sector will be slow to recover to its pre-recession employment levels nor is the sector expected to return to job levels last seen during the mid-1990's. Any anticipated expansion will be muted during the recovery and few strong employment prospects are expected during the long-term.

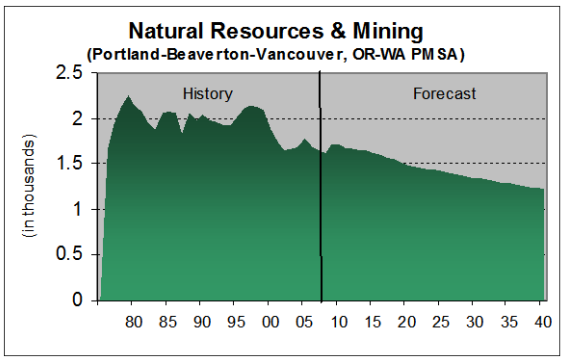
Job growth across the majority of the industry sectors in manufacturing will be constrained by overseas competition, higher productivity (which means employers won't need to hire as many people to produce the same or more output / revenue), and overall migration of jobs from manufacturing to office related occupations.

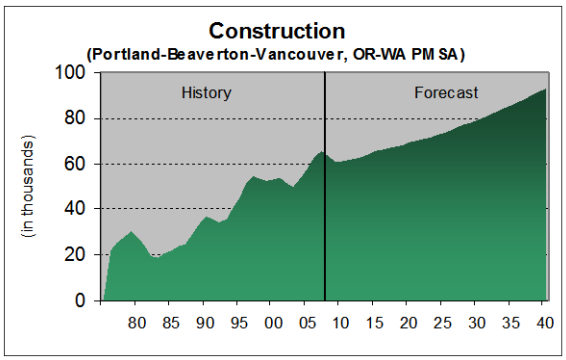
In particular, conservation concerns and resource constraints will likely continue to limit further employment prospects in resource-related sectors. Industry subsectors such as mining, paper, metals, and timber products are expected to see long-term declines as productivity levels rise and competition from foreign sources drives these jobs overseas. Higher wages in the U.S. and lower real wages abroad are market forces commonly cited as reasons for the migration of manufacturing activities to overseas locales. Also, more emphasis on environmental issues will likely push more domestic manufacturers to seek more hospitable economic conditions elsewhere.

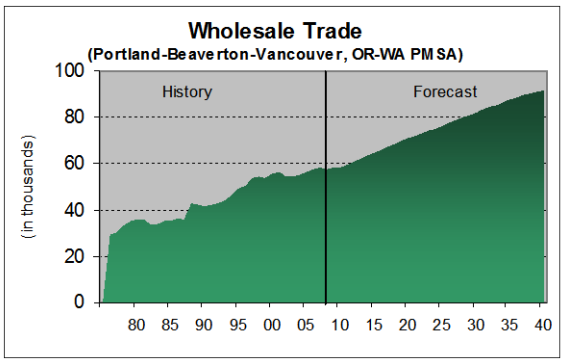
Based on current assumptions, the electronics and computer sector is expected to see modest growth rates, but even this growth is tempered by the same global economic forces that erode the employment outlook of national and other regional manufacturing sector outlooks.

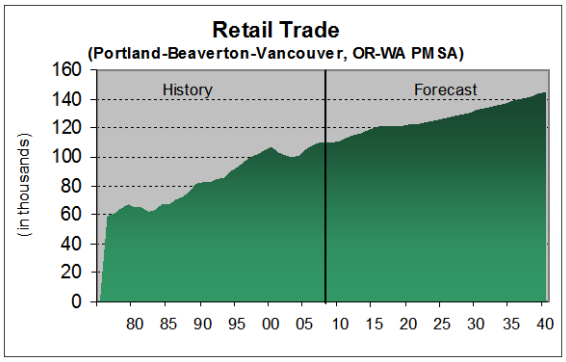
Private non-manufacturing industry trends

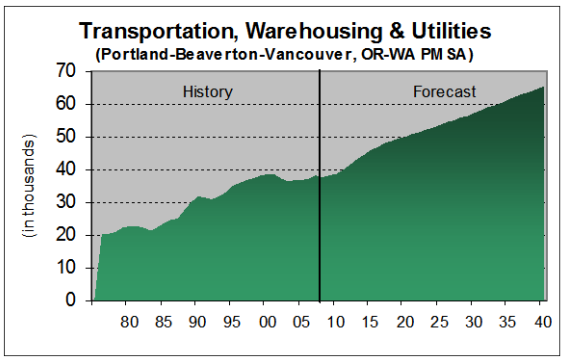


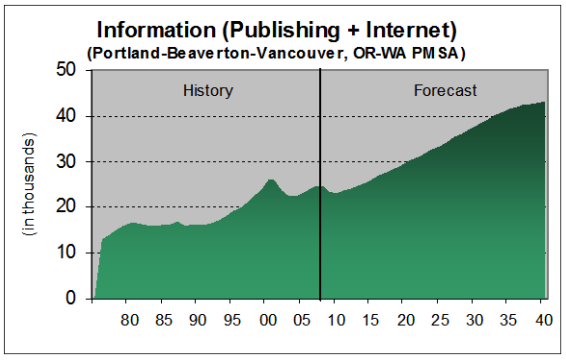


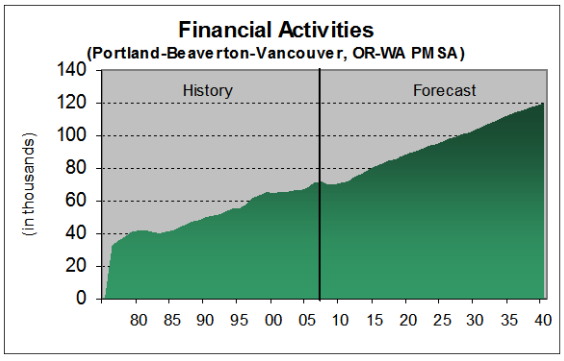


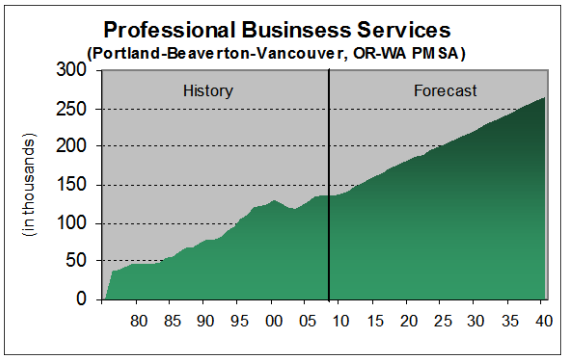


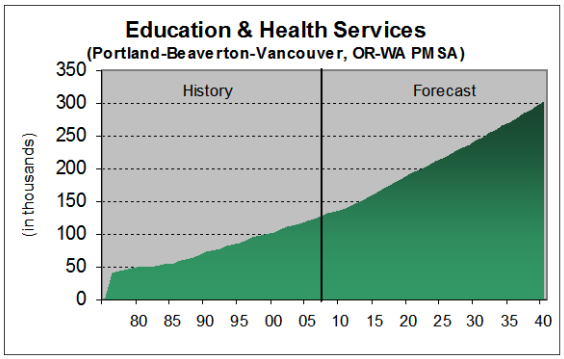


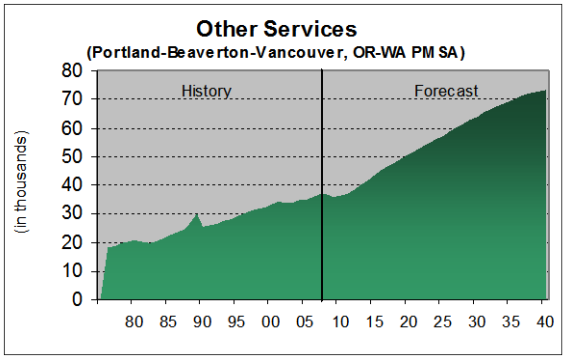










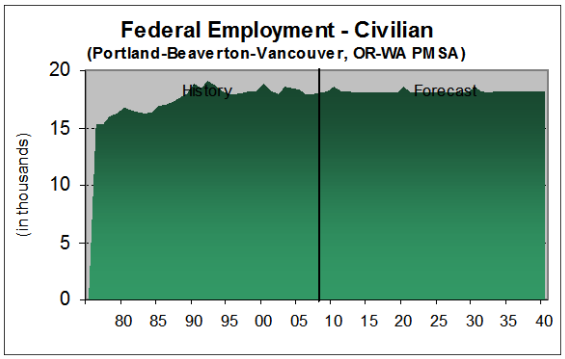


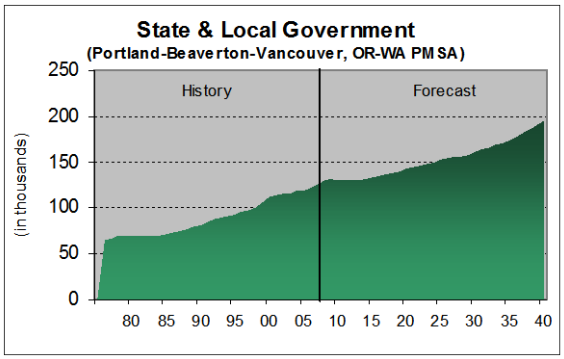
The non-manufacturing sector will see moderate job growth over the next several decades as the U.S. and regional economies transition from a manufacturing-driven economy to one focused more on service sector growth. Non-manufacturing sectors will employ over 85 percent of workers in the future. Some sectors, such as warehousing & distribution, wholesale trade may diversify even more so than today to become “traded sector” industries. In the future, more goods are expected to be produced overseas. If the Port of Portland can emerge from global competition to become a primary point of entry for international trade, the regional economy may be poised to see even more job growth in logistics related industry sectors.

Population serving sectors will see employment levels rise as the resident population of the region naturally matures. Education and health services will rise relatively faster than other industry sectors due to an aging population base and relatively faster population growth in the younger age cohorts as compared to the working age population. Finance activities, retail trade and other personal and household services will generally be expected to trend with population growth.

The region will see relatively faster job growth in professional, technical and business services as jobs that were formerly employed in manufacturing industrial sectors transition to service-related jobs that oversee technical aspects of production, research and development. Also, there will be growing demand of people to directly “broker” and oversee administrative tasks that relate to the movement and transport of goods to and from overseas manufacturing plants.

Government employment trends

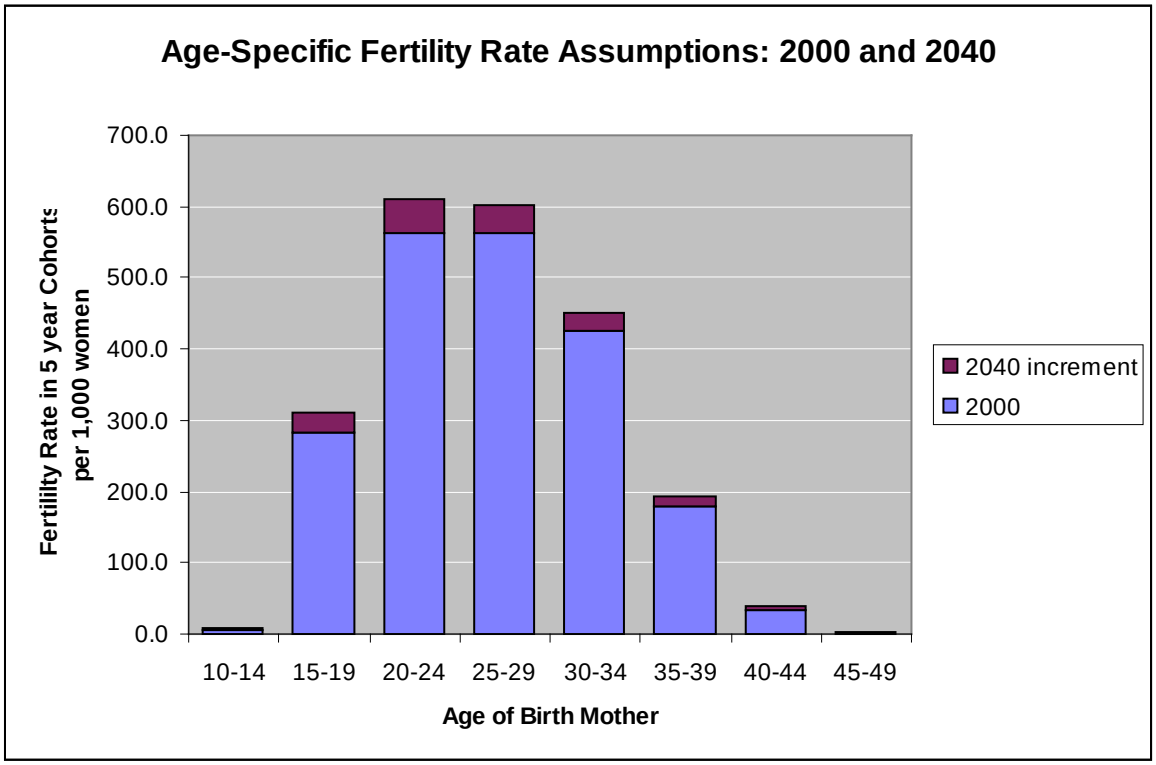




The government sector is anticipated to see relatively modest job growth that is in keeping with the population trends projected overall for the region. State and local government spending and consequently employment growth will be limited by general population growth and revenue collections. The region has never been a focal point for federal employment and that condition is not expected to change in the future. The number of federal jobs nationwide and regionally are expected remain unchanged.

Population and demographics

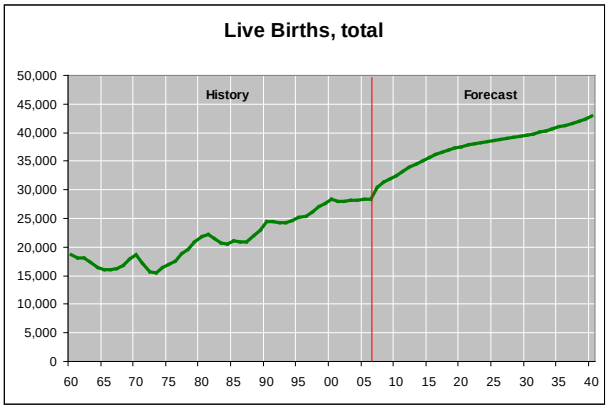
This section describes the demographic components that go into the population and growth projections.

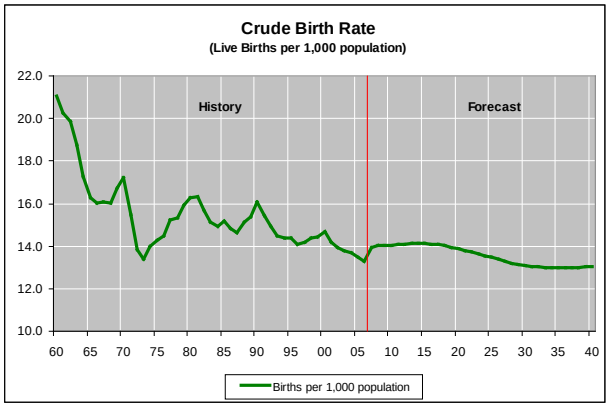


Age-specific fertility rates are calculated by dividing the number of live births in each age five-year cohort by the total female population (in thousands) in each age group. Age-specific fertility rate

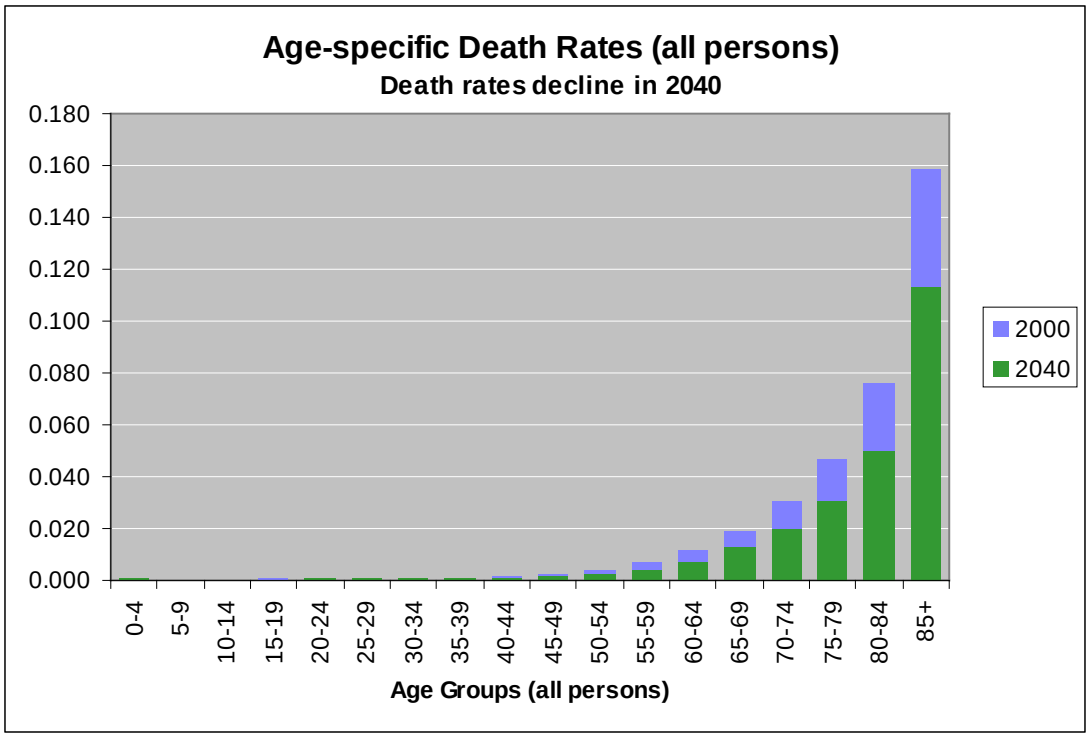
projections for the region are derived from the Census middle series assumptions and calibrated to recent regional live birth information. Female fertility rates are highest for women of childbearing ages between 20 to 29 years old and begin to taper off rapidly after age 34. The blue bars indicate the fertility rate measured for women in year 2000, while the 2040 increment represents the change by 2040 (i.e., the incremental difference between 2000 and 2040.) Summing together the age-specific fertility rates equals the total fertility rate for the average female.

The total fertility rate is the average number of children born to an average woman over the course of an average lifespan. This rate increases slightly over the forecast period. However, because of the structure of the US population and aging of it, there will be proportionally fewer women of childbearing age in the future and thus the birth rate is expected to decrease during the forecast period. The birth rate is the ratio of live births to total population. In other words, each woman is expected to have incrementally more children than compared to women today, but the total number of these births relative to total population is expected to taper off compared to historical rates.



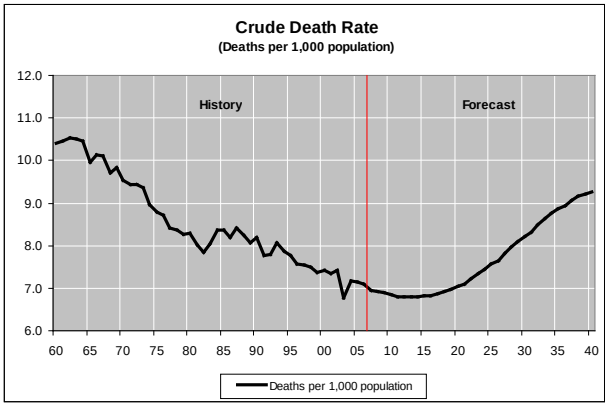


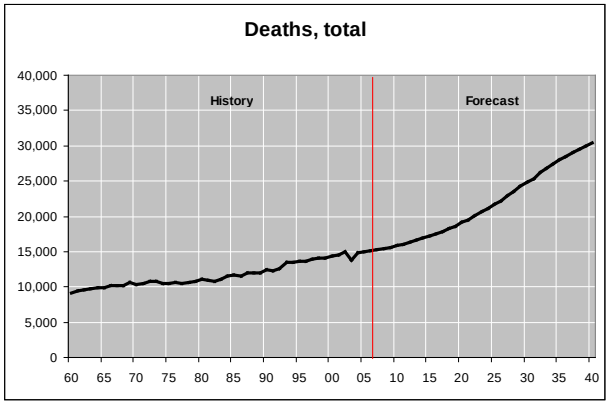
In a similar fashion, age-specific death rates are derived from Census life expectancy tables and calibrated to recent regional mortality rates. These rates are shown as age-specific death rates for all persons (regardless of race and sex – although we recognize that there are differences, we have taken a composite of these differences to create an average of death rates by age).



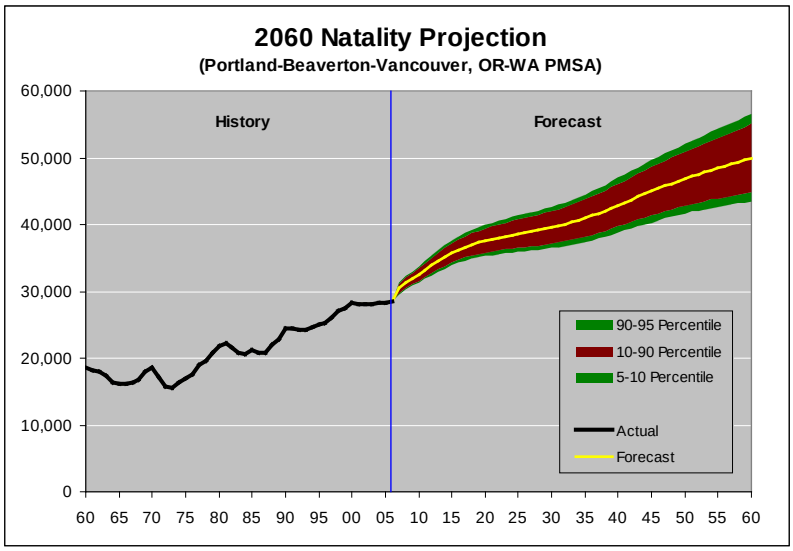
The height of each bar represents the proportion of persons in each age group who pass away each year. Life expectancies are expected to improve in the future and thus the 2040 age-specific death rates (shown as green bars) for all the age groups are lower than the year 2000 bars. For example, by the time a person reaches 85 years old in year 2000, he/she will see 16 out of 100 of his/her cohorts pass away before reaching the next birthday. As life expectancies increase, by 2040 this rate decreases to about 11 out of 100 of his/her cohorts passing away before reaching the next birthday.

However, because the average age of the population is expected to rise in the future (i.e., the graying of America), the crude death rate in the region is also expected to rise over time. Total deaths rise with increasing number of people residing in the region and as the baby boom generation grows increasingly older.

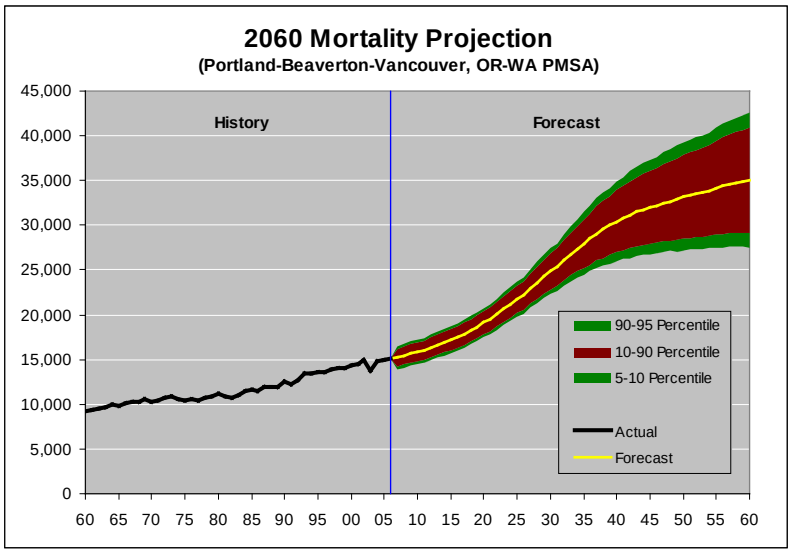




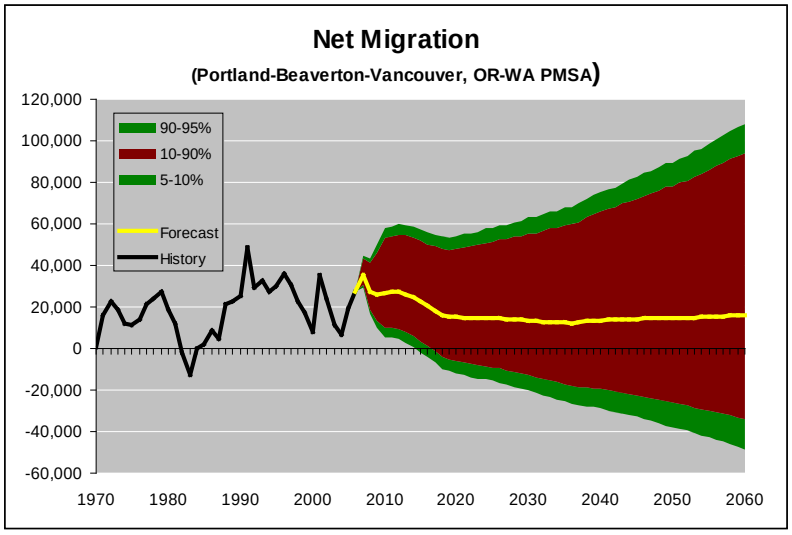
Range Forecast Projections for each Demographic Component



Resident live births for the Portland region are expected to increase as the population base rises. Age-specific fertility rates increase slightly during the forecast, but overall birth rates (i.e., live births divided by total population) is expected to decline slightly.



Resident deaths for the Portland region are expected to increase as the population base rises. Age-specific death rates are expected decline as life expectancies improve during the forecast. Overall number of deaths will grow because of the rising size of the region's population and the march of time takes its toll on the baby-boom generation.



Migration levels fluctuate wildly with changes in economic growth in the region. Future migration rates tend to duplicate the historical average level due to moderating economic trends forecasted both nationally and regionally. Large migration swings are not apparent because business this is a trend forecast devoid of cyclic fluctuations.

Putting it all together, births minus deaths plus net migration yields the population forecast. There is little cyclical swings projected in the population (and employment) forecast for the Portland region because the forecast follows the expected trend laid out in the Global Insight national macroeconomic forecast. The national forecast from Global Insight "plays out" the current recession and subsequent uptick. These fluctuations show up in the regional forecast, but in the long-term, the trends smooth out. This trend attempts to get at the underlying economic and demographic trends – leaving out only the economic up-swings and recessions that may arise in the future. For long-term planning, the base trends are what is important. Attempting to forecast business cycles is likely impossible to predict with any certainty, but the trends without peaks and dips provide useful economic planning insight for planners and decision makers.

2060 Population Forecast Revisions

Of significant note, the population projections from Global Insight are higher as compared to forecasts of a year ago. On August 14, the Census Bureau released new population projections going out to 2050. Global Insight incorporated these updated revisions into the U.S. forecast over 2018-38. As a result, the population in 2038 is 397.6 million, compared with 389.4 million in a prior forecast almost year earlier. These projections are based on new demographic assumptions from the Census for birth rates, death rates, and immigration rates.

The difference in the current U.S. population demographics is carried into the regional population forecast. The population components have been updated with new long-term Census assumptions. Also, the current regional population forecast includes near term adjustments due to the on-going recession effects on regional population growth. The result is near term population is slightly lower in the current forecast as compared to the May 2008 2060 Population Forecast, but by 2020, the technical adjustments proposed by the Census Bureau's release of new population projections bumps up the growth trend for the region's population projection. By 2040, for example, the region's total population reaches 3.372 million residents in the current forecast as compared to 3.254 million residents in the May 2008 forecast. This is for the baseline. The forecast ranges have also been adjusted accordingly to maintain consistency with the long-term range of uncertainty.

Forecast methods

This regional forecast range for the 7-county PMSA was developed using multiple methods. The forecast has two distinct future years as endpoints – 2030 for the Urban Growth Report analysis and 2060 for setting the stage for analyzing urban and rural reserves. This forecast by itself does not distribute the regional employment and population forecast to counties or subareas. Different methods are employed to forecast regional population trends and regional employment trends. However, the methods are not independent. They recognize the inherent interaction and feedback between population and employment growth and thus the regional forecast for employment and population are prepared jointly. This section briefly describes how each piece of the regional forecast and range were prepared.

Summary of forecast methods

	2030 Forecast "base case"	**2060 Forecast "base case"**	**High/Low Range Forecast**
Population Forecast	1) Regional econometric model – embedded with a cohort component population model	2) Extrapolation of the base case regional population forecast using national population growth rates	3) Probabilistic model using Monte Carlo simulation technique
Employment Forecast	4) Regional econometric model – assumes Global Insight 30-year US projections to drive regional growth trends to year 2040	5) Assumes fixed employment-population ratio trends that converts the 2040 to 2060 population forecast into employment	6.1) High and low range values that correspond to roughly a 90% confidence interval are calculated from the econometrically derived standard deviations at the industry-level. This pertains to the forecast through 2040. 6.2) For 2040 to 2060, assumes fixed employment-population ratio trends that converts the population forecast into employment

Table Notes:

1. The March 2009 regional population forecast - described as a "medium or baseline" scenario – was produced jointly with Metro's regional macro-economic model projections which include forecasts for regional employment and income. The "baseline" population forecast was developed using traditional cohort component modeling methods. This approach ages the population base sequentially for each age group and across future years. This forecast approach required detailed estimates of future birth rates and death rates for regional residents. These demographic forecast assumptions (e.g., birth rates and life expectancies – by age) were derived from the latest U.S. demographic projections and adjusted to reflect inherent differences between regional and national rates using vital statistics provided by the state health departments in Washington and Oregon. The birth rates indicate how many newborns to expect from residents of the region while life expectancy assumptions anticipate the survival rate of existing and newly arrived residents to the region (the region being 7-counties). Migration is the 3rd component to the cohort modeling approach. Migration provides the joint linkage between economic growth and population growth in the region. Hence, the regional population projections were done jointly with the econometric forecast to explicitly account for growth feedbacks between expected employment trends and population growth trends. The principal mechanism for the feedback from employment / economics to population growth is regional migration. The forecast structure anticipates population growth to grow faster when migration rates increase. Migration increases in the econometric model are relatively stronger growth rates between regional economic vs. national economic trends. We are able to forecast population growth out to year 2040 using the joint econometric model and cohort component model. For purposes of the UGR, this forecast may be truncated to 2030 to conform to the 20 year land need as stipulated under Oregon statutes.

2. The region's population total is extrapolated out to year 2060 using as its starting value the 2040 population forecast as derived from the econometric model and cohort component method. This extrapolation is based on a compounded fixed annual growth rate from the latest national population forecast trend from the U.S. Census and Global Insight. The U.S. population growth rate from 2000 to 2040 is 0.92 percent average per year. The annualized rate projected for the Portland 7-county PMSA region for the period 2000 to 2060 is 1.2 percent per year overall, but for the period 2040 to 2060, the extrapolated rate assumed was 0.85 percent – a bit slower to reflect how population growth nationwide is expected to taper off farther into the future[12]. The region, as a part of the U.S., is expected to see its population growth rate taper down along with the U.S. overall population trend.

3. A population range with a statistically generated confidence interval (i.e., a 90 percent confidence range) was developed around the base case econometric population forecast and the extrapolated population extension that goes out to year 2060. A Monte Carlo approach

[12] The appendix of this report lists several alternative U.S. population forecasts including the Census, Global Insight, Pew Research Center, United Nations and World Bank. For latest Census U.S. population estimates, see: http://www.census.gov/population/www/documentation/twps0038/tabA.txt .

using statistical simulation software that generated a sample draw of 10,000 alternative future population scenarios was used to generate high and low regional population ranges. The 5 percent samples on the high and low-end of the normally distributed population forecasts were discarded leaving a 90 percent confidence interval or range that we assume represents a credible population range that describes probable region growth. How this simulation works is that each age-adjusted birth rate is assigned a probable sample distribution – as there are "40 age groups" assumed to be of childbearing age (ages 10 to 49) and over 50-plus years we forecast into the future, the matrix for these sampling distribution sums to over 2,000 probabilistic random variables that are used in each of the 10,000 sample draws. Similarly, there are "85 age groups" that have age-adjusted death rates arrayed over the forecast period as survival rate functions (i.e., life expectancy); that is each of these 85 ages has a unique survival rate through the entire 50-plus forecast years. The matrix for the sampling distribution totals to over 4,250 separate survival rate distribution for each of the 10,000 Monte Carlo simulations. The matrix for predicting migration by age also totals to over 4,250 probabilistic distributions and also is subject to the 10,000 sample draws that create the population range forecast. Each of the sample distributions for births, deaths and migration culminate together to generate 10,000 separate population projections that form the basis for the population range and confidence interval.

4. The regional economic (employment) forecast – "medium" or "baseline" scenario – was produced using Metro's regional macro-economic model. The baseline regional forecast begins in year 2008 and extends out to 2040. For purposes of the UGR, the employment forecast can be truncated to year 2030. The national and global assumptions behind this forecast were based on the U.S. macro-economic outlook from Global Insight's 30-year national forecast. (The assumptions behind the U.S. forecast are detailed in a subsequent section of this report.) The econometric model forecasts region-wide employment growth by industry sector. These sectors are defined by the U.S. Bureau of Labor Statistics (BLS). Industry details are arrayed by the North American Industrial Classification System (NAICS) and the industry details are limited in the regional econometric model to the degree that industry disaggregation is permitted under federal privacy / disclosure regulations. (For a list of industries, please see the data appendix for the employment forecast.)

5. A "base case" employment forecast that extends from 2040 to 2060 is generated using a fixed employment-to-population ratio (e-p). An implicit ratio calculated from the econometric-based population and employment forecast for year 2040 is assumed for later years. In the base case, the 2040 e-p ratio is 0.51. What this translates to in the future is that one-half of the population is expected to hold down a job.

6. The regional employment forecast for the "base case" is extrapolated from the econometric model out to the year 2060. The beginning year of this extrapolation is 2040. In the extreme long-term, we anticipate employment changes to mirror closely the growth trends of population growth. In order to be consistent, the approach we opt for forecasting future employment trends to year 2060 is to utilize a ratio of employment-to-population (e-p ratio). The e-p ratio is

fixed at the 2040 level for each scenario for each subsequent year post-2040. The e-p ratio that converts the 2040 to 2060 population numbers for the low, medium and high growth scenarios are 0.46, 0.51, and 0.55, respectively.

Historical e-p ratio from 1960 to 2000

	1960	1965	1970	1975	1980	1985	1990	1995	2000
Empl.	882,231	989,200	1,081,978	1,192,500	1,341,542	1,391,424	1,523,741	1,749,224	1,927,881
Pop.	279,315	329,203	400,366	465,268	582,663	587,977	726,818	841,682	973,230
e-p ratio	0.317	0.333	0.370	0.390	0.434	0.423	0.477	0.481	0.505

Long-term Population and Household Trend Projection Details

The population range forecast is the basis for estimating household change in the region. The high-growth population forecast translates into a high-growth household forecast, and so on.

The population forecast by virtue of using a Monte Carlo simulation approach to the cohort-component method of population projections provides a population forecast by individual ages. This "population pyramid" affords us the ability to apply age-specific headship rates that converts the population forecasts by age into future household estimates by age. The table below illustrates the population to household conversion factors.

Age-Specific Headship Rate Assumptions

	2010	2020	2030	2040
15 to 24 year olds	0.184	0.184	0.184	0.184
25 to 34 year olds	0.471	0.471	0.471	0.471
35 to 44 year olds	0.550	0.550	0.550	0.550
45 to 54 year olds	0.575	0.575	0.575	0.575
55 to 64 year olds	0.584	0.584	0.584	0.584
65 to 74 year olds	0.623	0.623	0.623	0.623
75 to 84 year olds	0.660	0.660	0.660	0.661

Source: Metro Research Center, adapted from U.S. Census and Global Insight

Each age group is expected to have different rates of household formation. As people age, a greater proportion of them are expected to form families and non-traditional households. Although these rates may change over time, we have little econometric evidence to support changing these values at this point. There may be evidence in the future that these rates should be changed subjectively, we prefer to stay with what we know today.

The end result of this conversion and summing together and dividing total households into total population provides a quick summary of how the composition of households are expected to change. The U.S. Census reported that the average household size of Portland area residents was about 2.59 persons per household. The arithmetic of an aging population – one that has proportionally fewer people being added to the young working age population cohort – begins to slowly reduce household sizes. Older households tend to have or add fewer children. Older households eventually become single-

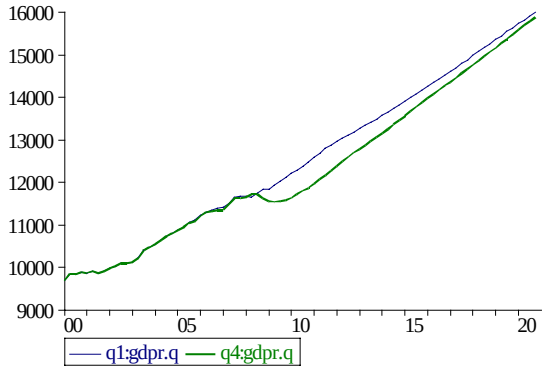
person households as one of the spouses or partners becomes deceased. As a result by 2030, the regional forecast has average household sizes decreasing to 2.46 persons in each household.

Impact of recession on the forecast

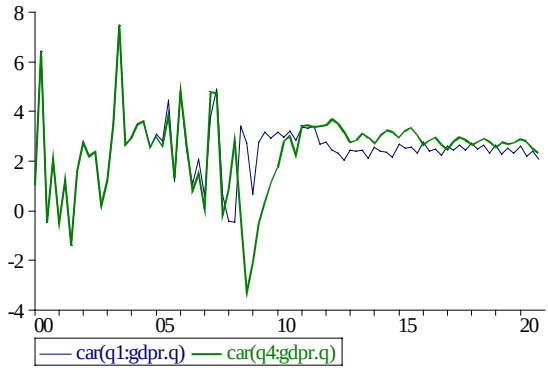
This overview compares the first and fourth quarter U.S. Outlook prepared by Global Insight. For our purposes, we assume that the Q1 2008 Global Insight U.S. forecast is a "pre-recession" trend projection while the Q4 2008 Global Insight U.S. forecast fully anticipates the extent of today's economic downturn. The Global Insight (GI) forecasts have a direct impact on the baseline Metro regional economic and population projections. The following charts outline the change to a recession growth profile for the U.S.

Note: 1st Quarter trends are marked in blue and 4th Quarter trend projections are in green.

Gross Domestic Product – Inflation adjusted

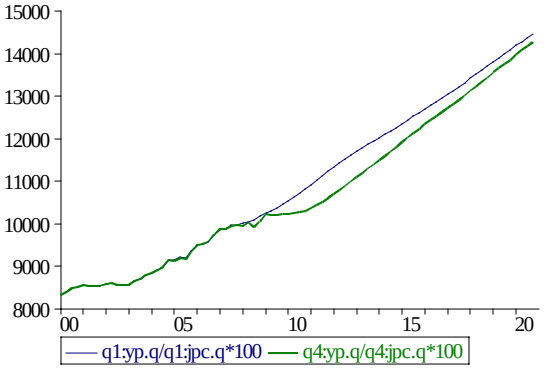


GDP – Annualized Growth Rates (in %)



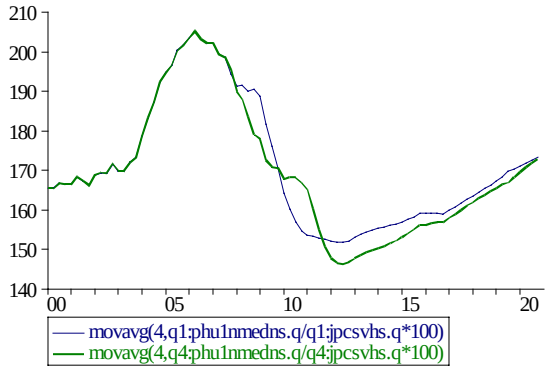
- GDP growth (in left chart– in $millions) takes a severe hit in 2008 and 2009 due to a collapsing housing market, financial meltdown on Wall Street and ensuing credit crunch that is spreading the contagion throughout the industrial, service and retail sectors.
- This recession will be the deepest in 20 years, but GI anticipates a stronger rebound than the jobless and joyless recoveries experienced after the last two mild recessions (1990-91, 2001-03).
- GDP growth begins to rebound in 2010, but growth still lags behind the pre-recession growth trend until after 2020. Real GDP will average 2.5% per year in 2008-38 (History: 3.1% [76-07]).

Personal Income also slowed by the recession (chart in $ millions).



- Consumers are expected to take a pretty strong beating in the latest GI forecast – reflected by much lower GDP and personal income growth projections.
- Retail sales, wholesaler and distribution activity, and service sector employment demand in the Portland region is expected to see substantially lower employment trends and growth rates due to a national forecast that reflects the malaise and lingering after effects of a recession that continues to worsen.

U.S. Housing Prices – Inflation adjusted median single-family housing prices take a sharp plunge



- The recession started with the piercing of the housing asset bubble which had been created by over exuberant lending and loose mortgage standards.

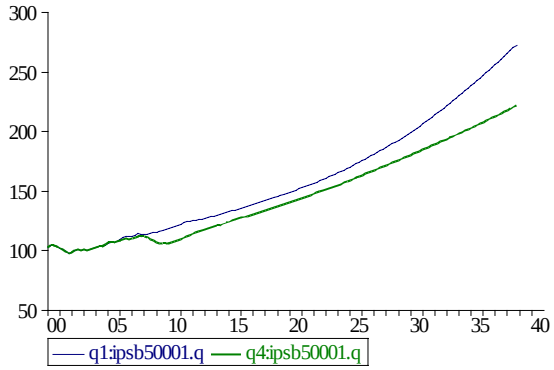
- The latest GI forecast foresees housing prices still having a ways to fall before reaching bottom.

- The Portland region has yet to suffer the full brunt of the recession, and in terms of the Portland economy, the worst is still to come. Portland has so far skirted the worst of the asset deflation and subprime mortgage debacle, but a worsening U.S. economy has spread into manufacturing and the retail and services sectors. Tight credit is hurting Main Street businesses and consumer spending. Slow sales are causing Portland area businesses to slash payroll in hopes of limiting operating losses.

- Demographic transition (older average population) will dictate slower growth of the housing stock and also produce less upward nominal price pressures (history: 5.8% vs. forecast: 2.5%)

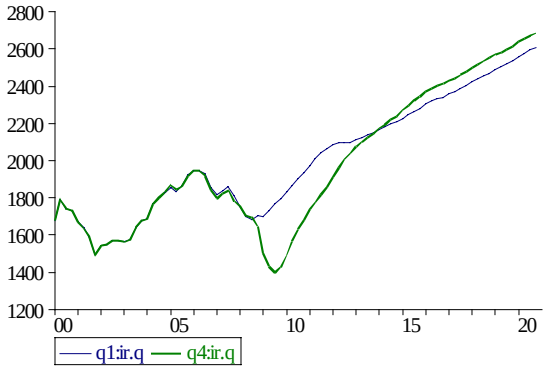
Industrial Production – index of U.S. activity

Chart Index: 2000=100



Investment - inflation adjusted is sharply reduced

Chart in $ millions



- Banks aren't lending in the current credit crisis. Stifled by a lack of available credit to finance ongoing operations, production levels are being slashed across all major sectors.

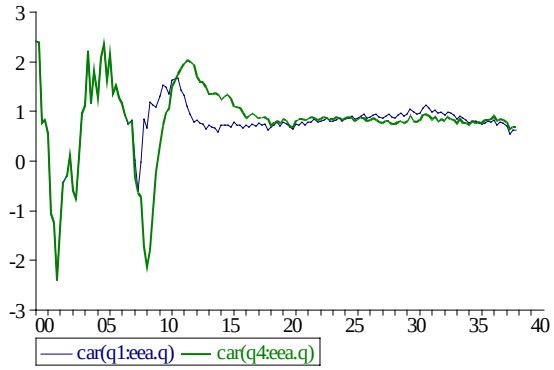
- Lack of credit is also expected to sharply reduce investment in the short-run until bank lending thaws.

- Manufacturing output in the latest national forecast calls for a dip in real activity and for lower production levels; this is expected to persist due in part to lower investment expenditures that reduce productivity over the long run.

- Domestic investment in plants and equipment are lower in the latest forecast, but investment levels are eventually expected to return to trend by 2014.

- Productivity, a key to long-term GDP growth potential – is expected to rise an average of 2% annually as compared to historical experience of 1.8% (1977-2007) per year.

U.S. Employment across all sectors are impacted by lower growth expectations – chart measures annualized growth rates for nonfarm wage & salary payroll employment



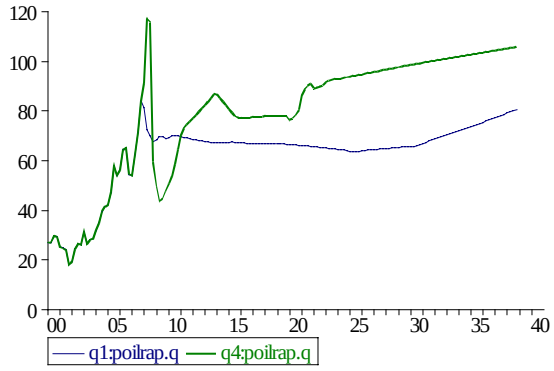
- Unemployment continues to rise as employers slash payroll expenses and trim other operating costs.

- Recession is expected worsen – driving employment lower for the remainder of 2008 and into 2009. Job growth in 2010 will turn positive, but remain sluggishly slow.

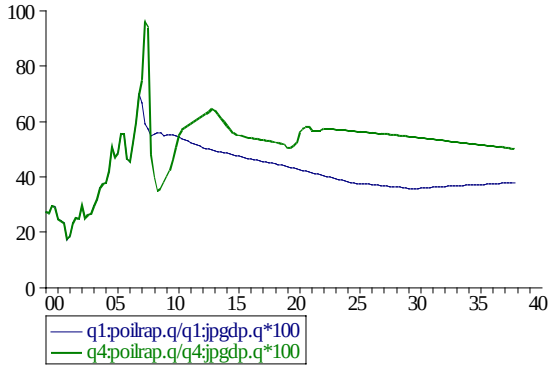
- Employment levels won't recover to pre-recession levels until 2011 and won't rebound to the long-term pre-recession growth expectations until 2020.

- In so far as the region is concerned, construction, manufacturing (particularly lumber and wood products), and temporary service employment –in this order – have been the hardest hit up to this point in the downturn.

Nominal Petroleum Prices ($ bbl)



Inflation Adjusted Prices ($ bbl)



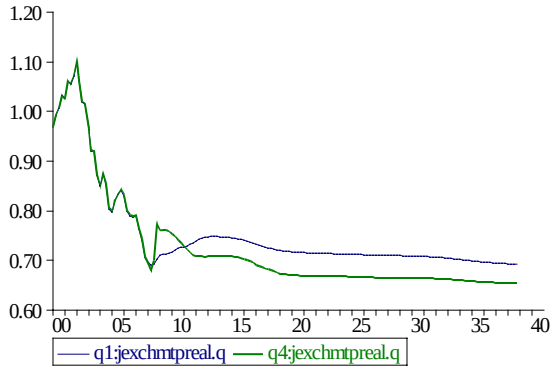
Global Insight has substantially revised its trend projections for future oil prices …

- Predicting more price volatility in the short run to emulate the U.S. recession and falling worldwide demand for crude.

- GI anticipates more mid-term fluctuations before settling into steady nominal price appreciation over the long term.

- Overall, real oil prices decline slightly, but remain high by current historical standards – this recognizes the greater supply and demand uncertainties extending into the future and that have roiled oil markets particularly last July when the price rose above $147 / bbl.

US Exchange currency rate index with major international trading partners (2000=1.00)

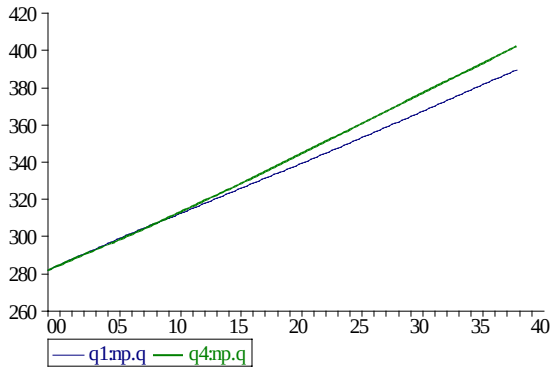


- Recent corrections in the exchange rate have helped U.S. imports (making goods we buy from abroad cheaper), but over the long term, GI predicts the exchange rate to weaken and settle back to a pattern of exchange rates prior to 2008.

- Lower U.S. exchange rates when they finally arrive will again help U.S. exports.

- However, too low of an exchange rate may make foreign investments in the U.S. riskier and less attractive.

U.S. Population forecast revised higher by Census



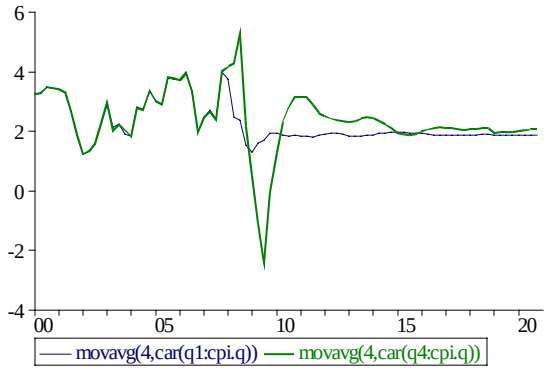
- Census expects more people, older average age, and higher proportion of non-white residents.

- Latest U.S. population projection is consistent with Census Bureau middle-growth forecast which assumes:
    1. Fertility rate of 2.1 births
    2. Life expectancy of 79 years for men and 84.8 years for women
    3. Immigration trend growing to 1.338 million in 2010, 1.473 million in 2020 and 1.664 in 2030

- Revised annual average population growth is now up to 0.9% APR from 0.8% APR found in the Q1 2008 U.S. forecast.

- By 2040, Census predicts that more than half of U.S. residents will be non-white. U.S. population will exceed 400 million residents by 2040. Share of 65-and-older population will rise above 20% from 12.6% in 2007.

Long-term inflation expectations are virtually unchanged between 1st and 4th Quarter U.S. Forecasts



- Don't expect any fundamental changes in inflationary expectations.

- After playing out the latest business cycle, GI anticipates a return to stable price changes in the neighborhood of 2 percent annual inflation rate.

- Monetary policy is anticipated to reinforce a steady-state rate of inflation by neither being overly accommodative in boosting economic output at the expense of risking an acceleration of inflation or overly restrictive in attempting to stabilize future prices.

- Hence in the long-run, real interest rates (long-term treasury yield) will rebound from current lows to a steady-state between 5.5% to 6%.

The U.S. and Global Macro-economic Perspective & Outlook

by

The following section contains reports prepared by IHS Global Insight.

- U.S. Forecast Flash by Nigel Gault (February 2009)
- Financial Weekly by Brian Bethune (March 2009)
- U.S. Long-term Macro-economic Capsule Summary by *Macro Staff* (November 2008)
- The U.S. Economy 30-Year Focus, The Trend Projection by Patrick Newport (December 2008)

Global Insight U.S. Perspective – February 2009

By Nigel Gault, Chief U.S. Economist and Group Managing Director of North American Macroeconomic Services

Current Economic Situation: The Obama Inheritance

President Obama has inherited an economy contracting more sharply than at any time since the winter of 1981-82. Real GDP declined 3.8% in the fourth quarter of 2008 (a decline likely to be magnified after revisions), and we expect further steep declines in the first half of 2009. The fourth-quarter contractions in much of the rest of the world—the Eurozone, the United Kingdom, and Japan—appear to have been even steeper than in the United States. President Obama's task is to try to interrupt the private sector's downward spiral by injecting demand through the fiscal-stimulus package, and by expanding efforts to shore up the financial sector and revive lending to consumers and businesses. But these measures are battling against extreme headwinds, and will take time to become effective. Their impact will grow as the year proceeds, but we still expect real GDP to fall 2.7% during 2009 and the unemployment rate to reach 9.3% by year-end.

Fourth Quarter "Flattered" by Inventory Buildup. The GDP decline was "only" 3.8%, because a 5.1% drop in final sales was partially offset by a surely undesired increase in inventories. Firms have cut production steeply, but not fast enough to prevent the inventory-to-sales ratio from rising. We expect final sales to decline less sharply in the first quarter than in the fourth, but firms will need to trim inventories more aggressively. As a result, we anticipate a 6.0% drop in the first-quarter GDP, followed by a 3.4% decline in the second quarter. We see the various stimulus efforts flattening out GDP in the third quarter and promoting modest growth in the fourth, with consumer spending picking up.

Private Spending in Headlong Retreat. For now, consumer spending is falling sharply, dropping 3.5% in the fourth quarter; we expect a 3.0% decline in the first. The decline in the labor market has accelerated; the United States lost 598,000 jobs in January, and 1.8 million over the last three months. By early indications, February looks just as bad as January. Housing starts and prices continue to retreat, although starts have now fallen so low that the bottom is probably near. Private investment in equipment and software retreated at a 27.8% annualized rate in the fourth quarter, with further, albeit less steep, declines on the way for first-half 2009. And nonresidential construction is poised to plunge this year. Exports are tumbling as world trade contracts, and we expect a 9.4% drop in volumes this year. Imports are falling even faster (down 11.8%, we
project), but while cutting imports faster than exports may dampen the U.S. downturn a little, it is not a route to recovery.

Deflation a Real Threat. There have been some signs of stabilization in commodity prices, but deflation remains a real threat. By the third quarter of 2009, we expect headline CPI inflation to be as low as minus 3.7% year-on-year, largely on lower energy costs. Core inflation has essentially disappeared in the last three months, and we see the core consumption price index rising just 0.5% year-on-year as of the third quarter, well below the Federal Reserve's 1-2% comfort zone.

Fiscal Stimulus on the Way. With private demand declining, the government is trying to fill the gap. We have assumed that the House and the Senate come to a compromise agreement on a fiscal-stimulus package valued around $800 billion. However, do not expect the package to change the picture quickly. Tax cuts can be implemented faster than spending, but will be partially saved. Spending has a bigger bang-for-the-buck, but takes longer to organize. The economy's path for the first half of this year has largely been set already. Still, a combination of fiscal stimulus and the Fed's and Treasury's efforts should revive the financial sector enough to at least stabilize the economy in the second half of 2009 and promote some recovery during 2010.

Fed Focus Shifts Away from Rates. We expect the Fed to hold the federal funds rate in its new target range of 0-25 basis points through the third quarter of 2010. Its main focus now will be on efforts to kick-start lending by bypassing the banks and providing financing directly into the mortgage, consumer, and business credit markets. These programs, which are still not fully operative, will be expanded under the latest initiative announced by the Treasury.

A Quick Look at the Numbers
(Annual rates)

	Quarterly				Annual				
	08:4	09:1	09:2	09:3	2008	2009	2010	2011	2012
Real GDP (Percent change)	-3.8	-6.0	-3.4	0.0	1.3	-2.7	2.0	3.5	3.3
Federal Funds Rate (Percent)	0.51	0.14	0.13	0.13	1.93	0.13	0.40	2.20	3.45
Ten-Year Treasury Yield (Percent)	3.25	2.60	2.62	2.64	3.67	2.65	3.10	4.35	4.58
Oil Prices, WTI (Dollars/barrel)	59	39	33	37	100	37	51	61	74
Consumer Price Index (% change y/y)	1.5	-0.4	-2.3	-3.7	3.8	-1.9	1.7	2.2	2.3
Housing Starts (Millions)	0.66	0.51	0.50	0.55	0.90	0.55	0.96	1.39	1.59
Consumer Sentiment (Univ. of Michigan)	58	58	55	57	64	57	66	71	72
Unemployment Rate (Percent)	6.9	7.9	8.5	9.0	5.8	8.7	9.4	8.7	7.9

source: U.S. Forecast Flash, Feb. 2009

Details of the Current U.S. Economy & Financial Condition by Brian Bethune, Chief U.S. Financial Economist

Current Conditions as of March 2, 2009

U.S. equities markets continued to deflate over the past week, as recent indicators on January new and existing home sales, durable goods orders, shipments and inventories, and weekly unemployment claims in late February suggested that the growth picture in the first quarter of 2009 will not be much better than the downwardly revised estimate of minus 6.2% in the fourth quarter of 2008.

Long-term bond yields spiked higher, with the 10-year yield moving up by more than 15 basis point to over the 3.00% threshold on Friday. The LIBOR Treasury-eurodollar (TED) spread remained steady near the 1% level.

The Treasury announced a program to convert up to $25 billion in preferred Citigroup shares to common stock, based on matching conversions from other private holders of preferred shares. This program could potentially bump the federal government's share ownership to 36%, but fears of further dilution of common stock by further Treasury equity injections sent the value of Citigroup stock down by about a dollar a share to close to $1.50.

President Obama outlined his long-term budget priorities for 2009–19 in a keynote speech to Congress resembling a state of the union address. Bottom-line, the budget incorporates much higher taxes for upper-income brackets, less spending on defense, and more outlays for financial system stabilization. The budget, while sweeping in terms of its scope, did not contain any major surprises. His bold goal is to reduce the deficit significantly by the end of his first term, from a projected $1.7 trillion in fiscal 2009 to $581.3 billion in fiscal 2012.

The president accomplishes this primarily by raising taxes on higher-income households and individuals, while reducing spending on defense contingency operations and certain healthcare programs.

The 2001 and 2003 tax cuts would be grandfathered for households earning less than $250,000, but the president re-institutes the higher tax brackets of 36.0% and 39.6% for households with incomes above $250,000. Also, with respect to the personal tax code, the president proposes to make the "Making Work Pay" tax credit permanent and expand the earned income tax credit over the long term.

With respect to business taxes, the budget makes upward adjustments to the net operating loss carry-back provision, which was substantially scaled back in the fiscal-stimulus legislation; makes permanent the R&D tax credit; and extends incentives for clean power generation.

With respect to defense spending, the president adjusts the budget baseline to include the real full-year costs of emergency spending (i.e., to reflect current overall overseas contingency commitments), and then makes proposals for reducing this higher baseline for defense spending, primarily by accelerating the withdrawal of troops from Iraq.

The president proposes comprehensive long-term reforms to the healthcare system. The concept he is floating is a "healthcare reserve fund." The reserve is funded about 50% by new revenues, and 50% by

savings in efficiency and accountability. Revenues are funded by limiting itemized deductions that reduce the marginal tax rate below the 28% threshold for households with over $250,000 in income. Cost savings come from reducing drug prices and containing Medicare overpayments, inter alia. However, the healthcare reform proposals leave open the question of broadening access to health insurance.

Finally, the budget proposes an additional $250 billion (on a net present value of expected losses basis) for stabilizing the financial system. This is in addition to the funds already provided under TARP, and recognizes that further large commitments of public capital, including further injections to the GSEs, are necessary to restore the normal functioning of the credit markets.

The main Achilles' heel of the president's budget in the short term is the assumption that the U.S. economy will suffer a decline of only 1.2% in 2009, and see a strong rebound of 3.2% in 2010. A more realistic forecast range would be a decline of 2.0–2.5% this year, with perhaps a rebound of 2.0–2.5% next year.

Indeed, IHS Global Insight expects the economy to contract 2.7% in calendar 2009 and then rebound a modest 2.0% in 2010. With further injections of public capital to the financial system along the lines of what the president is proposing, we would expect the deficit to approach $1.8 trillion in 2009, and likely be around $1.2 trillion in 2010.

With the substantial long-term tax increases that the president has in his budget on households and independent businesses with incomes above $250,000, it could be extremely difficult to muster the votes from moderate Republicans to support such a tax plan. Thus, while the plan is bold in terms of its proposed redistribution of the tax burden to higher income earners, it will be very tough uphill sledding to get the required votes in the Senate to pass this type of overhaul of the tax system.

Fed Chairman Ben Bernanke provided semi-annual testimony to the House financial committee last week, and his central message was that the key to stabilizing the economy is stabilizing the financial system. If this is done soon, the recession will end in 2009 and the economy will grow in 2010. According to the chairman, the economic downturn intensified late last year and the severity of the downturn is continuing—the economic outlook has worsened. Growth will resume in the second half of this year, provided financial markets stabilize. The federal funds rate is likely to stay where it is "for some time."

Bernanke noted that financial conditions have improved recently—LIBOR rates, mortgage rates, and corporate risk spreads have declined. However, "securitization markets remain shut…and some financial institutions remain under pressure." The near-term outlook is grim, with some light at the end of the tunnel. According to the FOMC's central tendency forecast, output will drop sharply in the first half of this year, but growth will resume in the second half. The unemployment rate should rise to 8.50–8.75% this year, and remain above 8.0% during 2010. Both overall and core inflation should remain low for the next two years. Policymakers expect a full recovery to take more than "two or three years." Over the long run, a term that economists refer to as the "steady state," growth should settle at 2.50–2.75%, the unemployment rate at 4.75–5.00%, and inflation at 1.75–2.00%. According to Bernanke, "This outlook for economic activity is subject to considerable uncertainty, and I believe that, overall, the downside risks probably outweigh those on the upside."

Chairman Bernanke's central message is that the key to stabilizing the economy is stabilizing the financial system. If this is done soon, the recession will end in 2009 and the economy will grow in 2010.

However, if the financial system remains gridlocked, the economy could be hit by the "destructive power of the so-called adverse feedback loop, in which weakening economic and financial conditions become mutually reinforcing."

Energy prices were mixed. Crude oil nearby futures (April) bumped up by $5.74/barrel to $45.22/barrel on Thursday as OPEC made noises about lowering output. Wholesale gasoline futures popped by 20 cents to $1.30/gallon. Natural gas spot prices dropped further, by 35 cents to $4.07/million Btu on Thursday, as weather remained temperate. Retail gas prices dropped by 5 cents to steady near $1.96, but retail diesel prices declined by a further 6 cents to $2.13.

Private petroleum inventories fell by 2.9-million barrels, less of a drop than the week before, but a second consecutive fall. Crude stocks climbed by a token 0.7-million barrels; gasoline stocks fell 3.4-million barrels, but distillate stocks climbed. The 0.8-million-barrel rise in distillate inventories is not normal in winter; in fact, a 2.0- million barrel drop would have been normal. Distillate stocks are very high. Gasoline inventories fell by 3.4-million barrels when just half of that would have been normal. Gasoline stocks are just under the midpoint of normal. Crude stocks, already high, climbed 0.7-million barrels to score a third consecutive week over the 350-million barrel mark; it has only bested that mark briefly since about 1990. Crude stocks are well above their normal high for the year and are more than 25-million barrels above the top of normal. Refineries' operating rates drifted lower to 81.4% of capacity for more slow fading in the face of weak demand. Inventories are flush, but imports have fallen and have remained low for two consecutive weeks.

Gold prices fell sharply in what appears to be a technical correction—prices dropped $44 per ounce to $947 per ounce on Thursday. Copper prices rebounded by 6%, and nickel prices edged up by 2%.

With respect to consumer demand, housing, and household financial indicators, indicators were mixed, as the latest weekly indicators on store sales and consumer sentiment improved, but confidence measures for February as a whole declined, mortgage applications fell, and new/existing home sales fell sharply in January.

- The ICSC-GS weekly retail report showed that samestore sales rose 0.6% during the week ended February 21. A few weeks back, the index was down 2.5% yearover- year, but recent gains have narrowed that loss to just 0.8%. Helping deliver this week's improvement was a modest decline in gasoline prices. ICSC Research expects another drop of 1–2% in retail sales in February. The tough economic climate will force the shuttering of underperforming stores and the disappearance of some chains altogether, transforming the retail landscape.

- The Conference Board's Consumer Confidence Index tumbled 12.4 points in February, to 25.0—the lowest level in its 42-year history. Assessments of both current and future conditions deteriorated, reflecting heightened anxiety over business conditions and job security. The present situation index dropped 8.5 points, to a 26- year low of 21.2, pulled down by worsening business and labor market conditions. The expectations index plummeted 15.0 points, to a record low of 27.5, as outlooks for the economy, jobs, and incomes turned more pessimistic.

- The ABC News/*Washington Post* consumer comfort index, a four-week moving average, inched up one point, to -48 for the week ended February 22, as President Obama signed the $787-billion fiscal stimulus package into law in the preceding week, leading to optimism about a potential improvement in personal finances. The index is down 11 points from a year ago.

Opinions on personal finances jumped again this week, climbing 4 points, to -2, as news of the substantial tax cuts included in the stimulus package worked its way down to consumers. Views on the state of the economy continued to hover 2 points above its record low of -90, and views on the buying climate climbed also held steady, at -52.

- The Mortgage Bankers Association's seasonally adjusted Market Composite Index, which measures mortgage applications volume, fell 15.1% for the week ended February 20 (after rebounding 45.7% in the prior week). The index was up 11.8% from a year earlier. The refinancing index decreased 19.1%, after jumping 64.3% in the previous week. It was up 47.1% year-over-year. The purchases index (which excludes refinancing) slipped 2.6% this week, after rising 9.1% in the prior week. The index was down 30.1% yearover- year. The average contract rate for 30-year fixedrate mortgages rose 8 basis points, to 5.07%.

- Existing home sales tumbled 5.3% in January, to a 4.49-million-unit annual rate, a record low (data start in January 1999). Single-family home sales were down 4.7%, falling to a 4.05-million-unit rate, the lowest since August 1997. Condo/co-op sales plummeted 10.2%, to 440,000 units, another record low (data start in January 1999). Sales were down 14.7% in the Northeast, 5.7% in both the South and Midwest, and flat out West. The median price of a single-family home was down 14.8% year-on-year (y/y), while the average price was off 13.3% y/y. The months' supply of existing homes increased 0.2, to 9.6 months.

- New home sales tumbled 10.2% in January, to a 309,000-unit seasonally adjusted annual rate. This was a record monthly low (data start in 1963). Sales were up in the Northeast, but down in the other three regions. The number of unsold new homes fell to 342,000—the 21st-straight monthly decline. Still, the inventory yardstick—the months' supply of new homes at current sales rates—rose from 12.2 months to a record-high 13.3 months. The median months for sale rose 0.1, to 9.3, its highest reading since August 1982. The number of completed new homes for sale, which had set a record high of 199,000 units in January 2008, fell to 167,000 units. Normally, this number would average less than 100,000.

- The University of Michigan consumer sentiment index fell 4.9 points in February, to 56.3, giving back nearly all the gains made in the prior two months. The index of current economic conditions edged down 1.0 point, to 65.5. The slight decline followed from consumers' heightened anxiety about deteriorating conditions in the labor market. The index of consumer expectations plunged 7.3 points, to its lowest level since June, as respondents expressed a nearly universal sentiment that the current downturn would last at least a year. With the economy unwinding, consumers expected an inflation rate of 1.9% over the next 12 months, down from 3.6% a year earlier. With respect to output, production, and employment, indicators were generally negative, as durable goods orders fell further in January, and claims for unemployment insurance jumped towards the end of February.

- New orders for durable goods fell 5.2% (down $9.0 billion) in January, with defense orders plunging $5.3 billion; defense orders had been unusually high in December. Excluding defense, orders fell 2.3%. The previous estimate for December was revised down by 1.6 percentage points. Shipments fell 3.7%, with nondefense deliveries off 4.2%. Orders for civilian aircraft and parts rebounded 43.6%, but it was in the parts, rather than in capital goods; the implied aircraft capital goods orders totaled a whopping $3 million. Orders for nondefense capital goods (excluding aircraft) fell 5.4%, deepening the drop since July to 20.7%. Motor vehicles and parts

orders fell 6.4%, and will remain weak. Inventories fell by 0.8%, but have a very long way to go to catch up to the collapse in orders and production from last summer.

- Initial claims for unemployment insurance on a seasonally adjusted basis ballooned to 667,000. Claims soared by 36,000 in the week ended February 21, despite an upward revision to the previous week's figure. The worsening picture suggests that the pace of layoffs will not slow any time soon. Continuing claims (reported for the week ended February 14) rose 114,000, to 5,112,000, after climbing 178,000 in the previous week. The record-high stock of insured unemployed underscores not only the suffering of job seekers, but also of the businesses that would otherwise be employing them. The four-week moving average, a more stable measure of unemployment claims, followed suit with the other indicators, climbing to 639,000—the highest level since October 1982. In next Friday's employment report, IHS Global Insight expects job losses of 750,000 during February, with the unemployment rate climbing to 8.0%.

- The Chicago Purchasing Managers' Business Barometer firmed by almost a point, from 33.3 to 34.2, but it was only one point off the lowest level since early 1982. The production reading firmed to 34.7 for a pickup of five points, but that level is still severely depressed. Orders were weaker than the month before, but have been so bad that it would have been hard for them to be worse. Backlogs are shrinking across most businesses and employment prospects went from very bad to even worse; the employment reading sank to 26.2 and was a scant three points away from setting a new all-time low going back to 1948. Supplier deliveries (vendor performance or complaints about slow delivery of supplies) remains the only thing holding the Chicago index up. Prices paid slipped a bit, to 37.8, but prices paid are falling and no longer seen as a major threat. General reports on financial markets, prices, and policy were generally negative, as home prices remained under general downward pressure at the end of 2008, and real GDP growth in the fourth quarter of 2008 was revised down substantially.

- The downward trend in prices continued during December: the 10-City Case-Shiller Composite Index dropped 19.2% year-on-year (a record decline), while the 20-City Composite was down 18.5% (also a record). Year-on-year, prices retreated in all 20 cities covered. House prices were back to their third-quarter 2003 levels. The downward trend in prices In eight cities, the drop was 20% y/y or more; 14 cities had double-digit declines; and in two cities (Denver and Dallas), the drop was less than 5%. Phoenix (down 34.0%), Las Vegas (down 33.0%), San Francisco (down 31.2%), and Miami (down 28.8%) reported the steepest declines. The national index was down 18.2% y/y in the fourth quarter, the largest decline in its 21- year history. The 10-city composite is down 28% from its June 2006 peak. House prices were back to their third-quarter 2003 levels.

- For December, the seasonally adjusted monthly FHFA/OFHEO purchase-only House Price Index increased 0.1%, after a 2.2% November drop, but fell 8.7% y/y. The monthly index was up in five of nine Census divisions, but all nine were down versus October. The December reading was down around its February–March 2005 levels. From the third to the fourth quarter, prices fell 3.4%; they were down 8.2% from a year earlier.

- The fourth-quarter GDP decline was revised from 3.8% to 6.2%, an even bigger downward revision than had been anticipated. A similarly steep decline is likely in the first quarter. The revised estimate of fourthquarter GDP growth came in at minus 6.2%, down from the initial estimate of minus 3.8%. The revision is bigger than expected—we had anticipated minus 5.3%. The GDP decline is the largest since the first quarter of 1982 (6.4%). Final sales fell 6.4%, worse

than the initially estimated 5.1% drop, accounting for about half the revision. Consumer spending, business fixed investment, exports, and state and local spending all fell more sharply than first estimated. Lower inventories accounted for the other half of the revision, and less of an inventory overhang is good news, but the steep decline in private spending is very bad news. We expect GDP to fall at roughly the same pace in the first quarter as in the fourth, around 6%. Most major categories of private spending were revised down. Consumption fell 4.3% (instead of 3.5%), business fixed investment fell 21.3% (instead of 20.1%), and exports fell 23.6% (instead of 19.7%). Also, state and local government spending fell 1.4% (instead of 0.5%). These revisions imply that the economy entered the first quarter on a steeper downward trajectory than previously thought. The only part of the revision that could remotely be described as good news was that inventory accumulation was lowered. Instead of adding to inventories, the business sector shed inventories— although not as rapidly as in the third quarter. This suggests less of an inventory overhang, and perhaps less need for steep production cutbacks. The problem here is that firms are chasing a moving target. As sales go even lower, so do desired inventories. In January, for example, durable goods producers cut their inventories, but their inventory/sales ratio still climbed because shipments fell even faster. There is still a major inventory correction to come. The new GDP statistics are now much more in line with the evidence on hours worked and industrial production. They suggest that the productivity increase initially announced for the fourth quarter simply did not happen. Our initial reaction to these figures is to anticipate a similar-sized GDP decline in the first quarter. Our February forecast shows a 6.0% drop. It is likely that final sales will decline more steeply than we thought (we had expected a 2.6% drop), but that the inventory correction will be less severe. But the overall GDP contraction will probably still come out around 6%. And the lower starting point for 2009 implies that the overall decline in GDP for the year will be in excess of 3.0%, rather than the 2.7% in our February forecast.

Source: U.S. Financial Weekly, March 2, 2009

Global Insight U.S. Long-term Macro-economic Outlook –2008 year-end Capsule Summary by Patrick Newport, Director of Long-term Forecasting

This issue of *The U.S. Economy, 30-Year Focus* presents Global Insight's most recent set of long-range projections. Given the detail available in the current Global Insight model, the projections for the next 30 years 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 Global Insight'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 Global Insight's August short-term baseline (Control) solution (detailed in the August 2008 issue of *The U.S. Economic Outlook*), which represents our forecast through 2018. Thereafter, the economy is expected to make a transition to full employment (4.5–5.5% 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.

A Comparison of the Past and Future
(Percent)

	History 1977-2007	Trend 2008-2038	Cycle 2008-2038	Optim 2008-2038	Pesim 2008-2038
Average Annual Real Growth					
Potential Output	3.1	2.4	2.2	2.9	1.8
GDP	3.0	2.5	2.3	3.2	1.9
Consumption	3.3	2.1	2.1	3.0	1.4
Business Fixed Investment	4.9	4.2	4.2	5.0	3.3
Government	2.2	0.9	0.9	1.5	0.5
Exports	6.0	6.5	6.1	7.3	6.0
Imports	6.6	4.5	4.6	5.7	3.7
Average Annual Growth					
Labor Force	1.5	0.7	0.7	1.3	0.4
Productivity	1.8	2.0	1.8	2.1	1.6
Industrial Production	2.7	2.7	2.2	4.3	1.1
Average Level					
Inflation (Chain-wt. Impicit GDP deflator)	3.6	1.9	2.6	1.3	3.1
Unemployment	6.1	4.8	5.6	3.6	5.1
Average Percent of GDP					
Fuel Import Bill	1.4	2.1	2.3	2.3	1.9
Trade Balance	-2.3	-0.3	-0.5	-1.7	2.5
Federal Deficit	-2.3	-4.4	-5.2	-3.2	-5.5
Fixed Investment	11.4	10.8	10.9	11.1	10.2

Note: Growth rates for the projection period are compound annual growth rates calculated between the years 2007 and 2038.
Level Variables are averages for the years 2008 to 2038. Interpretation of the historical figures is similar.

Long-Term Projections

The Global Insight *30-Year U.S. Forecast* includes 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 2038. 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 follow in the absence of major disruptions. Such disruptions include large oil price shocks, untoward swings in macroeconomic policy, or a financial meltdown.

[The cyclical, optimistic and pessimistic projections are not used by Metro. Global Insight's complete forecast description is provided in its unedited form for the reader. Metro only uses the Global Insight trend projection for generating the baseline trend regional forecast. Population and employment growth ranges are derived from Metro's own probabilistic population model and employment growth ranges are derived from the probabilistic population forecast using static employment-population ratios.]

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.

Mortality Assumptions
(Ultimate levels by 2050)

	Trend/Cycle	Optim	Pessim
Life Expectancy at Birth (Years)			
Male	80.9	80.9	80.9
Female	85.3	85.3	85.3

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 output is primarily supply-determined in the long run, real GDP grows 0.8 percentage point quicker per year.

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

	History	Trend		Cycle		Optim		Pessim	
	1992-2007	2008-22	2023-38	2008-22	2023-38	2008-22	2023-38	2008-22	2023-38
Factors of Production: Private Nonresidential									
Labor Force (0.646)	0.9	0.3	0.5	0.3	0.5	0.5	0.9	0.3	0.3
Capital Stock (0.259)	1.2	0.7	0.9	0.7	0.9	0.9	1.0	0.6	0.8
Energy (0.07)	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
Govt. Infrastructure (0.025)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	2.2	1.2	1.5	1.1	1.6	1.5	2.1	0.9	1.1
Contributions to Factor Productivity									
Research and Development	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other	0.7	0.8	0.9	0.7	0.6	0.9	1.0	0.6	0.5
Total	1.0	1.0	1.1	0.9	0.9	1.1	1.2	0.7	0.8
Real Potential Growth	2.5	2.2	2.6	2.1	2.4	2.6	3.2	1.7	1.9

Note: Figures in parentheses are production function weights. All real data are in chained 2000 dollars. Labor and capital exclude labor and capital used to produce energy.

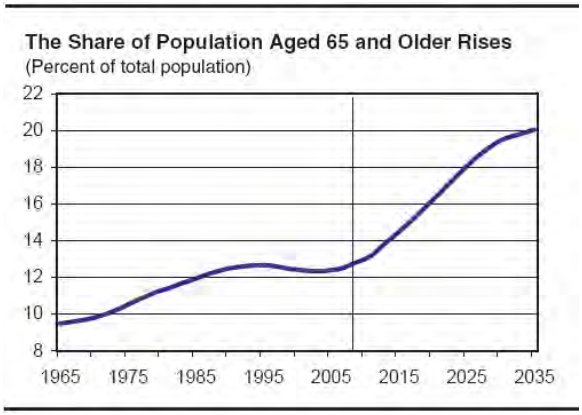
The **pessimistic projection** is the downside scenario. Here, growth proceeds smoothly, but more slowly than in the baseline, and productivity growth is weaker. In this projection, population, labor force, and capital stock growth, together with exogenous technological changes, occur less rapidly than in the trend. Output thus climbs 0.6 percentage point more slowly per year.

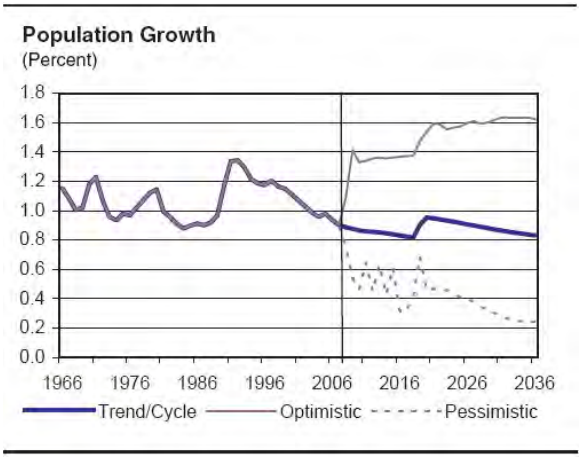
Probabilities

The underlying rate of growth in "*TREND30YR0808*" 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, Global Insight 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.

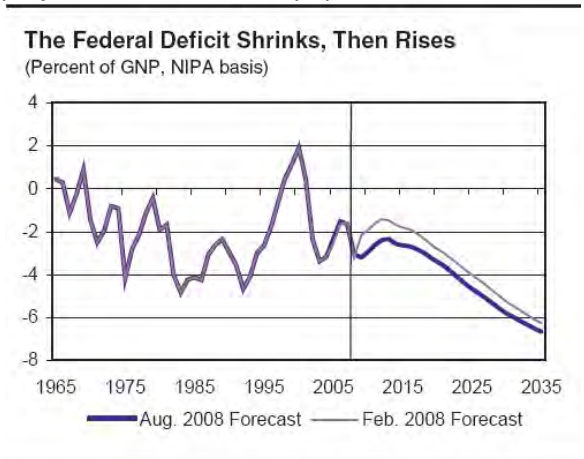
Key Long-term Assumptions

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 Global Insight's trend and cyclical scenarios are built on the Census Bureau's latest projections, which were released in August 2008. These projections replace the Census 2004 "interim" projections, and incorporate new basic fertility, mortality, and migration assumptions. Since the Census's projections for 2001–07 are not the same as its latest population estimates, we have spliced the projections to the latest population estimates.



The "middle" projection is based on specific assumptions about immigration, fertility, and mortality rates. According to the Census, the fertility rate (the average number of births per woman upon completion of childbearing) will rise from 2.02 in 2001 to 2.06 in 2025 and then slip to 2.03 in 2050, while the mortality rate should continue to improve, with life expectancy for men and women rising steadily from 75.7 and 80.8 years, respectively, in 2010 to 79.6 and 84.2 years in 2040. Meanwhile, net

immigration (including undocumented immigration) is estimated to rise from 1.173,000 persons in 2001 to 1,569,000 in 2040. Based on these assumptions, the U.S. population will average 0.9% growth per year through 2030, down from the 1.1% pace during the last 30 years. Thus, total population will rise from 282.8 million in 2000 to 396.4 million in 2038.

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 20% by 2038, 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 1.2% annually over the past 30 years, the population aged 16–64 years will grow only 0.5% over the forecast period. 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 1.5% in the optimistic scenario and just 0.4% in the pessimistic scenario. By 2038, the current population increases to 481 million in the optimistic projection, but to only 344 million in the pessimistic scenario, compared with 388 million in the baseline.

Fiscal Policy. We expect federal spending on defense, transfer payments, and federal aid to state and local governments to consume a good share of GDP. As a result, the federal government should post deficits in the unified budget over the forecast period. In the forecast, the deficit averages 4.4% of GDP in 2008–38. In the longer run, the baby boomers' retirement will cause deficits to grow, despite some increases in the Social Security tax rate.

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.

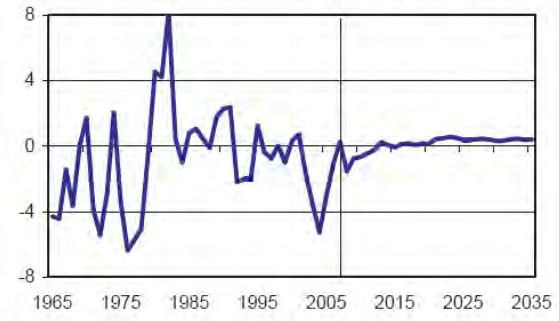
In this forecast, we assume that the Fed's ultimate goal is a stable inflation rate. The CPI inflation rate spikes in the early years of the forecast because of spiking oil prices, and eventually settles to about 2.0%

Bond yields will generally move parallel to the funds rate over the forecast interval, but run somewhat higher. The yield on ten-year treasuries rises slowly, and eventually converges to about 5.4%. The forecast implies a real federal funds rate of about 2.6% and a real long-term bond rate of 3.4%.

In the cyclical scenario, periods of overly expansive monetary policy are followed by intervals of overly restrictive policy, which

Short-Term Interest Rates Will Settle at Their Equilibrium

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

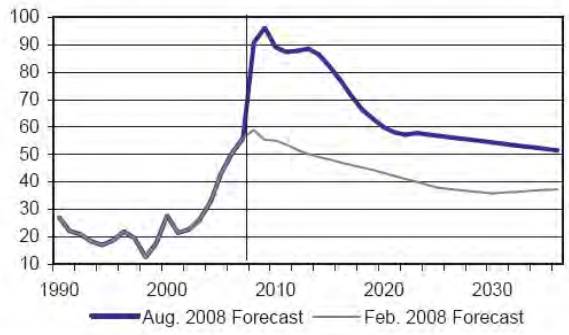


The Consumption Share Stabilizes
(Percent of GDP)

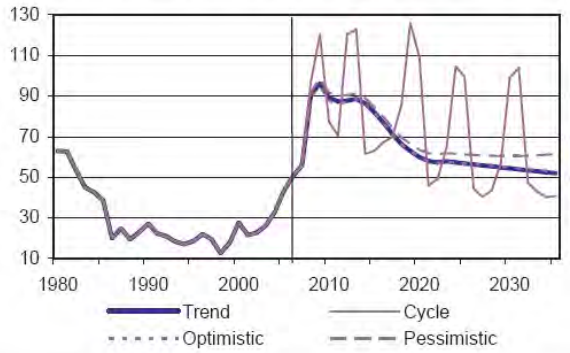
translates into the periodic acceleration and deceleration of inflation. In the optimistic scenario, the Fed is assumed to keep a tight rein on the money supply, permitting little acceleration of inflation. Conversely, in the pessimistic scenario, the central bank is assumed to be reluctant to put the economy through the pain necessary to bring inflation back to baseline levels, choosing instead to tolerate an inflation rate that is higher than in the baseline.

Energy. Global Insight's Energy Service expects the average acquisition price of foreign oil to remain above $90 per barrel over the forecast period. With worldwide demand steadily increasing, the OPEC cartel will maintain some pricing power. Although it is impossible to predict the precise timing of price changes, the trend projection assumes that oil prices will drop from current high levels and hover over $100 per barrel through the end of the forecast period. The West Texas Intermediate price for

Real Oil Prices Are Higher
(Refiners' acquisition cost of imported crude, 2000 dollars/barrel)



Oil Price Paths Across the Four Scenarios
(Refiners' acquisition cost of imported crude, 2000 dollars/barrel)



oil is projected to reach $114 per barrel by 2038, compared with the average price of $26 in 2001.

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 $21.50 per barrel in 2001 to $50.50 in 2038.

The oil price path in the cyclical scenario several oil spikes, 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 and real oil prices are higher than in the trend. In the optimistic scenario, nominal and real oil prices are below what they are in the trend.

Price projections are a trend. It is likely that there will be periods, possibly of several years at a time, when prices are either above or below the trend. A price outcome higher than the projected trend could result from stronger demand growth (perhaps notably in China) and/or weaker supply (more disappointments in non-OPEC and loss of productive capacity in OPEC due to political upsets). A price outcome lower than the projected trend could arise from recession, enforcement of higher efficiency standards, or better than expected supply prospects.

International. In the trend projection, 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 averaging 1.8% over the forecast period, down from an average 2.6% over the past 30 years. This slowdown reflects demographic forces similar to those operating in the United States, as well as the maturation of many developing economies. Owing to steady pressure from the current account deficit, the dollar will fluctuate, but on average, depreciate throughout our long-term forecast.

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 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 need to boost exports to balance the current account. Over the forecast period, the share of GDP going to exports rises from 12% in 2007 to 28% in 2038.

The sum of the remaining shares of GDP must decline to make room for the rising share devoted to exports. Government spending will bear some of the burden in 2010–38; the government's share of GDP will decline 5.8 percentage points.

Methodology Over the Short-Term Forecasting Horizon

The trend remains consistent with the August Control forecast through 2018. 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.

Capsule Summary of the Long-Term Trend Forecast & Assumptions

		Trend Projection
	General Outlook	The economy exhibits mild variations in growth and approaches its balanced-growth path. CPI inflation rises slowly, averaging 2.0%.
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 2.1 births, an ultimate mortality rate of 79.0 years for men and 84.8 years for women, and net immigration grows to 1.338 million in 2010, 1.473 million in 2020, to 1.664 in 2030.
	Energy imports	Real oil prices fall, but remain high by current historical standards. No embargoes are assumed.
	Food prices	Wholesale farm prices average 1.2% annual increases.
II.	**Principal Policy Dimensions**	
	Tax changes	Marginal personal tax rates inch up. Corporate tax stays at 35.0%.
	Growth of federal spending	Real, +3.0% per year.
	Federal Transfers	Real growth of 3.7% per year.
	Budget deficit	Deficit averages 4.4% of GDP.
	Average federal government share of GDP	23.5%
	Monetary policy	Sufficient funds made available to promote stable credit growth. Money (M2) growth averages 4.6%.
	Federal funds rate	Rises gradually, eventually settling at 4.75%.
	Nonborrowed reserves	Steadily rises over forecast period.

III.	**Behavior of Economic Agents**	
	Consumers	Consumer confidence relatively constant.
	Average annual real consumption growth	2.1%
	Business	Decisions made in relatively stable environment.
	Average fixed investment share in GDP	10.8%
	Average share of corporate cash flow in GNP	9.6%
	State and local government	Real expenditures dictated by demographics and ability to raise taxes. Average real growth in purchases of 0.9% per year.
	Federal budget position (Fiscal years)	Deficits.
	International Average annual wholesale price inflation for major trading partners	1.6% (OECD countries) 3.6% (Developing countries)
	Real U.S. exchange rate	Declines over forecast period.
IV.	**Other Parameters**	
	Average annual productivity growth	2.0%
	Average annual potential output growth	2.4%
	Consumer price inflation	Eventually stabilized at 2.0%
	Consumer price index Average annual increase Peak annual	2.0% 4.8% (2008)
	Hourly earnings	3.5%

	Average annual rise	4.2% (2008)
	Housing market	Demographics dictate slower growth of the housing stock.
	Median new home price in 2038 Average annual rise	$554,800 2.7%
	Unemployment	Settles at about 4.6%.
	Average unemployment rate	4.8%

Source: http://myinsight.globalinsight.com/servlet/cats?filterID=876&serviceID=1784&typeID=4410&pageContent=report

U.S. Long-term Trend Forecast Details –

Slowing Growth and Federal Deficits: The Trend Projection

by Patrick J. Newport, Global Insight Economist

Highlights

- Real GDP growth will average 2.5% per year in 2008–38.
- The outlook for inflation remains moderate. Consumer price index (CPI) inflation will average 1.9% per year over the forecast period. Core inflation will average 2.0%.
- Nonfarm business productivity growth averages 2.0% over the forecast period, compared with the 2.1% average experienced since 1953.
- The current-account deficit is negative through 2032. Afterward, the current-account surpluses grow.
- Real oil prices fall over the forecast period, but remain high by historical standards.
- The labor market improves over the forecast period, with the unemployment rate eventually settling at 4.6%.
- The federal budget deficit remains in deficit throughout 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. While they agree that new technologies eventually make workers more productive, many questions remain under debate. What determines the pace of technological progress? How long does it take for new technologies to catch on? As a growth accelerant, 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 surged between 1994 and 2004, possibly because of what Alan Greenspan called a revolution in information technologies. Although productivity growth eased as the economy slowed in 2001, it surged—for reasons that remain unclear—in 2002, 2003, and 2004. Since then, however, productivity growth has slowed. Over 2004–07, productivity growth averaged just 1.5%.

Going forward, where is productivity heading? Some academics, such as Dale Jorgenson of Harvard, Mun S. Ho, of resources for the Future Inc, and Kevin Stiroh of the Federal Reserve Board, believe that the productivity boom has years to go before it runs out of steam. In a paper published earlier this year, Jorgenson Ho, and Stiroh projected a base-case productivity growth rate of 2.4% over the next 10 years.

Robert Gordon of Northwestern University, however, believes that corporate cost-cutting accounts for the strong productivity numbers during 2001–04, and that what we are seeing today is a return to normalcy. In a paper written in October 2006, he projected that productivity gains over the next 25 years would average around 2.1%, about the same as over the previous 25 years. This is just a tick below the 2.3% pace that the Congressional Budget Office assumed in its latest 10-year budget projections.

Our view is closer to Gordon's than Jorgenson's (though we hope we are wrong!). For 2008,and 2009 we project it will increase 1.7%, about the same as in 2006. The slowdown from the torrid rates registered earlier this decade is partly cyclical. We believe, however, that trend productivity growth has slowed.

Changes to the 30-Year Forecast

We have made two significant changes to the forecast. First, the price of oil is much higher. The average price of West Texas Intermediate crude, for example, is $104.8 /barrel in 2018, compared with $71.0/barrel in our February 2008 forecast. Adjusted for inflation, oil prices after 2020 are about 40% higher than in our February forecast. This change reflects our view that most of the recent runup in oil prices is mostly permanent. In the forecast, the real price of oil still declines over time from current

Contributions to New Jobs
(Payroll employment, cumulative percent change)

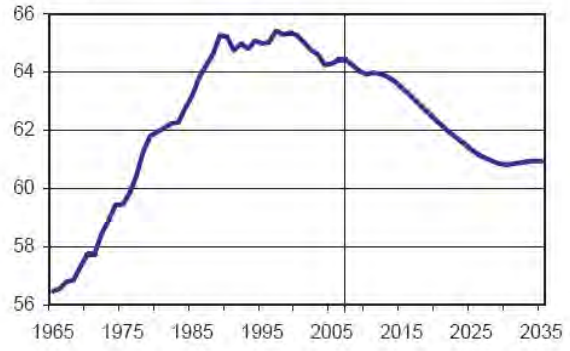
	History		Trend		
	1980 -1990	1991 -2007	2008 -2018	2019 -2028	2029 -2038
Manufacturing	-8.9	-21.5	-6.8	-6.6	-3.7
Mining and Construction	8.3	38.3	2.3	12.6	24.5
Government	14.6	20.6	8.4	4.2	3.7
Private Services	23.3	26.7	9.5	9.1	10.4
Total New Jobs (Millions)	19.6	28.1	12.8	12.5	15.3

levels because of technological improvements—they just do not decline as much as in previous forecasts.

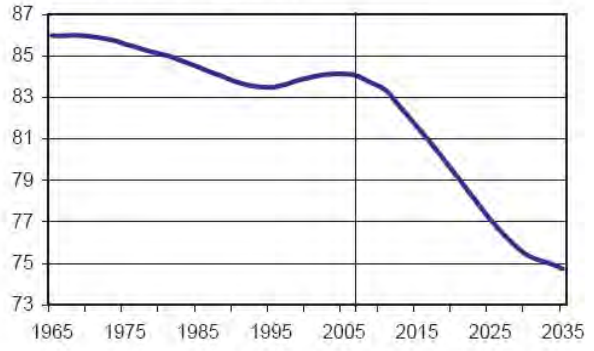
Second, our population projections are higher. On August 14, the Census Bureau released new population projections going out to 2050. We incorporated these projections into the forecast over 2018-38. As a result, the population in 2038 is 397.6 million, compared with 389.4 million in our February forecast. These projections are based on new demographic assumptions from the Census for birth rates, death rates, and immigration rates. We have not made corresponding revisions for GDP or labor-force growth because we had been anticipating these upward population revisions, and had held off lowering our GDP growth assumption.

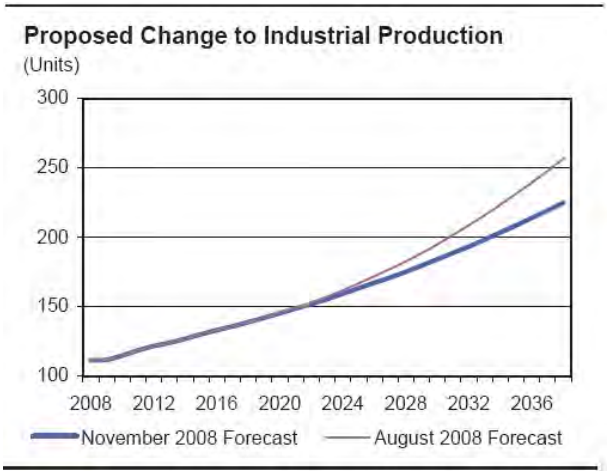
The big picture is similar to that portrayed in our previous long-term forecast publication (February 2008). Real GDP growth (2.5%), labor productivity growth (2.0%), CPI

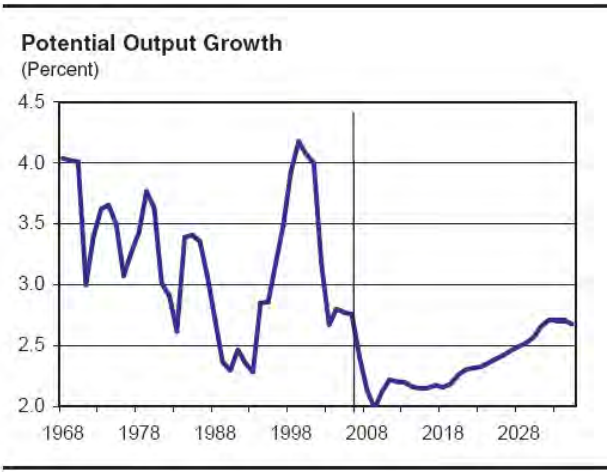
The Labor-Force Participation Rate Eases
(Percent)



Share of Population Aged 16-65 Falls
(Percent of total adult population)

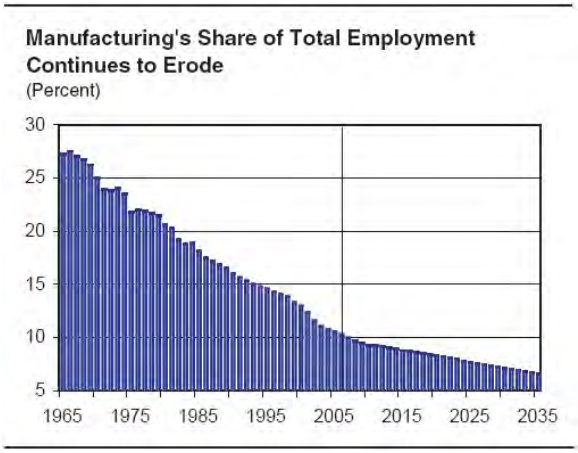






inflation (2.1%), the core PCE deflator growth (2.1%) are all the same. The level of interest rates, the long-run level of housing starts, and the unemployment rate also are about the same. The fiscal deficit is a little larger, mainly because of weakness in the short term. After releasing the forecast, internal users of our long-term forecast persuaded us that the forecast for exports, and therefore industrial production, over the last 15 years of the projection period was too strong.

In the forecast, industrial production grows 2.1% over the first 15 years and 3.3% over the last 15 years. Although export growth should or will likely pick up in the last 15 years of the projection period, if the United States is to address its trade imbalances, export growth will be somewhat slower when we next update the forecast. As a result, industrial production will grow 2.5% annually during 2022-38, down from 3.3% in the current forecast. The chart below shows the current forecast, and the forecast we propose to make in the November update.



Long-Term Forecast Assumptions

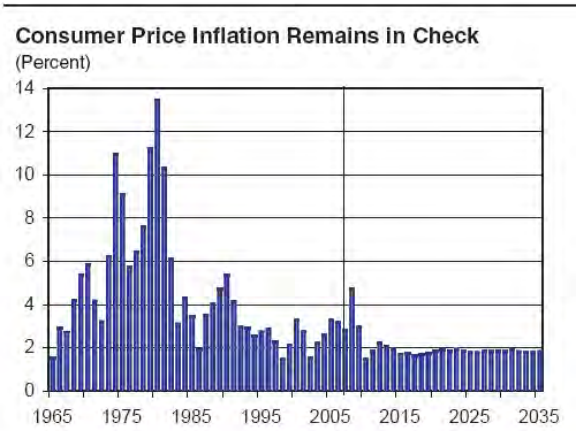
In the trend scenario, after the first five years of the forecast, we assume an environment free of exogenous shocks. Economic output will converge towards its potential level, with all resources fully utilized. As a result, the growth rates of output, real incomes, real expenditures, and the general 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, and productivity growth.

Population and Demographics

The population projections are built on the Census Bureau's latest projections, which were released in August 2008. These projections have the U.S. population expanding at an annual rate of 0.9% in 2008-38, when the population reaches 398 million. Growth in the older-age cohorts will be stronger as the baby boomers age. The 65-yearsand- over population share rises from 12.6% in 2007 to 20.2% in 2038.

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.

Global Insight believes that productivity growth will average 2.0% per year in 2008–38. This is lower than the stellar 2.9% average annual growth achieved during the 1960s, but above the 1.8% annual growth rate for 1976–2006. The real effective capital stock will grow 3.0% annually, compared with 4.0% in 1976–2006. The declining price of capital goods relative to other inputs accounts for the robust capital stock growth rates.

Government Policy

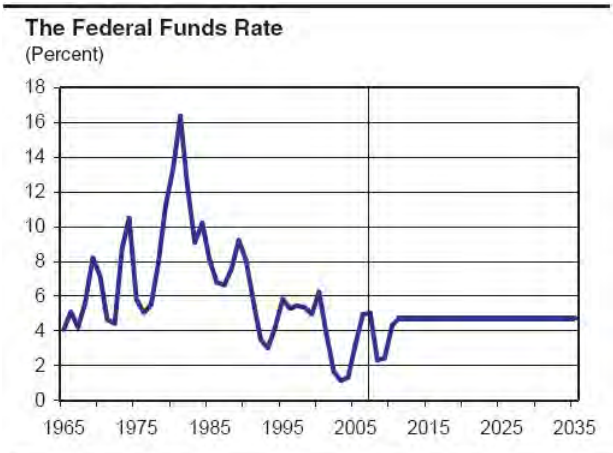
The federal budget deficit approached $400 billion in 2004, as the 2003 tax act reduced receipts and the war on terrorism boosts spending. In 2008-15 the fiscal year budget deficit hovers between $237 billion and $561 billion. An easy way for Congress to increase tax revenues is to let the tax cuts sunset as scheduled; however, this seems unlikely regardless of who may be in the White House or in control of Congress. One way or another, the well-off will be forced to pay more, perhaps by applying the Social Security tax to all incomes, as well as by raising marginal rates.

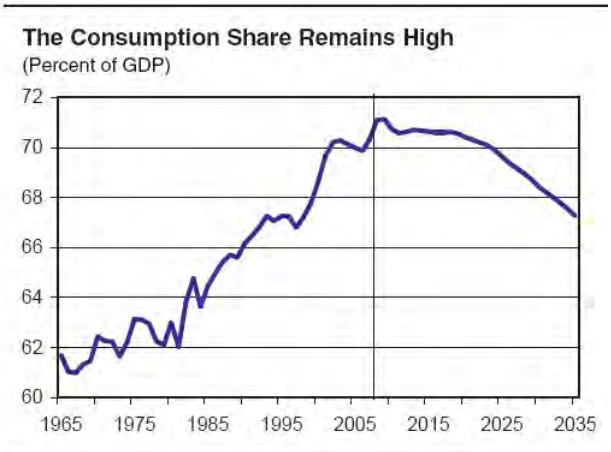
With the economy growing faster than the pace of government spending, the government sector's share of GDP will decline over the forecast period. The state and local government maintains the dominant share of total government purchases, growing from 63% in 2007 to 65% in 2038. At the federal level, the military accounted for 68% of federal purchases in 2007, and slowly drops to 59% in 2038.

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. In the forecast, the monetary authorities opt to maintain core inflation at about 2.1%.

Bond yields will generally move parallel to the funds rate over the forecast interval, but run somewhat higher. The yield on 10-year Treasuries remains low by historical standards, hovering around 5.4% after 2014. The forecast implies a real federal funds rate of about 2.6%





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

	History		Trend		
	1980 -1990	1991 -2007	2008 -2018	2019 -2028	2029 -2038
Total Expenditures	3.2	3.3	2.3	2.1	2.0
Total less New Light Vehicles	N/A	3.3	2.4	2.1	2.0
Durable Goods	4.5	6.1	3.7	3.6	3.9
Motor Vehicles & Parts	4.0	3.3	1.5	1.1	1.5
Furniture & Household Equip.	5.6	9.9	6.2	6.1	7.1
Computers	N/A	44.5	19.7	18.1	18.2
Software	N/A	N/A	9.4	8.0	8.6
Other Equipment	4.6	6.4	4.0	3.3	3.4
Other Durables	3.7	5.4	3.3	3.8	3.8
Nondurable Goods	2.3	2.8	1.9	2.0	2.0
Clothing & Shoes	4.5	4.7	3.1	2.2	2.3
Food & Beverages	2.0	2.1	1.6	1.5	1.4
Gasoline & Oil	1.4	1.6	0.9	0.5	0.7
Fuel Oil & Coal	-5.1	-1.2	-1.5	-0.4	-0.5
Other Nondurables	2.5	3.9	2.5	3.0	2.8
Tobacco	-2.0	-1.6	-4.0	-4.2	-5.9
Drugs & Pharmaceuticals	4.0	5.9	5.3	4.7	3.7
Services	3.4	2.9	2.3	2.0	1.8
Housing	2.8	2.3	1.4	1.3	0.8
Household Operation	2.6	2.7	1.7	2.2	1.8
Transportation	2.7	2.5	1.9	2.2	2.4
Medical Care	3.9	3.0	3.1	2.4	2.2
Recreation	6.3	4.0	2.4	0.8	0.7
Personal Business	4.1	3.8	2.9	2.0	1.7
Other Services	3.9	2.8	2.3	2.5	2.4

and a real long-term bond rate of 3.3%.

Oil Prices

Global Insight's Energy Service expects the average acquisition price of foreign oil to remain above $90 per barrel over the forecast period. With worldwide demand steadily increasing, the OPEC cartel will maintain some pricing power. Although it is impossible to predict the precise timing of price changes, the trend projection assumes that imported oil prices will average $110/barrel in 2010–20. The West Texas Intermediate price for oil is projected to reach $114 per barrel in 2038, compared with the price of $41.50 in 2004.

In the end, scarcity tends to bid energy prices up, while new technologies tend to hold them down. In the end, we project that new technologies will win out—and that the real price of oil will steadily fall from current levels. Real oil prices, nonetheless, will remain high by historical standards.

Foreign Assumptions

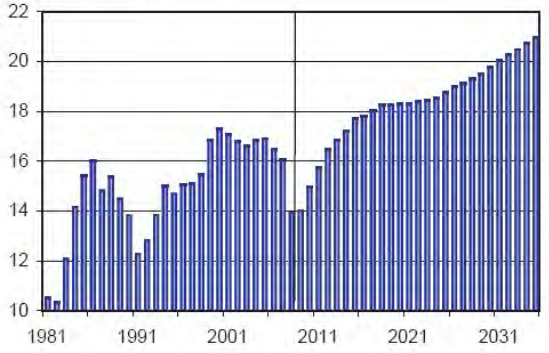
The major U.S. industrialized trading partners are assumed to follow a growth pattern similar to that in the United States, with the pace of growth averaging 1.8% over the forecast period, down from an average 2.7% over the past 30 years. This slowdown reflects demographic forces similar to those operating in the United States. The developing countries that trade with the United States will grow 4.0%, down 0.8 percentage point from the past 30 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 relative to industrialized country currencies depreciates 0.5% annually.

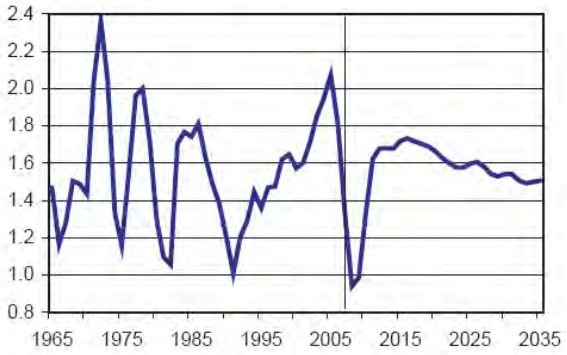
Long-Term Forecast Highlights

Real GDP. The trend projection assumes that the U.S. economy experiences no major mishaps between now and 2038. The projection is identical with our February 2008 baseline forecast through 2018, and represents Global Insight's best estimate of the economy's path over that period. Beyond 2018, 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

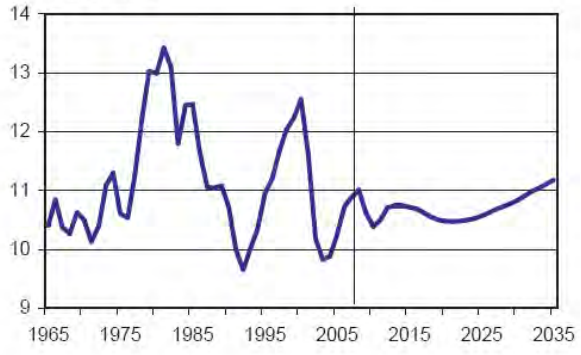
Light-Vehicle Sales
(Millions of units)



Housing Starts Never Match 2005
(Millions of units)



Investment's Share of GDP Rebounds
(Percent of GDP)



assumptions about key exogenous elements, such as fiscal policy or energy prices, on the overall economic outlook.

Annual real GDP growth averages 2.5% in 2008–38, compared with 3.0% for the past 25 years. The economy's underlying growth 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 0.8% from 2007 to 2038. Total establishment employment will rise from 137.6 million in 2007 to 178.2 million in 2038, an increase of 29%. Manufacturing's share of total employment will continue to decline over the forecast period, falling to 6.5% in 2038, from 10.1% in 2007.

The broad service sector will generate an increasing share of employment growth in the forecast period, although the federal government's share of employment will decline during the forecast period.

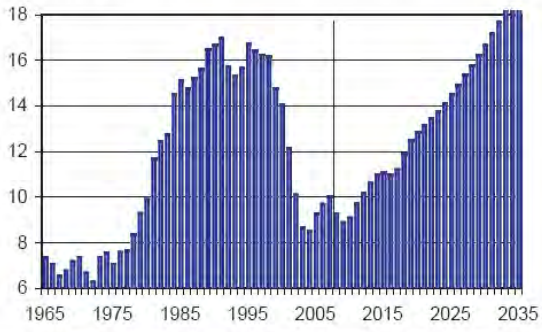
Inflation. Over the long run, inflation is a monetary phenomenon. Its future course will be determined by policies implemented by Ben Bernanke and his successors. Since we do not know who these successors will be, we assumed the Fed will try to contain inflation over the forecast period. The CPI is expected to average 2.0% annual increases in 2008–38, somewhat less than the 4.3% average in 1975–2005. The broader-based GDP deflator will also rise 1.9% per year.

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 hovers between 67% and 71% of GDP over the

Saving and Investment Shares of GNP
(Percent)

	History	Trend	
	1992-2007	2008-22	2023-38
Household	5.3	5.4	10.9
Business	9.6	9.1	10.3
Government	-2.3	-3.9	-6.5
Total Saving	12.6	10.5	14.7
Total Investment	12.8	10.8	14.9
Gross Private Investment	16.0	14.6	14.8
Nonresidential Fixed Investment	10.9	10.6	11.1
Residential	4.7	3.8	3.4
Change in Inventories	0.4	0.2	0.3
Net Foreign Investment	-3.3	-3.9	0.1
Statistical Discrepancy	0.2	0.2	0.1

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



forecast period.

Real consumption growth will average 2.1% per year over the forecast period. In per capita terms, growth will advance about 1.3% per year, down 0.8 percentage point from the 1977–2007 rate. 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 performances. Vehicle sales growth will average close to 1.0% over the next 30 years. Light-vehicle sales are forecasted to reach 22.7 million units by 2038. 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 be primarily driven by growth in population and demand for replacement vehicles. Automobile sales should be relatively strong throughout the projection period, averaging 10.4 million units per year.

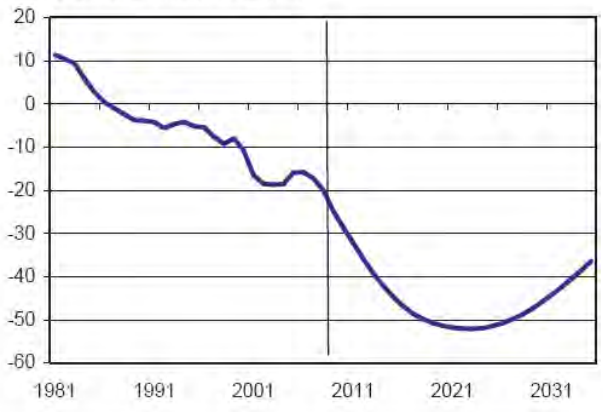
Energy conservation efforts will continue. This stems partly from a stock/flow phenomenon: despite the trend toward minivans and sport/utility vehicles, for example, the average new vehicle is still more fuel-efficient than the existing stock. Gasoline usage per vehicle should fall for several more years, 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 3.0% in 1976-2005, will again rise 2.6% annually over the next 30 years. This does not take into account the rising volume of withdrawals from existing retirement plans.

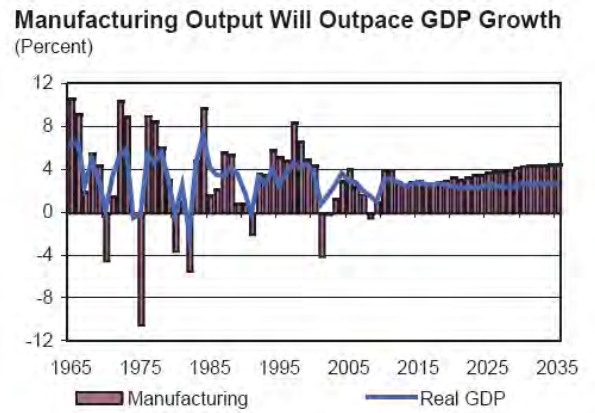
Housing. Household growth clearly depends on population growth, but real incomes, employment, the age distribution of the

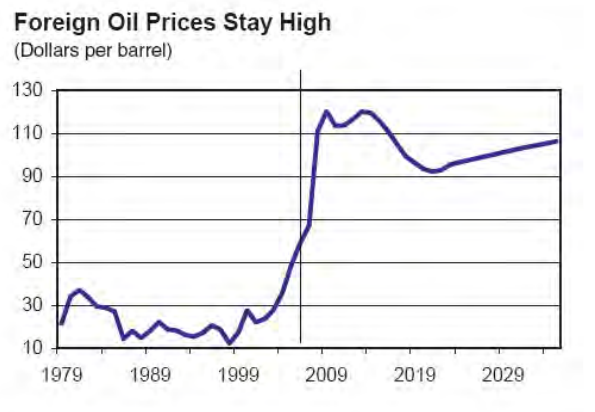
Trade Outlook
(Percent of GDP)

The Goods and Service Trade Balance Improves

Net U.S. Investment Position







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 year-old 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 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 a bit stronger over the next 30 years than over the past 30 years. Thus, housing starts are projected to average 1.55 million units annually in 2008–38, compared with 1.56 million for 1976–2005. Meanwhile, the housing stock (excluding mobile homes) will climb from 115.0 million units in 2007 to 148.3 million units in 2038 [annualized increase of 0.85% per year].

Business Fixed Investment. Good profitability and solid demand growth should keep investment healthy over the next 30 years. The share of GDP devoted to business fixed investment will hover around 10.0–11.5% of GDP through most of the forecast period. The effective capital stock (in 2000 dollar terms) is projected to increase 3.0% annually, below the 4.0% average growth rate recorded for 1976–2005. 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 the federal debt 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.

International Trade. A decline in the dollar relative to industrialized-country-currencies, combined with modest unit labor cost growth, will stimulate U.S. exports abroad and result in an eventual improvement in the U.S. current-account balance. Global Insight projects that real exports will expand at an average annual rate of 6.5% over the entire forecast period. Real imports, meanwhile, will grow at an average annual rate of 4.5%.

Industrial Production
(Average annual percent change)

	History		Trend			
	1980-1990	1991-2007	2008-2038	2008-2018	2019-2028	2029-2038
Mining	-0.7	-0.4	-0.3	-0.3	-0.4	-0.3
Utilities	2.0	2.0	0.9	0.9	0.9	0.7
Manufacturing - SIC Basis	1.9	3.1	3.5	2.5	3.5	4.5
Food	1.8	1.7	1.6	1.9	1.4	1.3
Textile Mills	0.6	-2.2	-2.4	-2.6	-1.4	-3.2
Apparel	-0.2	-4.5	-4.8	-5.4	-4.1	-4.8
Logging*	2.0	-0.3	0.0	-0.8	0.1	0.6
Furniture & Related Products	1.9	1.8	1.2	0.9	1.5	1.2
Paper & Products	1.9	-0.1	1.1	1.3	1.1	0.8
Newspapers, Periodicals, Books*	2.1	-0.5	1.7	0.5	1.9	2.9
Petroleum & Coal Products	-1.2	1.3	1.4	2.2	1.6	0.4
Chemicals	1.8	2.2	2.9	3.1	3.0	2.4
Rubber & Plastics Products	3.8	2.6	2.1	1.6	2.2	2.4
Leather & Allied Products	-2.6	-4.5	-3.3	-3.3	-2.4	-4.1
Nonmetallic Mineral Products	0.1	1.5	1.0	1.2	1.6	0.3
Primary Metals	-2.7	0.8	0.7	1.4	1.4	-0.9
Fabricated Metal Products	-0.1	2.0	1.3	1.1	1.7	1.3
Machinery	-0.4	1.7	2.4	1.5	2.5	3.2
Computers & Electronic Products	11.4	16.4	12.8	11.8	13.4	13.4
Elec. Eq., Appliances, & Components	0.2	1.1	2.5	2.0	2.9	2.5
Transportation Equipment	1.6	2.0	3.4	2.4	2.0	6.0
Miscellaneous	2.6	3.2	4.6	4.2	4.6	5.0
All Manufacturing - NAICS	2.0	3.3	3.6	2.7	3.6	4.5
Durable Goods	2.2	5.0	5.3	3.9	5.3	6.9
Nondurable Goods	1.6	1.2	1.8	1.7	1.9	1.8
All Less Comp., Commun., & Chips	1.2	1.4	2.2	1.8	2.1	2.7

Source: The U.S. Economy-The 30-Year Focus Trend Projection

Population and Demographics

	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
Portland-Beaverton-Vancouver, OR-WA, PMSA - Components of Population (in thousands)											
Population (7 counties)	1,523.7	1,749.2	1,927.9	2,092.9	2,265.5	2,509.6	2,703.6	2,881.8	3,050.1	3,210.7	3,371.5
Pct. Chg. (5-year avg.)	1.8	2.8	2	1.7	1.6	2.1	1.5	1.3	1.1	1	1
Annual Avg. Change	26.5	45.1	35.7	33	34.5	48.8	38.8	35.6	33.7	32.1	160.84
Births, total	24.5	25.1	28.3	28.3	32.7	36.4	38.5	40.4	42	43.6	45.6
Crude Birth Rate	16.1	14.4	14.7	13.5	14.4	14.5	14.3	14	13.8	13.6	13.5
Deaths, total	12.5	13.6	14.2	15	16.3	18.1	20.3	22.9	25.6	28	30.0
Crude Death Rate	8.2	7.8	7.3	7.2	7.2	7.2	7.5	8	8.4	8.7	8.9
Natural Increase	12	11.6	14.1	13.3	16.4	18.2	18.2	17.5	16.4	15.5	15.6
Net Migration	25.1	29.7	7.8	19.7	35.6	29.1	19.8	18.9	18	17.9	17.8
%Migration Growth Share	68.66	72.36	36.06	59.47	116.54	63.32	54.37	54.38	54.85	56.29	56.5
Regional Population Cohorts											
under 4 years old	112	136.2	134.9	142.2	150.6	166.9	181.2	192.4	201.7	210.2	218.77
5 to 9 years old	112.6	136.3	138.2	144.4	152.7	165.7	177.4	188.8	199.2	208.3	217.21
10 to 14 years old	106.7	126	136.2	144.5	153.7	165	174.3	184.6	195	204.8	214.22
15 to 19 years old	98.4	112.5	130.6	140.2	152.8	164.8	172.9	181.6	191.2	201	210.76
20 to 24 years old	101.1	104.7	127.4	138.5	157.6	173.9	180.7	187.3	195	203.8	213.39
25 to 29 years old	123.4	116.9	147.1	150.4	162.5	180.1	187.9	193.7	199.9	207.3	215.87
30 to 34 years old	138.7	141.8	151	157.5	166	180.9	190.1	196.6	202.4	208.8	216.18
35 to 39 years old	142	156.2	157.3	162	169.6	181.5	190.2	197.4	203.5	209.5	216.04
40 to 44 years old	126	154.2	160	166.6	171.6	180.8	188.3	195.4	202	208.1	214.30
45 to 49 years old	92	134.1	153.3	163.7	170.3	178.2	184.6	191.3	197.9	204.2	210.57
50 to 54 years old	67.3	96.2	130.1	145.2	160.9	171.6	178.8	185.3	191.8	198.3	204.67
55 to 59 years old	56.8	69.1	90.8	110.6	138.6	156.8	167.8	175.8	182.9	189.6	196.31
60 to 64 years old	56.9	57.2	62.8	77.4	107.7	132.3	149	160.6	169.4	177	184.22
65 to 69 years old	56.2	55.4	49.9	57	78.3	102.6	122.9	138.2	149.7	158.9	166.98
70 to 74 years old	46.1	51.9	47.5	48.9	57.5	75	94.1	111	124.6	135.6	145.23
75 to 79 years old	34.7	40.1	43.2	43.3	44.1	53.2	67.2	82.3	96.2	108.1	118.63
80 to 84 years old	23.7	27.4	30.7	32.5	32.5	36.2	44.3	55.2	66.8	77.7	87.96
85 years or older	20.8	23.9	26.9	31.8	38.6	44	52	64.4	80.8	99.6	120.21
Total	1,523.7	1,749.2	1,927.9	2,092.9	2,265.5	2,509.6	2,703.6	2,881.8	3,050.1	3,210.7	3,371.5
Population Share by Age (in percents)											
under 4 years old	7.35	7.79	7	6.8	6.65	6.65	6.7	6.67	6.61	6.55	6.49
5 to 9 years old	7.39	7.79	7.17	6.9	6.74	6.6	6.56	6.55	6.53	6.49	6.44
10 to 14 years old	7	7.2	7.07	6.91	6.78	6.57	6.45	6.41	6.39	6.38	6.35
15 to 19 years old	6.46	6.43	6.77	6.7	6.74	6.57	6.4	6.3	6.27	6.26	6.25
20 to 24 years old	6.64	5.99	6.61	6.62	6.96	6.93	6.68	6.5	6.39	6.35	6.33
25 to 29 years old	8.1	6.69	7.63	7.19	7.17	7.18	6.95	6.72	6.56	6.46	6.40
30 to 34 years old	9.1	8.1	7.83	7.53	7.33	7.21	7.03	6.82	6.64	6.5	6.41
35 to 39 years old	9.32	8.93	8.16	7.74	7.48	7.23	7.03	6.85	6.67	6.52	6.41
40 to 44 years old	8.27	8.81	8.3	7.96	7.58	7.21	6.96	6.78	6.62	6.48	6.36
45 to 49 years old	6.04	7.67	7.95	7.82	7.52	7.1	6.83	6.64	6.49	6.36	6.25
50 to 54 years old	4.41	5.5	6.75	6.94	7.1	6.84	6.61	6.43	6.29	6.18	6.07
55 to 59 years old	3.73	3.95	4.71	5.28	6.12	6.25	6.21	6.1	6	5.91	5.82
60 to 64 years old	3.73	3.27	3.26	3.7	4.75	5.27	5.51	5.57	5.55	5.51	5.46
65 to 69 years old	3.69	3.17	2.59	2.72	3.46	4.09	4.55	4.8	4.91	4.95	4.95
70 to 74 years old	3.03	2.97	2.46	2.34	2.54	2.99	3.48	3.85	4.09	4.22	4.31
75 to 79 years old	2.28	2.29	2.24	2.07	1.95	2.12	2.48	2.86	3.15	3.37	3.52
80 to 84 years old	1.56	1.57	1.59	1.55	1.44	1.44	1.64	1.92	2.19	2.42	2.61
85 years or older	1.36	1.37	1.4	1.52	1.7	1.75	1.92	2.24	2.65	3.1	3.57

Population and Demographics

	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
Population Groups (in thousands)											
Children under 18 years old	418.4	497.6	523.7	579.4	579.2	629.4	671.2	711	748.8	784.1	819.3
Pct. of Children	27.5	28.4	27.2	27.7	25.6	25.1	24.8	24.7	24.6	24.4	24.3
16 years or older (both sex)	1,164.4	1,319.2	1,482.6	1,597.6	1,778.0	1,979.0	2,136.2	2,279.7	2,416.0	2,547.2	2,677.0
Pct. Working-Age Pop.	76.4	75.4	76.9	76.3	78.5	78.9	79	79.1	79.2	79.3	79.4
65 years and older (both sex)	181.5	198.7	198.3	213.6	251	311.1	380.4	451.1	518.1	579.8	627.1
Pct. Retirement Age	11.9	11.4	10.3	10.2	11.1	12.4	14.1	15.7	17	18.1	18.6
Percent of Women of Child-bearing Age											
Women, 15 to 44 years old	24.1	22.6	22.8	22	21.8	21.3	20.7	20.1	19.7	19.4	19.3
Total Fertility Rate (per 1,000)	66.6	63.5	64.4	61.4	66.4	68	69	69.7	69.8	69.9	70
Women, 10 to 49 years old	30.7	30.1	30.4	29.4	29	28.2	27.3	26.7	26.2	25.8	25.7
Total Fertility Rate (per 1,000)	52.4	47.7	48.4	46	49.9	51.4	52.1	52.5	52.5	52.6	52.6
Households by Age of Head Person (in thousands)											
Households, total	593.1	671.8	742.3	798.8	892.4	998.1	1,085.6	1,165.9	1,241.0	1,312.2	1,381.0
(Percent shares)											
15 to 24 years old	5.3	5.7	6	6.4	6.4	6.2	6	5.8	5.7	5.7	5.7
25 to 34 years old	21.7	18.8	19.4	18.2	17.3	17	16.4	15.8	15.3	14.9	14.8
35 to 44 years old	25.7	25.6	23.3	22.9	21	20	19.2	18.5	18	17.5	17.3
45 to 54 years old	15.9	19.8	22	21.9	21.3	20.1	19.2	18.6	18	17.6	17.4
55 to 64 years old	11.4	11	12.4	13.9	16.1	16.9	17.1	16.9	16.6	16.3	16.2
65 to 74 years old	11.2	10	8.2	8.2	9.5	11.1	12.5	13.3	13.8	14	14
75 to 84 years old	6.7	6.8	6.6	6.2	5.7	5.9	6.8	7.8	8.7	9.4	9.7
85 years or older	2.2	2.2	2.2	2.4	2.6	2.7	2.9	3.3	3.9	4.6	5
State-level Forecasts (annualized percent change)											
CA Population	2.43	1.23	1.34	1.31	0.14	-0.09	1.38	2.14	1.94	1.43	1.22
CA Employment	3.02	-0.12	3.13	0.43	0	1.39	1.22	0.97	0.95	0.95	0.99
WA Population	2.04	2.41	1.46	1.31	1.46	1.59	1.52	1.43	1.36	1.3	1.29
WA Employment	4.61	1.84	2.93	0.48	1.35	1.68	1.49	1.35	1.34	1.34	1.37
OR Population	1.24	2.3	1.45	1.24	1.46	1.64	1.15	0.79	0.79	0.91	0.97
OR Employment	4.04	2.61	2.53	0.45	0.88	2	1.65	1.43	1.41	1.41	1.41
(annualized percent change)											
U.S. Population, all ages	0.97	1.27	1.16	0.96	0.97	0.97	0.96	0.93	0.89	0.85	0.83
16 years and older	1.02	1.2	1.3	1.18	1.14	0.98	0.99	0.98	0.95	0.9	0.87

Population and Household Range Projections through Year 2060

Probabilistic Population Forecast Range

	POPULATION			POPULATION - annual pct. chg.		
	Low - 5%	Pop. Base	High - 95%	Low - 5%	Pop. Base	High - 95%
1960		882,231			1.42%	
1965		989,200			2.32%	
1970		1,081,978			1.81%	
1975		1,192,500			1.96%	
1980		1,341,542			2.38%	
1985		1,391,424			0.73%	
1990		1,523,741			1.83%	
1995		1,749,224			2.80%	
2000		1,927,881			1.96%	
2005		2,092,910			1.66%	
2010	2,235,600	2,265,500	2,295,800	1.33%	1.60%	1.87%
2015	2,445,900	2,509,600	2,572,200	1.81%	2.07%	2.30%
2020	2,612,600	2,703,600	2,793,900	1.33%	1.50%	1.67%
2025	2,762,000	2,881,800	2,999,900	1.12%	1.28%	1.43%
2030	2,903,300	3,050,100	3,199,500	1.00%	1.14%	1.30%
2035	3,031,300	3,210,700	3,392,900	0.87%	1.03%	1.18%
2040	3,155,700	3,371,500	3,587,200	0.81%	0.98%	1.12%
2045	3,263,900	3,517,200	3,766,500	0.68%	0.85%	0.98%
2050	3,372,200	3,669,300	3,959,000	0.65%	0.85%	1.00%
2055	3,487,500	3,827,900	4,161,400	0.67%	0.85%	1.00%
2060	3,609,300	3,993,400	4,376,100	0.69%	0.85%	1.01%

Annual Percentage Rate:

1960-80		2.12%	
1980-00		1.83%	
2000-20	1.53%	1.71%	1.87%
2020-40	0.95%	1.11%	1.26%
2040-60	0.67%	0.85%	1.00%

The Metro econometric model embeds a standard regional cohort-component model to forecast population growth by age through year 2040.
After 2040, a fixed growth rate is assumed for regional population that trends future growth towards the U.S. population trend.

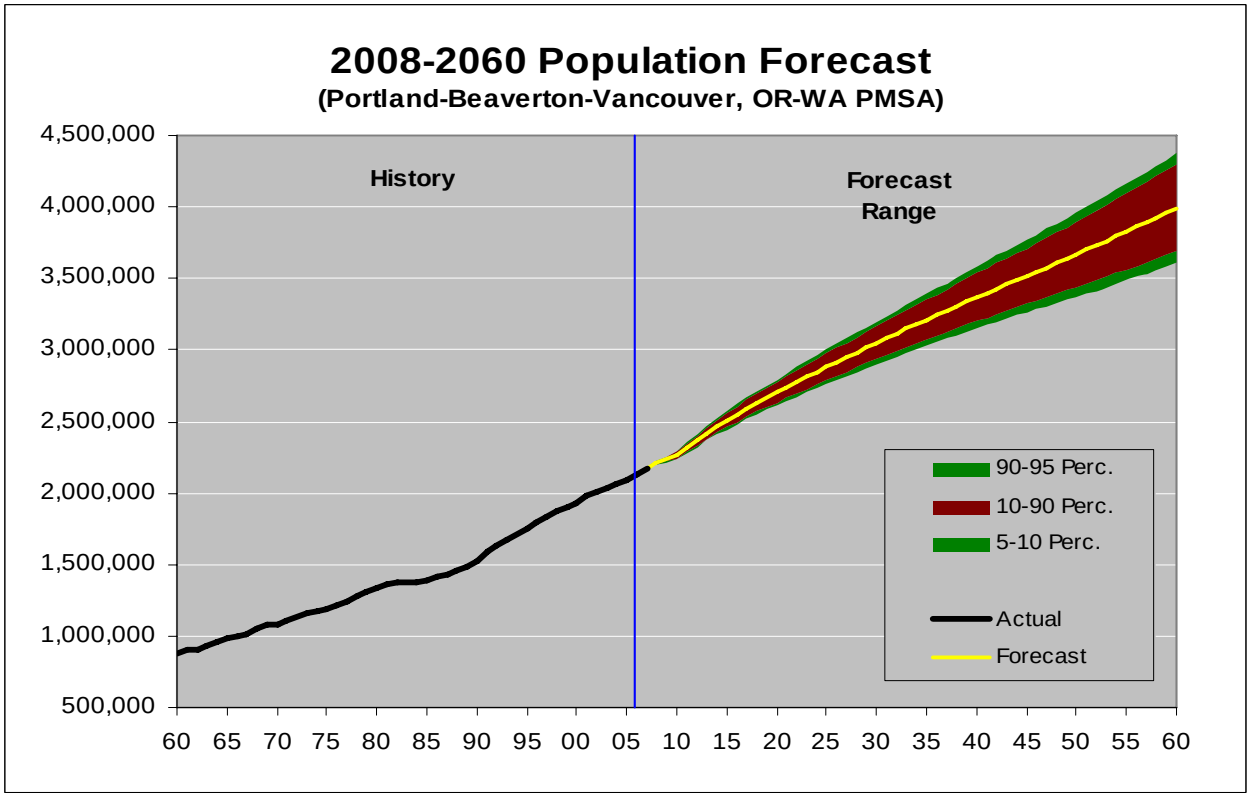
Household Forecast Range

	HOUSEHOLDS				HOUSEHOLD - annual pct. chg.		
	Low	HH Base	High	HH Size	Low	HH Base	High
1990		593,100		2.57		1.50%	
1995		671,800		2.60		2.52%	
2000		742,300		2.60		2.02%	
2005		798,800		2.62		1.48%	
2010	880,600	892,400	904,300	2.54	1.97%	2.24%	2.51%
2015	972,800	998,100	1,023,000	2.51	2.01%	2.26%	2.50%
2020	1,049,100	1,085,600	1,121,900	2.49	1.52%	1.69%	1.86%
2025	1,117,500	1,165,900	1,213,700	2.47	1.27%	1.44%	1.59%
2030	1,181,300	1,241,000	1,301,800	2.46	1.12%	1.26%	1.41%
2035	1,238,900	1,312,200	1,386,700	2.45	0.96%	1.12%	1.27%
2040	1,292,600	1,381,000	1,469,400	2.44	0.85%	1.03%	1.17%
2045	1,336,900	1,440,699	1,542,800	2.44	0.68%	0.85%	0.98%
2050	1,381,300	1,502,978	1,621,700	2.44	0.66%	0.85%	1.00%
2055	1,428,500	1,567,950	1,704,600	2.44	0.67%	0.85%	1.00%
2060	1,478,400	1,635,730	1,792,500	2.44	0.69%	0.85%	1.01%

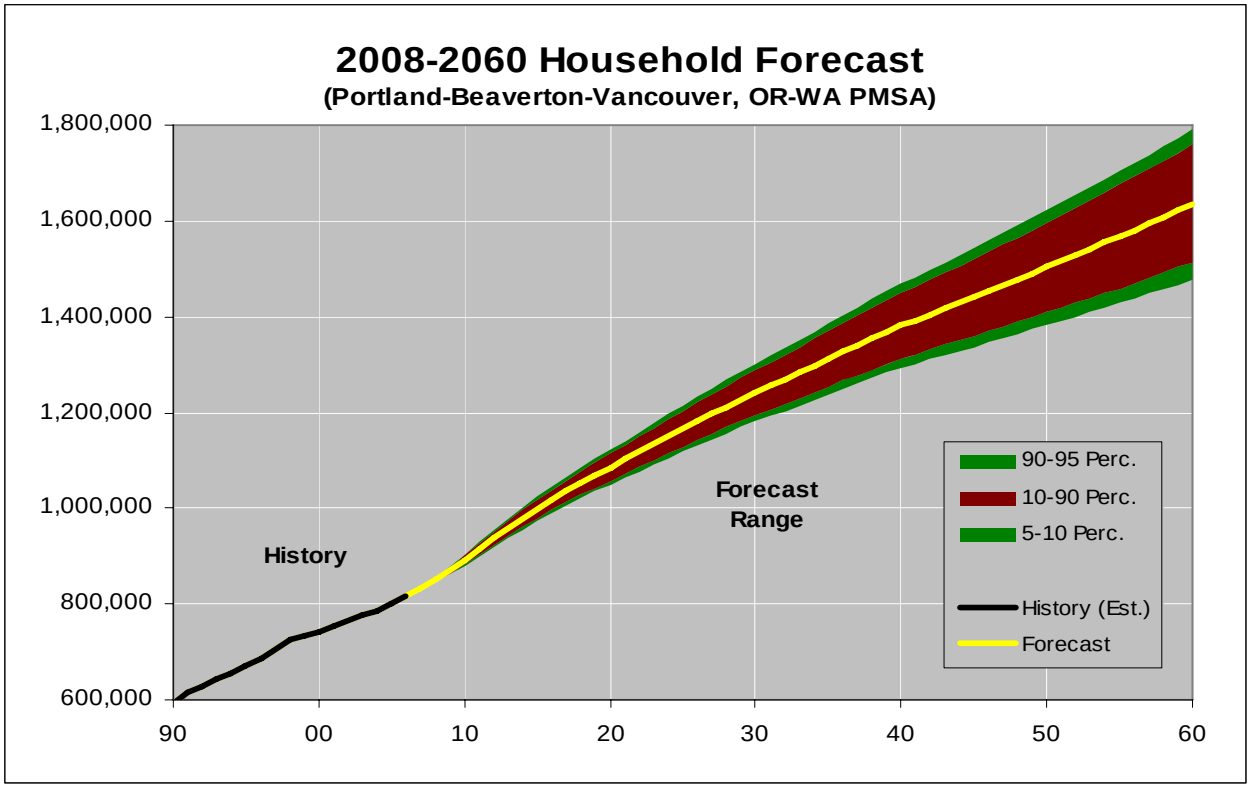
Annual Percentage Rate:

1990-00		2.27%	
2000-20	1.87%	2.00%	2.12%
2020-40	1.22%	1.38%	1.53%
2040-60	0.71%	0.89%	1.04%

Population and Household Range Projections through Year 2060



The household range projections are derived from the population forecast using age-adjusted headship rates which have been derived from census data.



U.S. Population Forecasts (in millions)

	Source: Census				Source: Global Insight				Source: Pew Research Center		Source: United Nations			Source: World Bank		
	(1)			(2)		(3)		(4)		(5)		(6)			(7)	
	released 2000			released 2004		released 2008Q1		released 2008Q4		released 2008		released 2008			circa 2005	
Scenario:	Middle Series			Middle Series		Trend Control		Trend Control		Main Projection		Medium Variant			(Base Case Trend)	
2000	275.03	0.93%	**2000**	282.13		**2000**	282.81	**2000**	282.81	**2000**	281.646	**2000**	284.857		**2000**	282.193	
2010	299.60	0.86%	**2010**	308.94	0.91%	**2010**	310.85	0.95%	**2010**	311.37	0.97%	**2010**	309.653	0.95%	**2005**	299.846	1.03%	**2005**	296.507	0.99%
2020	324.65	0.81%	**2020**	335.81	0.84%	**2020**	337.73	0.83%	**2020**	342.61	0.96%	**2020**	340.219	0.95%	**2010**	314.692	0.97%	**2010**	310.206	0.91%
2030	350.78	0.78%	**2030**	363.58	0.80%	**2030**	365.58	0.80%	**2030**	375.12	0.91%	**2030**	371.822	0.89%	**2015**	329.010	0.89%	**2015**	323.890	0.87%
2040	377.07	0.73%	**2040**	391.95	0.75%	**2040**	394.05	0.75%	**2040**	407.87	0.84%	**2040**	403.648	0.82%	**2020**	342.547	0.81%	**2020**	336.844	0.79%
2050	403.40	0.68%	**2050**	419.85	0.69%							**2050**	438.153	0.82%	**2025**	354.930	0.71%	**2025**	348.335	0.67%
2060	431.70	0.68%													**2030**	366.187	0.63%	**2030**	358.263	0.56%
2070	463.29	0.71%													**2035**	376.492	0.56%	**2035**	367.134	0.49%
2080	497.46	0.71%													**2040**	385.868	0.49%	**2040**	375.206	0.44%
2090	533.22	0.70%													**2045**	394.426	0.44%	**2045**	382.823	0.40%
2100	570.55	0.68%													**2050**	402.415	0.40%	**2050**	390.368	0.39%
%APR	0.73%			0.80%			0.83%		0.92%		0.89%		0.69%			0.65%				

(1) http://www.census.gov/population/projections/nation/summary/np-t2.txt (Census Population Projections)
(2) http://www.census.gov/ipc/www/usinterimproj/natprojtab01a.xls (Census Population Projections)
(3) AREMOS data bank UQCLS02 (Global Insight, 2008 Quarter 4, US Economy 30-Year Outlook)
(4) AREMOS data bank UQCLS11 (Global Insight, 2008 Quarter 1, US Economy 30-Year Outlook)
(5) http://pewhispanic.org/files/reports/85.pdf (Pew Research Center)
(6) http://esa.un.org/unpp/index.asp (United Nations, World Population Prospects: 2006 Revision Population Database)
(7) http://go.worldbank.org/072F5QBOC0 (World Bank Population Projections: HNP Stats)

Oregon State Population Forecasts (in millions)

	Source: Census						Source: Oregon Office of Economic Analysis				Source: Metro		Source: Global Insight	
	(8)		(9)				(10)		(11)		(12)		(13)	
	released 1996		released 2005				released 1997		released 2004		circa 2008		released 2008	
Scenario:	Middle Series		Middle Series								Trend Base Case		Trend Control	
2000	3.397	1.30%	2000	3.421			2000	3.406	2000	3.437	2000	3.421	2000	3.43635
2005	3.613	1.24%	2005	3.596	1.00%		2005	3.631	1.29%	2005	3.618	1.03%	2005	3.639	1.24%	2005	3.63842	1.15%
2010	3.803	1.03%	2010	3.791	1.06%		2010	3.857	1.21%	2010	3.844	1.22%	2010	3.924	1.52%	2010	3.92034	1.50%
2015	3.992	0.97%	2015	4.013	1.14%		2015	4.091	1.18%	2015	4.096	1.28%	2015	4.237	1.54%	2015	4.17835	1.28%
2020	4.177	0.91%	2020	4.260	1.20%		2020	4.326	1.12%	2020	4.359	1.26%	2020	4.448	0.98%	2020	4.40874	1.08%
2025	4.349	0.81%	2025	4.536	1.26%		2025	4.556	1.04%	2025	4.626	1.19%	2025	4.602	0.68%	2025	4.62402	0.96%
			2030	4.834	1.28%		2030	4.776	0.95%	2030	4.891	1.12%	2030	4.771	0.73%	2030	4.82645	0.86%
							2035	4.988	0.87%	2035	5.155	1.06%	2035	4.987	0.89%	2035	5.01698	0.78%
							2040	5.193	0.81%	2040	5.425	1.03%	2040	5.228	0.95%	2040	5.20041	0.72%
%APR	0.99%		1.16%				1.06%		1.15%		1.07%		1.04%	

(8) http://www.census.gov/prod/2/pop/p25/p25-1131.pdf (Census Population Projections)
(9) http://www.census.gov/population/projections/SummaryTabA1.xls (Census Population Projections)
(10) Office of Economic Analysis, Department of Administrative Services, State of Oregon, January 1997
(11) Office of Economic Analysis, Department of Administrative Services, State of Oregon, April 2004
(12) Metro, Economic and Land Use Forecasting, unpublished data (derived from stochastic model equation)
(13) Doug Laube, Global Insigt emailed the GI regional service population forecast figures, 2008 (Global Insight)

Portland Metro Area Population (geographies differ) - in millions

	Source: Global Insight Regional Service				Source: Oregon Office of Economic Analysis				Source: Metro									
	(14)		(15)		(16)		(17)		(18)			(19)			(20)			
	released 2001		releasd 2008		released 1997		released 2004		released @ May 2008 Forum			pre-recession draft			post-recession draft			
Scenario:	Trend Control (5 counties)		Trend Control (7 counties)		(3 counties)		(3 counties)		Trend Base Case (7 counties)			Trend Control (7 counties)			Trend Control (7 counties)			
2000	1.875		1.942		1.420		1.452		1.9279	1.96%		1.928	1.96%		1.928	1.96%		
2005	2.019	1.49%	2.098	1.56%	1.514	1.29%	1.540	1.19%	2.0966	1.69%		2.093	1.66%		2.0929	1.66%		
2010	2.155	1.31%	2.297	1.83%	1.609	1.23%	1.646	1.34%	2.3141	1.99%		2.272	1.66%		2.2655	1.60%		
2015	2.284	1.17%	2.474	1.50%	1.710	1.22%	1.759	1.34%	2.5291	1.79%		2.504	1.96%		2.5096	2.07%		
2020	2.419	1.15%	2.637	1.29%	1.812	1.17%	1.877	1.30%	2.7077	1.37%		2.672	1.31%		2.7036	1.50%		
2025	2.558	1.13%	2.794	1.16%	1.912	1.09%	2.000	1.27%	2.8711	1.18%		2.822	1.10%		2.8818	1.28%		
			2.947	1.07%	2.009	0.99%	2.125	1.22%	3.0217	1.03%		2.966	1.00%		3.0501	1.14%		
			3.096	0.99%	2.101	0.90%	2.252	1.17%	3.1813	1.03%		3.108	0.94%		3.2107	1.03%		
			3.245	0.94%	2.189	0.83%	2.384	1.14%	3.2843	0.64%		3.254	0.92%		3.3715	0.98%		
									3.4178	0.80%								
									3.5567	0.80%								
									3.7013	0.80%								
									3.8517	0.80%								
%APR	1.25%		1.29%		1.09%		1.25%		1.16%			1.32%			1.41%			
(2000-2035)			1.40%		1.16%		1.28%		1.51%			1.45%			1.54%			

(14) Global Insight

(15) Doug Laube, Global Insigt emailed the GI regional service population forecast figures, 2008

(16) Office of Economic Analysis, Department of Administrative Services, State of Oregon, January 1997

(17) Office of Economic Analysis, Department of Administrative Services, State of Oregon, April 2004

(18) Metro, Economic and Land Use Forecasting, published for the May 2008 Forecast Forum

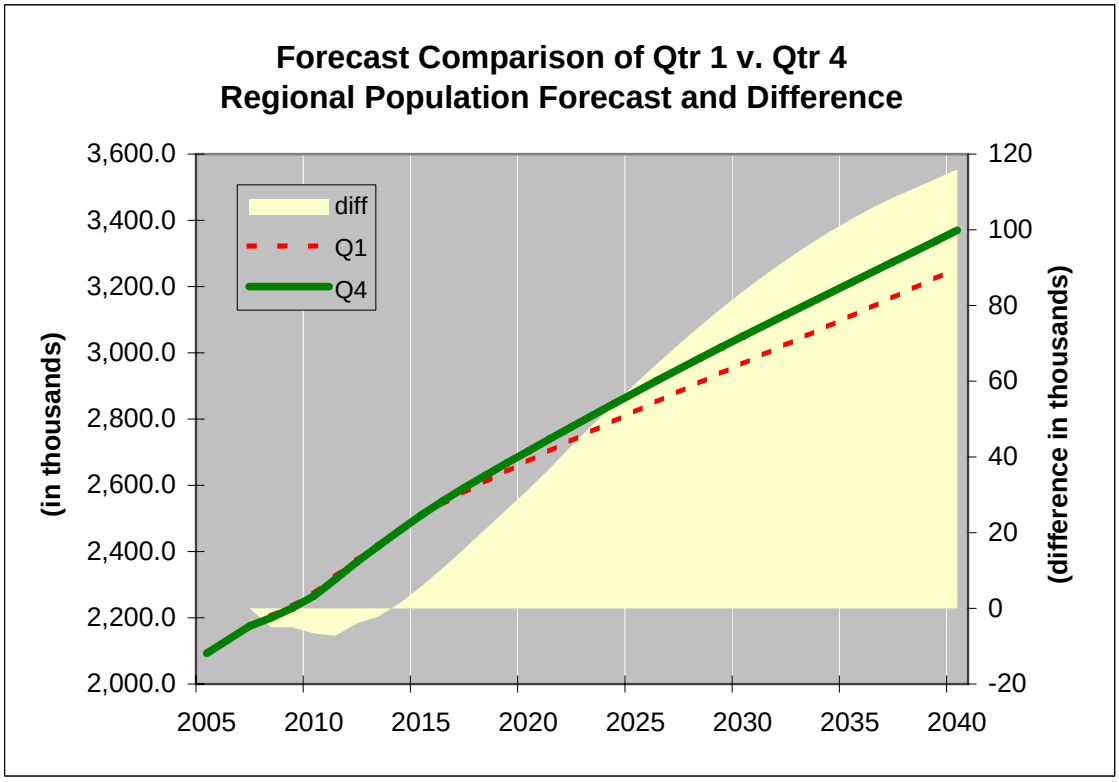
(19) Metro, Economic and Land Use Forecasting, unpublished data (derived from econometric regional macro model) - 2008 Q1 US Macro Assumptions

(20) Metro, Economic and Land Use Forecasting, unpublished data (derived from econometric regional macro model) - 2008 Q4 US Macro Assumptions

2040 Q1 vs. 2040 Q4 Population Forecast Comparison

Total Population

	Q1	Q4	diff	%diff
2008	2,205.0	2,200.0	(5.00)	-0.2%
2009	2,235.0	2,230.0	(5.00)	-0.2%
2010	2,272.2	2,265.5	(6.63)	-0.3%
2011	2,323.6	2,316.3	(7.24)	-0.3%
2012	2,372.5	2,368.5	(4.00)	-0.2%
2013	2,418.5	2,416.3	(2.15)	-0.1%
2014	2,462.2	2,463.5	1.36	0.1%
2015	2,503.8	2,509.6	5.76	0.2%
2020	2,672.2	2,703.6	31.42	1.2%
2025	2,822.4	2,881.8	59.41	2.1%
2030	2,966.4	3,050.1	83.70	2.7%
2035	3,108.0	3,210.7	102.65	3.2%
2040	3,254.0	3,370.0	115.98	3.4%



Portland-Beaverton-Vancouver, OR-WA PMSA

Q1 Forecast represents a "pre-recession" projection and set of macro-economic assumptions
Q4 Forecast represents a recognition in the forecast that embeds the most recent recession outlook and assumptions

However, between Q1 and Q4, the U.S. Census adjusted its future forecast assumptions for immigration, native birth rates and death rates. The result is a Q4 forecast for population growth that is an average of one-tenth of a percentage point faster by 2040 as compared to the previous Q1 population foreast.

Employment by Industry (Portland-Beaverton-Vancouver, OR-WA PMSA)

Moderate Growth Scenario (Baseline Series)

(in thousands)	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
Nonfarm Employment, Civ.	582.7	588.0	726.8	841.7	973.2	983.7	1,040.1	1,157.0	1,265.9	1,368.4	1,475.9	1,592.1	1,707.4
Private nonfarm emp.	496.0	499.9	626.1	730.7	842.7	846.0	891.8	1,005.7	1,105.3	1,198.2	1,296.6	1,399.7	1,496.7
Manufacturing, total	119.7	108.7	124.9	135.3	143.3	123.8	117.0	124.2	127.4	129.2	130.8	132.7	133.8
Durable Goods	89.1	78.1	89.0	96.3	107.5	94.0	87.3	93.6	96.5	98.1	99.7	101.4	102.5
Wood Products	9.3	7.7	7.9	6.4	5.9	6.0	4.0	5.0	4.9	4.7	4.5	4.5	4.4
Primary Metals	7.3	6.6	8.5	6.8	7.7	6.1	6.3	6.1	5.6	5.2	4.9	4.6	4.3
Fab. Metals	11.9	9.9	10.8	13.2	13.7	12.5	11.5	12.4	12.5	12.4	12.3	12.2	11.9
Machinery	10.2	7.1	9.2	10.5	10.4	8.3	7.7	8.0	7.8	7.6	7.5	7.4	7.3
Electronics	29.4	27.9	28.1	32.7	41.2	36.5	32.0	34.9	37.0	38.6	40.4	42.4	44.2
Computers	7.4	9.2	12.2	18.1	28.0	26.9	24.2	27.9	30.6	32.8	35.0	37.2	39.3
Oth. Elect.	22.0	18.6	16.0	14.6	13.2	9.5	7.9	7.0	6.4	5.8	5.4	5.1	4.9
Transport. Eq.	8.4	6.7	9.5	9.6	11.2	9.0	8.8	9.4	10.0	10.3	10.5	10.7	10.9
Oth. Durables	12.5	12.2	15.0	17.2	17.4	15.7	16.9	17.9	18.7	19.2	19.5	19.5	19.5
Non-Durable Goods	30.6	30.6	35.9	39.1	35.8	29.8	29.6	30.6	30.9	31.1	31.2	31.3	31.3
Food Proc.	8.6	8.8	9.5	9.6	8.9	8.6	9.4	9.6	9.6	9.5	9.4	9.4	9.4
Paper	7.3	6.7	7.5	7.1	6.5	5.0	4.6	4.9	4.9	4.9	4.8	4.8	4.8
Other Non-Dur.	14.8	15.1	18.8	22.3	20.4	16.3	15.7	16.0	16.5	16.8	17.0	17.1	17.2
Non-Mfg. (private)	380.4	395.8	501.2	595.4	699.4	722.2	774.9	881.6	977.9	1,069.1	1,165.9	1,267.1	1,362.9
Natural Resources	2.2	2.1	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2
Construction	28.1	22.3	36.9	45.3	53.2	58.5	60.9	65.3	69.2	73.7	79.2	85.6	93.0
Trade, Transport & Utilities	124.4	126.9	155.9	176.5	201.0	197.7	208.0	230.6	243.2	256.2	271.5	287.4	302.0
Wholesale Trade	36.1	35.5	41.6	49.1	55.6	56.3	58.6	64.8	70.9	76.4	82.1	87.7	92.0
Retail Trade	65.5	67.7	82.6	92.5	106.8	104.5	110.9	120.1	122.2	126.2	132.1	138.3	144.6
Auto parts	8.7	9.1	10.8	12.2	14.2	14.2	13.7	15.2	15.9	16.5	17.2	17.8	18.4
Food & Bev.	9.0	11.6	15.2	16.6	18.8	18.6	20.0	21.3	21.9	22.5	23.3	24.3	25.4
Other Retail	47.8	47.0	56.6	63.7	73.8	71.8	77.2	83.6	84.4	87.2	91.5	96.2	100.8
TWU	22.8	23.7	31.7	35.0	38.6	36.9	38.5	45.7	50.2	53.6	57.3	61.4	65.4
Information	16.6	16.1	16.1	19.0	26.0	22.9	23.0	26.1	29.7	33.6	37.7	41.5	43.1
Printing	3.3	4.7	4.5	6.5	9.7	9.1	10.1	12.0	14.8	17.4	19.9	21.7	21.7
Internet, etc.	13.4	11.5	11.6	12.5	16.2	13.8	12.9	14.0	14.9	16.2	17.8	19.8	21.4
Financial Activities	42.2	42.0	50.0	55.4	64.9	68.2	71.0	81.0	88.9	96.4	103.8	112.5	119.8
Finance & Ins.	28.3	27.9	30.0	33.1	41.6	43.9	44.8	52.2	57.2	62.0	66.7	72.5	77.1
Real Estate	13.9	14.1	20.0	22.3	23.3	24.4	26.3	28.8	31.7	34.4	37.1	39.9	42.7
Pro. Business	47.3	57.1	77.5	104.6	130.5	128.5	137.6	161.9	182.5	202.2	222.7	244.2	265.0
Pro., Sci., Tech.	19.7	22.7	36.3	43.9	48.5	49.1	54.4	63.2	71.7	79.6	88.1	97.1	106.2
Mgmt. of Companies	7.7	8.6	10.2	14.9	20.2	20.3	22.2	26.5	30.5	34.8	39.7	45.3	50.8
Admin & Waste	19.9	25.8	31.0	45.8	61.7	59.2	61.0	72.2	80.3	87.8	95.0	101.9	108.0
Edu. & Health	49.8	55.7	73.5	87.4	102.9	119.8	137.4	161.6	190.4	215.9	242.7	271.1	301.2
Education	7.0	8.2	11.7	14.1	18.0	21.0	23.8	26.5	30.2	33.8	37.3	41.2	44.6
Health Care	42.8	47.4	61.8	73.3	84.9	98.9	113.6	135.1	160.2	182.1	205.4	229.9	256.6
Leisure & Hospitality	49.3	51.5	63.6	76.0	85.8	90.1	99.0	110.2	121.8	132.5	143.1	153.9	164.2
Arts, Entertain. & Rec.	6.6	6.9	9.9	11.8	13.1	13.2	13.7	15.1	17.1	18.9	20.6	22.2	23.4
Accomm. & Food Ser.	42.7	44.6	53.7	64.2	72.7	76.9	85.4	95.1	104.8	113.6	122.5	131.7	140.8
Other Services	20.7	22.2	25.7	29.1	33.4	34.6	36.2	43.4	50.7	57.4	63.9	69.9	73.4
Social Orgs.	6.6	6.6	12.0	13.2	15.3	15.1	15.9	20.5	25.2	29.4	33.3	36.4	37.0
Other	9.9	10.9	13.7	15.9	18.1	19.5	20.3	22.9	25.5	28.0	30.6	33.4	36.4
Government, total	93.5	96.0	109.2	118.3	137.7	144.8	155.5	158.4	167.8	177.3	186.3	199.4	217.8
Military	6.8	8.0	8.5	7.3	7.2	7.2	7.2	7.1	7.1	7.1	7.1	7.1	7.1
Civilian Govt., total	86.7	88.1	100.8	111.0	130.5	137.7	148.3	151.2	160.6	170.1	179.2	192.3	210.7
Civilian Fed	16.7	16.9	18.8	18.0	18.9	18.4	18.5	18.1	18.6	18.1	18.6	18.1	18.1
State & Local	70.0	71.1	81.9	93.0	111.6	119.3	129.8	133.1	142.1	152.0	160.6	174.2	192.5

Employment by Industry (Portland-Beaverton-Vancouver, OR-WA PMSA)

(annualized percent change)

	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
Nonfarm Employment, Civ.	4.82	0.18	4.33	2.98	2.95	0.21	1.12	2.15	1.82	1.57	1.52	1.53	1.41
Private nonfarm emp.	5.32	0.16	4.60	3.14	2.89	0.08	1.06	2.43	1.91	1.63	1.59	1.54	1.35
Manufacturing, total	5.46	(1.91)	2.82	1.62	1.15	(2.88)	(1.14)	1.21	0.51	0.28	0.25	0.28	0.18
Durable Goods	7.18	(2.59)	2.65	1.58	2.23	(2.65)	(1.46)	1.41	0.60	0.34	0.32	0.34	0.22
Wood Products	(2.27)	(3.77)	0.75	(4.34)	(1.46)	0.17	(7.53)	4.24	(0.20)	(0.70)	(0.86)	(0.13)	(0.38)
Primary Metals	9.28	(2.23)	5.35	(4.48)	2.72	(4.69)	0.81	(0.87)	(1.50)	(1.43)	(1.25)	(1.17)	(1.41)
Fab. Metals	5.06	(3.66)	1.66	4.17	0.70	(1.73)	(1.68)	1.47	0.11	(0.08)	(0.13)	(0.20)	(0.48)
Machinery	3.90	(6.96)	5.26	2.64	(0.08)	(4.60)	(1.40)	0.89	(0.53)	(0.49)	(0.34)	(0.19)	(0.32)
Electronics	17.65	(1.05)	0.17	3.06	4.73	(2.40)	(2.57)	1.74	1.17	0.84	0.91	0.97	0.84
Computers	29.09	4.65	5.65	8.24	9.16	(0.78)	(2.15)	2.90	1.88	1.37	1.31	1.26	1.07
Oth. Elect.	14.79	(3.29)	(3.06)	(1.73)	(2.04)	(6.29)	(3.78)	(2.23)	(1.89)	(1.85)	(1.45)	(1.02)	(0.85)
Transport. Eq.	3.82	(4.31)	7.13	0.10	3.14	(4.17)	(0.45)	1.32	1.14	0.69	0.42	0.36	0.23
Oth. Durables	3.13	(0.45)	4.15	2.81	0.20	(2.06)	1.51	1.11	0.92	0.51	0.29	0.00	0.01
Non-Durable Goods	1.13	(0.01)	3.24	1.71	(1.74)	(3.58)	(0.13)	0.63	0.23	0.10	0.06	0.08	0.02
Food Proc.	(0.49)	0.46	1.70	0.21	(1.63)	(0.71)	1.91	0.46	(0.15)	(0.19)	(0.11)	(0.04)	(0.04)
Paper	1.61	(1.51)	2.28	(1.09)	(1.75)	(5.21)	(1.83)	1.66	(0.12)	(0.25)	(0.25)	(0.08)	(0.07)
Other Non-Dur.	1.88	0.43	4.49	3.45	(1.78)	(4.40)	(0.76)	0.43	0.57	0.36	0.25	0.19	0.07
Non-Mfg. (private)	5.24	0.80	4.83	3.51	3.27	0.64	1.42	2.61	2.10	1.80	1.75	1.68	1.47
Natural Resources	6.52	(0.76)	(0.19)	(0.39)	(1.33)	(1.09)	(0.80)	(1.08)	(1.66)	(1.10)	(1.01)	(0.91)	(0.88)
Construction	5.95	(4.52)	10.62	4.22	3.24	1.92	0.81	1.41	1.16	1.26	1.46	1.56	1.67
Trade, Transport & Utilities	3.52	0.40	4.21	2.52	2.63	(0.33)	1.02	2.09	1.07	1.04	1.17	1.14	1.00
Wholesale Trade	5.46	(0.32)	3.20	3.35	2.52	0.27	0.80	2.03	1.79	1.52	1.45	1.32	0.96
Retail Trade	2.81	0.66	4.06	2.29	2.92	(0.43)	1.20	1.60	0.35	0.65	0.91	0.93	0.89
Auto parts	0.65	1.04	3.52	2.38	3.17	(0.11)	(0.63)	2.07	0.89	0.79	0.77	0.75	0.59
Food & Bev.	5.16	5.19	5.55	1.83	2.47	(0.25)	1.54	1.27	0.51	0.55	0.75	0.84	0.88
Other Retail	2.80	(0.36)	3.78	2.40	2.99	(0.54)	1.46	1.60	0.21	0.65	0.97	0.99	0.94
TWU	2.67	0.77	6.05	1.99	1.99	(0.92)	0.85	3.50	1.88	1.32	1.36	1.38	1.30
Information	6.16	(0.57)	0.00	3.35	6.41	(2.44)	0.08	2.50	2.67	2.48	2.32	1.94	0.77
Printing	5.74	7.52	(0.78)	7.65	8.44	(1.26)	2.12	3.49	4.20	3.28	2.77	1.69	0.06
Internet, etc.	6.26	(3.00)	0.29	1.50	5.29	(3.16)	(1.38)	1.68	1.28	1.66	1.85	2.21	1.52
Financial Activities	6.65	(0.09)	3.52	2.10	3.19	1.02	0.80	2.65	1.88	1.64	1.49	1.62	1.27
Finance & Ins.	6.20	(0.28)	1.44	2.00	4.65	1.07	0.41	3.11	1.85	1.65	1.46	1.69	1.22
Real Estate	7.59	0.32	7.20	2.24	0.86	0.93	1.50	1.86	1.94	1.63	1.54	1.48	1.37
Pro. Business	6.83	3.86	6.31	6.18	4.51	(0.30)	1.37	3.31	2.43	2.07	1.95	1.86	1.65
Pro., Sci., Tech.	7.89	2.95	9.83	3.85	2.03	0.23	2.06	3.04	2.58	2.11	2.04	1.97	1.81
Mgmt. of Companies	5.01	2.28	3.40	7.90	6.24	0.06	1.87	3.57	2.89	2.63	2.69	2.64	2.34
Admin & Waste	6.53	5.29	3.78	8.13	6.14	(0.84)	0.59	3.44	2.13	1.81	1.58	1.42	1.17
Edu. & Health	5.71	2.25	5.72	3.51	3.33	3.09	2.77	3.30	3.33	2.54	2.37	2.24	2.13
Education	7.97	3.12	7.32	3.78	5.08	3.05	2.56	2.18	2.65	2.27	2.01	2.02	1.60
Health Care	5.36	2.09	5.43	3.47	2.98	3.10	2.82	3.53	3.46	2.59	2.44	2.28	2.22
Leisure & Hospitality	6.93	0.87	4.32	3.62	2.46	0.99	1.91	2.15	2.03	1.69	1.56	1.46	1.31
Arts, Entertain. & Rec.	3.28	0.86	7.51	3.52	2.07	0.26	0.66	2.02	2.47	2.06	1.75	1.46	1.10
Accomm. & Food Ser.	7.56	0.87	3.79	3.64	2.53	1.11	2.12	2.18	1.96	1.63	1.52	1.46	1.35
Other Services	3.16	1.43	2.93	2.55	2.81	0.70	0.90	3.69	3.17	2.49	2.19	1.80	1.00
Social Orgs.	4.25	(0.09)	12.76	1.93	3.10	(0.28)	1.00	5.22	4.21	3.11	2.55	1.82	0.32
Other	2.81	2.00	4.59	3.08	2.58	1.49	0.84	2.44	2.20	1.86	1.80	1.77	1.72
Government, total	1.81	0.54	2.61	1.61	3.08	1.02	1.42	0.37	1.16	1.11	1.00	1.37	1.78
Military	(2.19)	3.26	1.25	(2.85)	(0.50)	0.11	(0.14)	(0.03)	(0.03)	0.00	0.00	0.00	0.00
Civilian Govt., total	2.16	0.32	2.73	1.95	3.30	1.07	1.50	0.39	1.21	1.15	1.04	1.42	1.84
Civilian Fed	2.21	0.26	2.11	(0.91)	1.01	(0.57)	0.20	(0.49)	0.55	(0.53)	0.49	(0.47)	0.00
State & Local	2.14	0.33	2.87	2.56	3.72	1.34	1.70	0.52	1.30	1.37	1.11	1.63	2.03

Employment by Industry (Portland-Beaverton-Vancouver, OR-WA PMSA)

HIGH Growth Scenario

	2010	2015	2020	2025	2030	2035	2040
(in thousands)							
Nonfarm Employment, Civ.	1,152.4	1,299.4	1,434.2	1,561.8	1,695.3	1,836.8	1,985.7
Private nonfarm emp.	998.7	1,142.0	1,266.8	1,384.4	1,508.1	1,635.9	1,764.3
Manufacturing, total	137.6	149.5	155.4	159.4	163.0	166.3	169.1
Durable Goods	104.9	115.2	120.3	123.6	126.8	129.7	132.2
Wood Products	5.0	6.2	6.3	6.2	6.0	6.0	6.0
Primary Metals	7.6	7.7	7.4	7.1	6.9	6.6	6.3
Fab. Metals	12.4	13.5	13.7	13.7	13.7	13.7	13.6
Machinery	8.6	9.0	8.8	8.6	8.4	8.2	8.0
Electronics	39.2	43.6	46.5	48.9	51.6	54.5	57.3
Computers	30.5	35.8	39.4	42.4	45.6	48.7	51.8
Oth. Elect.	8.7	7.8	7.1	6.5	6.1	5.8	5.5
Transport. Eq.	12.2	13.0	13.5	13.9	14.2	14.4	14.6
Oth. Durables	20.0	22.3	24.0	25.2	26.1	26.4	26.5
Non-Durable Goods	32.7	34.3	35.2	35.8	36.2	36.6	36.9
Food Proc.	10.0	10.3	10.2	10.1	10.1	10.0	10.0
Paper	5.2	5.5	5.4	5.4	5.3	5.2	5.2
Other Non-Dur.	17.5	18.6	19.6	20.3	20.9	21.4	21.7
Non-Mfg. (private)	861.1	992.6	1111.4	1,225.0	1,345.1	1,469.6	1,595.2
Natural Resources	1.9	1.8	1.7	1.6	1.5	1.4	1.4
Construction	77.9	85.0	93.6	104.0	117.1	132.3	150.6
Trade, Transport & Utilities	221.5	246.7	261.7	277.0	294.4	311.9	328.5
Wholesale Trade	61.4	67.9	74.1	80.0	85.9	91.8	96.6
Retail Trade	120.6	132.3	136.3	142.1	149.4	156.9	164.4
Auto parts	15.4	17.0	17.7	18.5	19.2	20.0	20.7
Food & Bev.	22.0	23.5	24.3	25.1	26.2	27.5	28.8
Other Retail	83.2	91.8	94.3	98.5	104.0	109.5	114.9
TWU	40.8	48.3	53.0	56.7	60.7	65.0	69.4
Information	27.9	31.7	35.9	40.8	46.2	51.0	55.3
Printing	13.4	16.7	20.6	24.3	27.9	30.6	31.7
Internet, etc.	13.6	14.9	16.0	17.4	19.2	21.4	23.6
Financial Activities	76.5	88.1	97.0	105.2	113.1	122.2	130.3
Finance & Ins.	48.1	56.6	62.3	67.6	72.5	78.5	83.5
Real Estate	28.5	31.5	34.7	37.6	40.6	43.7	46.8
Pro. Business	164.6	200.7	230.5	258.0	285.9	313.7	341.7
Pro., Sci., Tech.	60.8	71.8	81.9	90.9	100.3	110.2	120.1
Mgmt. of Companies	26.8	33.6	39.7	46.0	52.7	60.0	67.8
Admin & Waste	77.0	95.3	108.9	121.2	132.8	143.6	153.7
Edu. & Health	145.7	172.6	203.8	231.9	261.6	293.1	327.2
Education	25.9	29.0	33.2	37.4	41.7	46.3	50.9
Health Care	119.8	143.6	170.6	194.5	219.9	246.8	276.3
Leisure & Hospitality	103.2	114.9	127.1	138.2	149.4	160.7	171.9
Arts, Entertain. & Rec.	15.2	16.8	19.0	21.0	22.9	24.6	26.3
Accomm. & Food Ser.	88.1	98.1	108.1	117.2	126.5	136.1	145.6
Other Services	41.9	51.2	60.2	68.2	76.1	83.2	88.4
Social Orgs.	20.4	26.9	33.1	38.5	43.5	47.6	49.5
Other	21.5	24.3	27.1	29.7	32.6	35.6	38.9
Government, total	161.9	165.5	175.6	185.7	195.4	209.1	229.5
Military	8.2	8.2	8.2	8.2	8.2	8.2	8.2
Civilian Govt., total	153.7	157.4	167.4	177.5	187.2	200.9	221.4
Civilian Fed	19.1	18.7	19.2	18.7	19.2	18.8	18.8
State & Local	134.6	138.7	148.2	158.8	168.0	182.1	202.6

Employment by Industry (Portland-Beaverton-Vancouver, OR-WA PMSA)

LOW Growth Scenario

(in thousands)	2010	2015	2020	2025	2030	2035	2040
Nonfarm Employment, Civ.	926.2	1,011.1	1,093.5	1,170.7	1,252.2	1,342.9	1,433.7
Private nonfarm emp.	783.3	866.0	939.7	1,007.9	1,081.0	1,159.2	1,231.5
Manufacturing, total	96.3	99.0	99.4	99.0	98.7	99.0	98.9
Durable Goods	69.7	72.1	72.7	72.6	72.5	73.0	73.1
Wood Products	3.1	3.7	3.5	3.3	3.1	3.1	3.1
Primary Metals	5.1	4.4	3.8	3.3	2.9	2.7	2.3
Fab. Metals	10.6	11.3	11.2	11.1	10.9	10.7	10.3
Machinery	6.8	7.1	6.9	6.7	6.7	6.7	6.7
Electronics	24.9	26.3	27.5	28.3	29.1	30.3	31.2
Computers	17.9	20.0	21.8	23.1	24.4	25.7	26.8
Oth. Elect.	7.1	6.3	5.7	5.1	4.8	4.5	4.3
Transport. Eq.	5.5	5.9	6.4	6.7	6.9	7.1	7.1
Oth. Durables	13.8	13.5	13.4	13.1	12.9	12.6	12.4
Non-Durable Goods	26.6	26.8	26.7	26.4	26.2	26.0	25.8
Food Proc.	8.8	9.0	8.9	8.8	8.8	8.8	8.7
Paper	3.9	4.4	4.4	4.4	4.3	4.3	4.4
Other Non-Dur.	13.9	13.5	13.4	13.2	13.1	12.9	12.7
Non-Mfg. (private)	687.0	767.0	840.3	908.9	982.3	1,060.2	1,132.6
Natural Resources	1.5	1.4	1.3	1.2	1.2	1.1	1.1
Construction	43.9	45.6	44.7	43.3	41.3	38.8	35.7
Trade, Transport & Utilities	191.9	210.9	221.2	232.0	245.2	259.3	272.4
Wholesale Trade	55.8	61.8	67.6	72.9	78.3	83.6	87.9
Retail Trade	101.3	107.9	108.1	110.4	114.7	119.8	124.9
Auto parts	12.0	13.5	14.1	14.6	15.1	15.7	16.2
Food & Bev.	18.1	19.1	19.5	19.9	20.5	21.2	22.0
Other Retail	71.2	75.3	74.6	75.9	79.1	82.9	86.7
TWU	36.2	43.1	47.3	50.4	53.9	57.7	61.6
Information	19.2	20.6	22.9	25.5	28.3	31.0	31.8
Printing	6.9	7.4	9.0	10.5	12.0	12.7	11.8
Internet, etc.	12.2	13.2	13.9	15.0	16.4	18.2	20.0
Financial Activities	65.5	73.8	80.8	87.6	94.5	102.8	110.1
Finance & Ins.	41.4	47.7	52.0	56.5	60.9	66.6	71.4
Real Estate	24.1	26.1	28.7	31.2	33.6	36.2	38.7
Pro. Business	110.5	123.0	134.6	146.4	159.6	174.7	189.3
Pro., Sci., Tech.	48.0	54.5	61.6	68.3	75.8	84.0	92.2
Mgmt. of Companies	17.6	19.4	21.3	23.6	26.7	30.6	34.8
Admin & Waste	44.9	49.1	51.7	54.4	57.1	60.2	62.2
Edu. & Health	129.1	150.6	176.9	199.8	223.7	249.1	275.9
Education	21.7	24.0	27.1	30.1	32.9	36.1	38.9
Health Care	107.5	126.7	149.8	169.7	190.8	213.0	237.0
Leisure & Hospitality	94.9	105.5	116.6	126.7	136.8	147.0	157.0
Arts, Entertain. & Rec.	12.2	13.4	15.2	16.8	18.3	19.7	20.9
Accomm. & Food Ser.	82.7	92.1	101.4	109.9	118.5	127.3	136.1
Other Services	30.5	35.6	41.3	46.5	51.7	56.5	59.3
Social Orgs.	11.4	14.1	17.3	20.2	23.1	25.3	25.4
Other	19.1	21.6	24.0	26.3	28.7	31.2	33.9
Government, total	149.0	151.2	160.0	168.9	177.3	189.8	208.3
Military	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Civilian Govt., total	142.9	145.1	153.9	162.8	171.2	183.7	202.2
Civilian Fed	18.0	17.5	18.0	17.5	17.9	17.5	17.5
State & Local	125.0	128.0	136.0	145.0	153.0	166.0	184.7

Employment by Industry (Portland-Beaverton-Vancouver, OR-WA PMSA)

Range: difference between HI and Lo Scenarios

	2010	2015	2020	2025	2030	2035	2040
(in thousands)							
Nonfarm Employment, Civ	226.3	288.3	340.7	391.2	443.2	493.9	552.0
Private nonfarm emp.	215.4	276.0	327.1	376.4	427.1	476.7	532.8
Manufacturing, total	41.3	50.5	56.0	60.4	64.3	67.3	70.2
Durable Goods	35.2	43.0	47.6	51.1	54.3	56.7	59.1
Wood Products	1.9	2.5	2.7	2.8	2.9	2.9	2.9
Primary Metals	2.6	3.3	3.6	3.8	3.9	4.0	3.9
Fab. Metals	1.8	2.2	2.4	2.6	2.8	3.0	3.3
Machinery	1.7	2.0	2.0	1.8	1.7	1.5	1.3
Electronics	14.2	17.3	19.0	20.7	22.5	24.2	26.1
Computers	12.6	15.7	17.6	19.3	21.2	23.0	25.0
Oth. Elect.	1.6	1.5	1.4	1.4	1.3	1.2	1.2
Transport. Eq.	6.7	7.1	7.1	7.2	7.3	7.3	7.4
Oth. Durables	6.2	8.8	10.7	12.1	13.2	13.8	14.1
Non-Durable Goods	6.1	7.5	8.5	9.3	10.1	10.6	11.1
Food Proc.	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Paper	1.2	1.1	1.1	1.0	0.9	0.9	0.8
Other Non-Dur.	3.6	5.1	6.2	7.1	7.9	8.4	9.0
Non-Mfg. (private)	174.1	225.5	271.1	316.0	362.8	409.4	462.6
Natural Resources	0.4	0.4	0.4	0.4	0.3	0.3	0.3
Construction	34.0	39.3	48.9	60.8	75.8	93.5	114.9
Trade, Transport & Utilitie	29.6	35.8	40.5	45.1	49.2	52.6	56.1
Wholesale Trade	5.6	6.1	6.5	7.1	7.6	8.2	8.7
Retail Trade	19.3	24.4	28.2	31.7	34.7	37.1	39.5
Auto parts	3.4	3.5	3.7	3.9	4.1	4.3	4.5
Food & Bev.	3.9	4.4	4.8	5.3	5.8	6.3	6.8
Other Retail	12.0	16.6	19.8	22.6	24.9	26.6	28.2
TWU	4.7	5.3	5.8	6.3	6.8	7.3	7.8
Information	8.8	11.1	13.1	15.3	17.9	20.1	23.5
Printing	6.4	9.3	11.7	13.8	15.9	17.9	19.9
Internet, etc.	1.3	1.7	2.1	2.4	2.8	3.2	3.6
Financial Activities	11.0	14.3	16.2	17.5	18.6	19.4	20.2
Finance & Ins.	6.6	8.9	10.2	11.1	11.6	11.9	12.1
Real Estate	4.4	5.4	5.9	6.4	7.0	7.5	8.1
Pro. Business	54.1	77.7	95.9	111.7	126.3	139.0	152.4
Pro., Sci., Tech.	12.8	17.3	20.3	22.6	24.5	26.2	27.9
Mgmt. of Companies	9.2	14.2	18.4	22.4	26.0	29.4	33.0
Admin & Waste	32.1	46.2	57.2	66.8	75.7	83.4	91.5
Edu. & Health	16.6	22.0	26.9	32.1	37.8	44.1	51.3
Education	4.2	5.1	6.1	7.3	8.7	10.3	12.0
Health Care	12.4	16.9	20.8	24.8	29.1	33.8	39.3
Leisure & Hospitality	8.4	9.4	10.5	11.5	12.7	13.7	14.9
Arts, Entertain. & Rec.	3.0	3.4	3.8	4.2	4.6	5.0	5.4
Accomm. & Food Ser.	5.4	6.0	6.7	7.3	8.1	8.8	9.5
Other Services	11.4	15.6	18.9	21.7	24.3	26.7	29.0
Social Orgs.	8.9	12.9	15.8	18.3	20.4	22.3	24.1
Other	2.4	2.7	3.1	3.5	3.9	4.4	4.9
Government, total	12.9	14.3	15.6	16.8	18.1	19.3	21.2
Military	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Civilian Govt., total	10.8	12.3	13.6	14.7	16.0	17.2	19.1
Civilian Fed	1.2	1.2	1.3	1.2	1.3	1.3	1.3
State & Local	9.6	10.7	12.2	13.8	15.0	16.1	17.9

Employment

(PMSA in 1,000's)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total Nonfarm W&S Jobs									
Portland PMSA	973.23	965.84	944.03	934.30	954.01	983.68	1,015.28	1,036.98	1,042.41
%ch	2.80	(0.76)	(2.26)	(1.03)	2.11	3.11	3.21	2.14	0.52
U.S. (in millions)	111.00	110.71	108.83	108.42	109.80	111.89	114.12	115.42	115.02
%ch	2.14	(0.26)	(1.70)	(0.38)	1.28	1.90	1.99	1.14	(0.35)
Total Manufacturing									
Portland PMSA	143.30	135.87	123.82	118.12	120.21	123.82	126.62	126.01	124.28
%ch	1.08	(5.19)	(8.87)	(4.60)	1.77	3.00	2.26	(0.48)	(1.37)
U.S. (in millions)	17.27	16.44	15.26	14.51	14.32	14.23	14.16	13.88	13.48
%ch	(0.33)	(4.78)	(7.20)	(4.90)	(1.33)	(0.62)	(0.48)	(1.94)	(2.91)
Durable Goods, total									
Portland PMSA	107.52	102.27	92.80	87.93	90.04	94.00	96.38	95.76	94.05
%ch	2.07	(4.89)	(9.26)	(5.25)	2.39	4.40	2.53	(0.64)	(1.78)
U.S. (in millions)	10.88	10.34	9.48	8.96	8.92	8.96	8.98	8.82	8.53
%ch	0.43	(4.99)	(8.24)	(5.49)	(0.43)	0.34	0.31	(1.87)	(3.29)
Wood Products									
Portland PMSA	5.91	5.68	5.54	5.53	5.69	5.96	5.95	5.58	4.86
%ch	(3.15)	(3.80)	(2.51)	(0.26)	2.98	4.72	(0.15)	(6.14)	(12.93)
U.S. (in millions)	0.61	0.57	0.55	0.54	0.55	0.56	0.56	0.52	0.48
%ch	(1.20)	(6.41)	(3.26)	(3.15)	2.27	1.73	(0.04)	(6.99)	(7.97)
Primary Metals									
Portland PMSA	7.73	6.69	6.26	5.58	5.72	6.08	6.29	6.57	7.08
%ch	(2.94)	(13.45)	(6.47)	(10.78)	2.37	6.42	3.41	4.51	7.68
U.S. (in millions)	0.62	0.57	0.51	0.48	0.47	0.47	0.46	0.46	0.45
%ch	(0.51)	(8.26)	(10.79)	(6.26)	(2.16)	(0.16)	(0.48)	(1.79)	(2.16)
Fabricated Metals									
Portland PMSA	13.67	12.71	11.97	11.51	11.87	12.53	12.93	13.25	13.00
%ch	0.73	(7.06)	(5.79)	(3.89)	3.11	5.56	3.25	2.46	(1.89)
U.S. (in millions)	1.75	1.68	1.55	1.48	1.50	1.52	1.55	1.56	1.54
%ch	1.44	(4.35)	(7.64)	(4.51)	1.22	1.69	2.06	0.64	(1.55)
Machinery Mfg.									
Portland PMSA	10.44	9.90	8.78	8.43	8.26	8.25	8.38	8.61	8.54
%ch	2.97	(5.19)	(11.28)	(3.99)	(2.07)	(0.09)	1.60	2.70	(0.80)
U.S. (in millions)	1.46	1.37	1.23	1.15	1.15	1.17	1.18	1.19	1.19
%ch	(0.78)	(5.95)	(10.13)	(6.48)	(0.58)	1.73	1.56	0.41	0.07
Computer & Electr.									
Portland PMSA	41.21	42.72	37.68	34.69	35.62	36.49	37.70	36.89	35.53
%ch	7.30	3.66	(11.80)	(7.93)	2.70	2.42	3.32	(2.13)	(3.68)
U.S. (in millions)	1.82	1.75	1.51	1.36	1.32	1.32	1.31	1.27	1.25
%ch	2.22	(3.93)	(13.81)	(10.10)	(2.40)	(0.49)	(0.64)	(2.73)	(1.80)
Transport. Equip.									
Portland PMSA	11.16	8.54	7.70	7.58	7.96	9.02	9.32	9.11	8.70
%ch	(3.79)	(23.46)	(9.83)	(1.60)	4.96	13.33	3.31	(2.22)	(4.44)
U.S. (in millions)	2.06	1.94	1.83	1.78	1.77	1.77	1.77	1.71	1.61
%ch	(1.51)	(5.73)	(5.62)	(2.99)	(0.47)	0.32	(0.19)	(3.29)	(6.12)
Other Durable Goods									
Portland PMSA	17.40	16.03	14.87	14.62	14.93	15.68	15.81	15.74	16.33
%ch	(0.91)	(7.89)	(7.23)	(1.69)	2.15	5.02	0.84	(0.46)	3.78
U.S. (in millions)	4.01	3.83	3.53	3.34	3.32	3.32	3.33	3.29	3.21
%ch	0.61	(4.65)	(7.65)	(5.50)	(0.52)	(0.08)	0.32	(1.09)	(2.64)
Non-Durable Goods									
Portland PMSA	35.78	33.60	31.01	30.19	30.18	29.82	30.24	30.25	30.23
%ch	(1.77)	(6.10)	(7.69)	(2.67)	(0.04)	(1.17)	1.39	0.05	(0.09)
U.S. (in millions)	6.39	6.11	5.77	5.55	5.39	5.27	5.17	5.07	4.95
%ch	(1.60)	(4.41)	(5.44)	(3.95)	(2.79)	(2.22)	(1.83)	(2.07)	(2.24)

Employment

(PMSA in 1,000's)

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Nonfarm W&S									
Portland PMSA	1,036.07	1,040.11	1,058.01	1,082.34	1,105.92	1,131.15	1,156.99	1,182.11	1,203.77
%ch	(0.61)	0.39	1.72	2.30	2.18	2.28	2.28	2.17	1.83
U.S. (in millions)	113.04	113.24	115.11	117.56	119.76	121.58	123.29	124.86	126.13
%ch	(1.72)	0.18	1.65	2.13	1.87	1.52	1.41	1.27	1.02
Total Manufacturing									
Portland PMSA	118.85	116.95	119.00	121.16	122.11	123.18	124.22	125.13	125.88
%ch	(4.37)	(1.60)	1.75	1.82	0.78	0.88	0.85	0.73	0.60
U.S. (in millions)	12.57	11.99	12.19	12.50	12.71	12.81	12.78	12.79	12.80
%ch	(6.73)	(4.61)	1.64	2.51	1.70	0.79	(0.20)	0.07	0.07
Durable Goods, tota									
Portland PMSA	89.18	87.32	89.11	90.98	91.78	92.72	93.64	94.41	95.08
%ch	(5.18)	(2.09)	2.06	2.10	0.87	1.03	0.99	0.83	0.70
U.S. (in millions)	7.87	7.46	7.69	7.99	8.16	8.23	8.20	8.20	8.19
%ch	(7.68)	(5.19)	3.11	3.78	2.17	0.91	(0.41)	(0.04)	(0.07)
Wood Products									
Portland PMSA	4.09	4.03	4.43	4.70	4.82	4.90	4.96	4.99	4.98
%ch	(15.79)	(1.69)	10.04	6.05	2.53	1.74	1.13	0.67	(0.25)
U.S. (in millions)	0.43	0.43	0.48	0.52	0.53	0.54	0.55	0.55	0.54
%ch	(11.00)	0.82	12.76	7.00	2.99	1.97	0.44	0.54	(0.80)
Primary Metals									
Portland PMSA	6.64	6.33	6.25	6.21	6.13	6.11	6.06	5.99	5.92
%ch	(6.26)	(4.63)	(1.17)	(0.76)	(1.25)	(0.35)	(0.78)	(1.12)	(1.17)
U.S. (in millions)	0.41	0.37	0.37	0.37	0.38	0.38	0.38	0.38	0.37
%ch	(7.45)	(9.99)	(1.46)	1.06	2.26	1.02	(0.97)	(0.80)	(0.21)
Fabricated Metals									
Portland PMSA	11.89	11.51	11.73	12.02	12.22	12.33	12.38	12.45	12.49
%ch	(8.54)	(3.17)	1.85	2.53	1.66	0.87	0.47	0.50	0.34
U.S. (in millions)	1.43	1.29	1.29	1.34	1.41	1.45	1.47	1.50	1.51
%ch	(6.93)	(9.88)	0.16	3.76	4.80	3.25	1.29	1.87	0.75
Machinery Mfg.									
Portland PMSA	7.94	7.69	7.74	7.92	8.02	8.05	8.04	8.03	8.00
%ch	(6.98)	(3.17)	0.63	2.33	1.24	0.32	(0.02)	(0.12)	(0.39)
U.S. (in millions)	1.11	1.05	1.07	1.13	1.17	1.20	1.20	1.20	1.20
%ch	(6.84)	(5.34)	2.43	5.06	4.06	1.83	0.02	0.13	(0.07)
Computer & Electr.									
Portland PMSA	33.37	32.03	32.67	33.46	34.01	34.43	34.91	35.36	35.81
%ch	(6.09)	(4.00)	1.99	2.43	1.64	1.23	1.40	1.27	1.28
U.S. (in millions)	1.23	1.15	1.18	1.18	1.10	1.05	1.01	0.99	0.98
%ch	(1.30)	(6.74)	2.37	0.59	(6.71)	(5.27)	(3.53)	(2.29)	(0.97)
Transport. Equip.									
Portland PMSA	8.65	8.82	9.13	9.22	9.15	9.29	9.42	9.53	9.65
%ch	(0.59)	1.96	3.47	1.01	(0.81)	1.63	1.34	1.22	1.16
U.S. (in millions)	1.42	1.39	1.47	1.55	1.61	1.63	1.61	1.59	1.58
%ch	(11.87)	(2.00)	6.03	5.61	3.70	0.94	(1.06)	(0.97)	(1.12)
Other Durable Good									
Portland PMSA	16.59	16.90	17.16	17.45	17.43	17.61	17.86	18.06	18.24
%ch	1.59	1.87	1.56	1.68	(0.12)	1.05	1.39	1.13	0.96
U.S. (in millions)	2.95	2.83	2.90	3.02	3.13	3.18	3.19	3.19	3.21
%ch	(7.97)	(3.98)	2.47	3.97	3.56	1.82	0.08	0.25	0.49
Non-Durable Goods									
Portland PMSA	29.67	29.63	29.88	30.18	30.33	30.46	30.58	30.71	30.80
%ch	(1.83)	(0.14)	0.85	0.98	0.50	0.42	0.42	0.42	0.29
U.S. (in millions)	4.70	4.53	4.49	4.51	4.55	4.57	4.58	4.60	4.61
%ch	(5.09)	(3.65)	(0.79)	0.33	0.87	0.57	0.19	0.28	0.32

Employment

(PMSA in 1,000's)

	2018	2019	2020	2021	2022	2023	2024	2025	2026
Total Nonfarm W&S									
Portland PMSA	1,223.86	1,244.16	1,265.92	1,285.56	1,304.70	1,325.23	1,346.43	1,368.37	1,390.31
%ch	1.67	1.66	1.75	1.55	1.49	1.57	1.60	1.63	1.60
U.S. (in millions)	127.32	128.36	129.36	130.52	131.73	132.95	134.17	135.40	136.62
%ch	0.94	0.82	0.78	0.90	0.93	0.93	0.92	0.91	0.90
Total Manufacturing									
Portland PMSA	126.50	126.99	127.41	127.60	127.82	128.19	128.65	129.19	129.68
%ch	0.50	0.39	0.33	0.15	0.17	0.29	0.35	0.42	0.38
U.S. (in millions)	12.80	12.76	12.63	12.55	12.40	12.25	12.12	12.00	11.91
%ch	0.03	(0.34)	(1.05)	(0.64)	(1.17)	(1.19)	(1.06)	(1.01)	(0.76)
Durable Goods, tota									
Portland PMSA	95.64	96.08	96.47	96.62	96.82	97.17	97.59	98.10	98.55
%ch	0.59	0.46	0.41	0.15	0.21	0.35	0.44	0.52	0.46
U.S. (in millions)	8.18	8.14	8.04	7.96	7.84	7.73	7.65	7.57	7.52
%ch	(0.17)	(0.44)	(1.28)	(0.93)	(1.49)	(1.38)	(1.15)	(1.00)	(0.64)
Wood Products									
Portland PMSA	4.96	4.93	4.91	4.86	4.81	4.78	4.75	4.74	4.74
%ch	(0.43)	(0.44)	(0.55)	(0.92)	(1.09)	(0.66)	(0.59)	(0.10)	0.03
U.S. (in millions)	0.54	0.54	0.53	0.52	0.51	0.50	0.49	0.49	0.49
%ch	(0.71)	(0.76)	(1.48)	(1.49)	(2.49)	(2.52)	(1.52)	(0.29)	0.15
Primary Metals									
Portland PMSA	5.83	5.73	5.62	5.52	5.43	5.36	5.30	5.23	5.17
%ch	(1.53)	(1.71)	(1.87)	(1.90)	(1.54)	(1.33)	(1.17)	(1.21)	(1.27)
U.S. (in millions)	0.37	0.37	0.37	0.38	0.37	0.37	0.37	0.37	0.36
%ch	(0.08)	0.03	(0.08)	0.37	(0.58)	(0.54)	(0.56)	(0.90)	(1.06)
Fabricated Metals									
Portland PMSA	12.49	12.48	12.45	12.42	12.39	12.40	12.40	12.40	12.40
%ch	0.01	(0.08)	(0.26)	(0.26)	(0.19)	0.02	0.02	(0.01)	0.06
U.S. (in millions)	1.50	1.51	1.50	1.50	1.49	1.47	1.46	1.45	1.44
%ch	(0.30)	0.11	(0.41)	0.07	(0.98)	(0.81)	(0.69)	(0.92)	(0.65)
Machinery Mfg.									
Portland PMSA	7.94	7.89	7.83	7.77	7.72	7.69	7.66	7.64	7.62
%ch	(0.73)	(0.71)	(0.78)	(0.67)	(0.70)	(0.40)	(0.33)	(0.32)	(0.26)
U.S. (in millions)	1.19	1.19	1.18	1.16	1.15	1.13	1.12	1.11	1.10
%ch	(0.34)	(0.25)	(0.94)	(1.10)	(1.48)	(1.16)	(0.94)	(1.00)	(0.89)
Computer & Electr.									
Portland PMSA	36.25	36.62	37.00	37.27	37.55	37.85	38.19	38.58	38.95
%ch	1.23	1.04	1.02	0.74	0.76	0.78	0.90	1.02	0.96
U.S. (in millions)	0.97	0.96	0.94	0.93	0.92	0.91	0.90	0.90	0.91
%ch	(0.28)	(1.18)	(2.86)	(0.69)	(1.05)	(1.21)	(0.86)	(0.07)	1.11
Transport. Equip.									
Portland PMSA	9.77	9.86	9.97	9.95	10.00	10.09	10.20	10.32	10.41
%ch	1.33	0.93	1.05	(0.17)	0.44	0.90	1.10	1.25	0.81
U.S. (in millions)	1.56	1.52	1.47	1.42	1.37	1.32	1.28	1.24	1.21
%ch	(1.22)	(2.22)	(3.29)	(3.50)	(3.81)	(3.45)	(3.17)	(2.89)	(2.66)
Other Durable Good									
Portland PMSA	18.40	18.56	18.70	18.83	18.92	19.01	19.10	19.18	19.26
%ch	0.89	0.89	0.76	0.67	0.49	0.48	0.46	0.43	0.42
U.S. (in millions)	3.23	3.24	3.23	3.22	3.19	3.17	3.15	3.13	3.11
%ch	0.52	0.39	(0.39)	(0.34)	(0.79)	(0.73)	(0.62)	(0.65)	(0.41)
Non-Durable Goods									
Portland PMSA	30.86	30.91	30.93	30.98	31.00	31.02	31.05	31.09	31.13
%ch	0.20	0.14	0.09	0.15	0.05	0.09	0.10	0.11	0.13
U.S. (in millions)	4.63	4.62	4.59	4.59	4.56	4.52	4.48	4.43	4.39
%ch	0.37	(0.16)	(0.63)	(0.13)	(0.61)	(0.86)	(0.90)	(1.02)	(0.98)

Employment

(PMSA in 1,000's)

	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Nonfarm W&S									
Portland PMSA	1,411.64	1,432.22	1,452.77	1,475.85	1,499.06	1,521.51	1,544.30	1,567.99	1,592.06
%ch	1.53	1.46	1.43	1.59	1.57	1.50	1.50	1.53	1.54
U.S. (in millions)	137.83	138.99	140.12	141.28	142.69	144.06	145.37	146.66	147.88
%ch	0.89	0.84	0.82	0.83	1.00	0.96	0.91	0.89	0.83
Total Manufacturing									
Portland PMSA	130.03	130.24	130.43	130.84	131.26	131.58	131.87	132.28	132.65
%ch	0.27	0.16	0.15	0.31	0.33	0.24	0.22	0.31	0.29
U.S. (in millions)	11.82	11.72	11.62	11.52	11.46	11.38	11.30	11.22	11.14
%ch	(0.76)	(0.80)	(0.89)	(0.84)	(0.57)	(0.64)	(0.78)	(0.71)	(0.65)
Durable Goods, tota									
Portland PMSA	98.87	99.08	99.28	99.66	100.03	100.33	100.62	101.00	101.35
%ch	0.32	0.21	0.20	0.38	0.38	0.30	0.29	0.38	0.34
U.S. (in millions)	7.47	7.41	7.33	7.28	7.25	7.20	7.15	7.12	7.10
%ch	(0.72)	(0.82)	(0.96)	(0.79)	(0.42)	(0.57)	(0.69)	(0.47)	(0.29)
Wood Products									
Portland PMSA	4.70	4.61	4.53	4.54	4.56	4.47	4.41	4.45	4.51
%ch	(0.92)	(1.95)	(1.75)	0.35	0.36	(1.88)	(1.41)	0.89	1.42
U.S. (in millions)	0.48	0.47	0.46	0.46	0.46	0.45	0.45	0.45	0.47
%ch	(1.15)	(2.77)	(2.79)	0.62	1.35	(2.08)	(2.06)	1.99	2.84
Primary Metals									
Portland PMSA	5.10	5.04	4.97	4.91	4.85	4.80	4.75	4.69	4.63
%ch	(1.23)	(1.28)	(1.33)	(1.31)	(1.21)	(0.95)	(1.08)	(1.23)	(1.35)
U.S. (in millions)	0.36	0.35	0.34	0.33	0.33	0.32	0.31	0.30	0.29
%ch	(1.76)	(1.96)	(2.18)	(2.40)	(2.32)	(2.30)	(2.53)	(2.74)	(2.87)
Fabricated Metals									
Portland PMSA	12.40	12.38	12.35	12.32	12.32	12.31	12.28	12.25	12.20
%ch	(0.02)	(0.16)	(0.26)	(0.21)	(0.05)	(0.07)	(0.22)	(0.28)	(0.39)
U.S. (in millions)	1.44	1.43	1.41	1.39	1.38	1.37	1.35	1.33	1.30
%ch	(0.42)	(0.69)	(1.04)	(1.16)	(0.71)	(0.99)	(1.48)	(1.74)	(1.76)
Machinery Mfg.									
Portland PMSA	7.59	7.56	7.53	7.51	7.50	7.49	7.48	7.46	7.44
%ch	(0.31)	(0.40)	(0.42)	(0.31)	(0.10)	(0.12)	(0.18)	(0.20)	(0.29)
U.S. (in millions)	1.09	1.08	1.07	1.05	1.04	1.03	1.02	1.01	1.00
%ch	(0.80)	(0.90)	(1.40)	(1.50)	(1.21)	(0.94)	(0.88)	(0.88)	(0.95)
Computer & Electr.									
Portland PMSA	39.31	39.66	40.00	40.37	40.76	41.15	41.55	41.96	42.37
%ch	0.92	0.90	0.86	0.92	0.95	0.97	0.98	0.98	0.97
U.S. (in millions)	0.91	0.92	0.93	0.94	0.95	0.96	0.98	1.00	1.01
%ch	0.23	0.87	0.95	1.01	1.36	1.53	1.54	1.75	1.71
Transport. Equip.									
Portland PMSA	10.43	10.43	10.46	10.54	10.56	10.60	10.64	10.70	10.73
%ch	0.23	0.04	0.28	0.72	0.22	0.37	0.41	0.49	0.35
U.S. (in millions)	1.18	1.15	1.13	1.11	1.10	1.09	1.09	1.10	1.10
%ch	(2.46)	(2.28)	(2.02)	(1.57)	(0.94)	(0.44)	(0.21)	0.28	0.82
Other Durable Good									
Portland PMSA	19.33	19.39	19.43	19.46	19.49	19.50	19.50	19.49	19.46
%ch	0.36	0.29	0.21	0.17	0.15	0.06	0.01	(0.07)	(0.14)
U.S. (in millions)	3.11	3.09	3.07	3.04	3.02	3.00	2.98	2.95	2.92
%ch	(0.27)	(0.38)	(0.69)	(0.91)	(0.70)	(0.68)	(0.82)	(1.02)	(0.95)
Non-Durable Goods									
Portland PMSA	31.15	31.16	31.15	31.18	31.23	31.25	31.24	31.27	31.30
%ch	0.08	0.01	(0.01)	0.09	0.15	0.05	0.00	0.09	0.10
U.S. (in millions)	4.35	4.32	4.29	4.25	4.21	4.18	4.14	4.09	4.04
%ch	(0.83)	(0.76)	(0.78)	(0.91)	(0.82)	(0.76)	(0.93)	(1.13)	(1.27)

Employment

(PMSA in 1,000's)

	2036	2037	2038	2039	2040	Annualized Percentage Rates 1978-2008	2008-20	2020-40
Total Nonfarm W&S								
Portland PMSA	1,616.12	1,639.81	1,662.61	1,684.85	1,707.41	2.15%	2.2%	1.5%
%ch	1.51	1.47	1.39	1.34	1.34			
U.S. (in millions)	149.15	150.52	151.76	153.00	154.26	1.62%	1.3%	0.9%
%ch	0.86	0.92	0.82	0.82	0.82			
Total Manufacturing								
Portland PMSA	132.99	133.26	133.44	133.63	133.82	0.28%	-1.0%	0.2%
%ch	0.25	0.20	0.13	0.14	0.14			
U.S. (in millions)	11.08	11.05	11.04	11.03	11.02	-1.13%	-2.6%	-0.7%
%ch	(0.55)	(0.33)	(0.08)	(0.08)	(0.08)			
Durable Goods, tota								
Portland PMSA	101.66	101.90	102.09	102.28	102.48	0.38%	-0.9%	0.3%
%ch	0.30	0.24	0.19	0.19	0.19			
U.S. (in millions)	7.09	7.09	7.12	7.15	7.18	-1.07%	-2.5%	-0.6%
%ch	(0.15)	0.06	0.39	0.39	0.39			
Wood Products								
Portland PMSA	4.58	4.59	4.53	4.48	4.43	-2.60%	-1.5%	-0.5%
%ch	1.41	0.20	(1.16)	(1.16)	(1.16)			
U.S. (in millions)	0.48	0.49	0.48	0.48	0.47		-1.2%	-0.6%
%ch	2.97	1.32	(1.01)	(1.01)	(1.01)			
Primary Metals								
Portland PMSA	4.56	4.49	4.43	4.37	4.31	0.15%	-2.6%	-1.3%
%ch	(1.52)	(1.45)	(1.33)	(1.33)	(1.33)			
U.S. (in millions)	0.28	0.27	0.26	0.25	0.24		-4.2%	-2.1%
%ch	(3.75)	(3.80)	(3.81)	(3.81)	(3.81)			
Fabricated Metals								
Portland PMSA	12.15	12.10	12.04	11.98	11.91	0.19%	-0.8%	-0.2%
%ch	(0.45)	(0.36)	(0.53)	(0.53)	(0.53)			
U.S. (in millions)	1.28	1.26	1.25	1.24	1.22		-1.3%	-1.0%
%ch	(1.72)	(1.38)	(1.11)	(1.11)	(1.11)			
Machinery Mfg.								
Portland PMSA	7.42	7.40	7.37	7.35	7.32	-0.27%	-2.4%	-0.3%
%ch	(0.36)	(0.28)	(0.32)	(0.32)	(0.32)			
U.S. (in millions)	0.99	0.98	0.98	0.98	0.97		-1.8%	-1.0%
%ch	(1.02)	(0.81)	(0.44)	(0.44)	(0.44)			
Computer & Electr.								
Portland PMSA	42.76	43.12	43.47	43.82	44.18	1.46%	-0.9%	0.9%
%ch	0.94	0.83	0.81	0.81	0.81			
U.S. (in millions)	1.03	1.05	1.07	1.09	1.11		-5.4%	0.8%
%ch	1.85	1.97	1.99	1.99	1.99			
Transport. Equip.								
Portland PMSA	10.76	10.77	10.80	10.83	10.86	-0.27%	-0.9%	0.4%
%ch	0.25	0.11	0.26	0.26	0.26			
U.S. (in millions)	1.12	1.14	1.18	1.22	1.26		-2.8%	-0.8%
%ch	1.32	2.16	3.45	3.45	3.45			
Other Durable Good								
Portland PMSA	19.44	19.44	19.45	19.46	19.47	0.87%	0.6%	0.2%
%ch	(0.13)	(0.01)	0.06	0.06	0.06			
U.S. (in millions)	2.90	2.88	2.87	2.87	2.86		-1.8%	-0.6%
%ch	(0.83)	(0.63)	(0.12)	(0.12)	(0.12)			
Non-Durable Goods								
Portland PMSA	31.33	31.36	31.35	31.35	31.34	0.01%	-1.2%	0.1%
%ch	0.09	0.09	(0.04)	(0.01)	(0.01)			
U.S. (in millions)	3.99	3.95	3.91	3.87	3.84	-1.22%	-2.7%	-0.9%
%ch	(1.26)	(1.02)	(0.92)	(0.92)	(0.92)			

Employment

(PMSA in 1,000's)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Food Processing									
Portland PMSA	8.87	8.79	8.73	8.72	8.65	8.56	8.80	9.07	9.32
%ch	(0.82)	(0.93)	(0.68)	(0.12)	(0.87)	(0.97)	2.75	3.15	2.73
U.S. (in millions)	1.55	1.55	1.52	1.52	1.49	1.48	1.48	1.48	1.47
%ch	0.19	(0.19)	(1.64)	(0.49)	(1.53)	(1.10)	0.10	0.10	(0.41)
Paper									
Portland PMSA	6.52	6.30	5.60	5.38	5.15	4.99	4.94	4.67	4.53
%ch	1.84	(3.31)	(11.10)	(4.01)	(4.18)	(3.23)	(0.85)	(5.56)	(2.85)
U.S. (in millions)	0.60	0.58	0.55	0.52	0.50	0.48	0.47	0.46	0.45
%ch	(1.77)	(4.47)	(5.38)	(5.55)	(4.02)	(2.28)	(2.82)	(2.08)	(1.48)
Other Non-Durable Goods									
Portland PMSA	20.39	18.51	16.68	16.09	16.38	16.28	16.50	16.51	16.37
%ch	(3.26)	(9.23)	(9.86)	(3.55)	1.79	(0.62)	1.37	0.08	(0.85)
U.S. (in millions)	4.23	3.98	3.70	3.51	3.40	3.31	3.22	3.13	3.03
%ch	(2.22)	(5.95)	(6.94)	(5.13)	(3.15)	(2.70)	(2.55)	(3.07)	(3.21)
Total Non-Manuf.									
Portland PMSA	699.43	698.53	686.49	682.69	697.53	722.21	749.73	768.52	770.91
%ch	2.57	(0.13)	(1.72)	(0.55)	2.17	3.54	3.81	2.51	0.31
U.S. (millions)	93.74	94.27	93.57	93.91	95.48	97.66	99.96	101.54	101.54
%ch	2.61	0.57	(0.74)	0.36	1.68	2.28	2.36	1.57	0.00
Natural Resources									
Portland PMSA	1.88	1.74	1.66	1.67	1.68	1.78	1.68	1.64	1.62
%ch	(9.92)	(7.50)	(4.54)	0.74	0.83	5.58	(5.28)	(2.41)	(1.46)
U.S. (millions)	0.60	0.61	0.58	0.57	0.59	0.63	0.68	0.72	0.77
%ch	0.10	1.14	(3.85)	(1.82)	3.26	6.17	9.09	5.63	7.08
Construction									
Portland PMSA	53.17	54.03	51.62	50.10	53.87	58.48	63.18	65.67	63.89
%ch	1.46	1.61	(4.46)	(2.95)	7.53	8.55	8.04	3.94	(2.71)
U.S. (millions)	6.79	6.83	6.72	6.74	6.97	7.33	7.69	7.62	7.21
%ch	3.72	0.57	(1.63)	0.30	3.52	5.17	4.90	(1.00)	(5.29)
Wholesale Trade									
Portland PMSA	55.58	56.29	54.63	54.79	55.12	56.34	57.47	58.40	57.95
%ch	3.60	1.28	(2.95)	0.29	0.59	2.21	2.01	1.62	(0.78)
U.S. (millions)	5.93	5.77	5.65	5.61	5.66	5.76	5.90	6.03	6.02
%ch	0.68	(2.69)	(2.08)	(0.80)	0.96	1.77	2.45	2.11	(0.19)
Retail Trade									
Portland PMSA	106.78	103.42	100.52	99.60	101.16	104.49	107.56	110.22	110.23
%ch	1.76	(3.14)	(2.81)	(0.91)	1.57	3.30	2.94	2.47	0.01
U.S. (millions)	15.28	15.24	15.03	14.92	15.06	15.28	15.36	15.49	15.29
%ch	2.06	(0.26)	(1.40)	(0.73)	0.95	1.48	0.49	0.86	(1.26)
TWU (Transportation, Warehousing, Utilities)									
Portland PMSA	38.63	38.43	37.30	36.52	37.03	36.88	37.48	37.99	37.74
%ch	0.60	(0.53)	(2.94)	(2.10)	1.40	(0.39)	1.61	1.37	(0.65)
U.S. (millions)	5.01	4.97	4.82	4.76	4.81	4.92	5.02	5.09	5.07
%ch	2.18	(0.80)	(3.08)	(1.22)	1.06	2.18	2.08	1.42	(0.36)
Information									
Portland PMSA	25.96	25.92	23.83	22.52	22.49	22.94	23.98	24.74	24.80
%ch	8.88	(0.18)	(8.04)	(5.50)	(0.11)	2.00	4.52	3.17	0.25
U.S. (millions)	2.59	2.61	2.43	2.26	2.21	2.16	2.14	2.13	2.11
%ch	7.52	0.51	(6.83)	(6.84)	(2.46)	(2.30)	(1.03)	(0.20)	(0.89)
Financial Activities									
Portland PMSA	64.85	65.05	65.58	66.43	66.07	68.23	70.63	71.48	70.08
%ch	(0.51)	0.31	0.81	1.30	(0.55)	3.27	3.51	1.21	(1.96)
U.S. (millions)	7.69	7.81	7.85	7.98	8.03	8.15	8.33	8.31	8.20
%ch	0.54	1.57	0.50	1.63	0.68	1.53	2.16	(0.23)	(1.30)

Employment

(PMSA in 1,000's)

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Food Processing									
Portland PMSA	9.26	9.41	9.56	9.64	9.65	9.64	9.63	9.61	9.60
%ch	(0.64)	1.59	1.56	0.88	0.08	(0.05)	(0.12)	(0.19)	(0.15)
U.S. (in millions)	1.46	1.45	1.46	1.48	1.51	1.53	1.55	1.57	1.59
%ch	(1.11)	(0.72)	0.84	1.36	1.81	1.46	1.17	1.40	1.33
Paper									
Portland PMSA	4.50	4.55	4.71	4.84	4.91	4.94	4.94	4.96	4.95
%ch	(0.87)	1.26	3.45	2.84	1.41	0.57	0.11	0.23	(0.11)
U.S. (in millions)	0.43	0.41	0.41	0.41	0.42	0.42	0.42	0.43	0.43
%ch	(5.90)	(4.12)	(0.56)	1.16	1.58	1.10	0.35	0.26	0.45
Other Non-Durable									
Portland PMSA	15.92	15.67	15.62	15.69	15.77	15.88	16.01	16.14	16.25
%ch	(2.77)	(1.55)	(0.33)	0.49	0.48	0.67	0.83	0.84	0.67
U.S. (in millions)	2.82	2.67	2.63	2.62	2.62	2.62	2.61	2.60	2.59
%ch	(6.91)	(5.10)	(1.70)	(0.37)	0.23	(0.02)	(0.41)	(0.39)	(0.31)
Total Non-Manuf.									
Portland PMSA	768.07	774.87	791.58	813.87	835.81	858.63	881.56	903.87	923.20
%ch	(0.37)	0.89	2.16	2.82	2.70	2.73	2.67	2.53	2.14
U.S. (millions)	100.47	101.25	102.92	105.06	107.05	108.77	110.51	112.06	113.33
%ch	(1.05)	0.78	1.65	2.08	1.89	1.61	1.60	1.41	1.13
Natural Resources									
Portland PMSA	1.72	1.71	1.67	1.66	1.66	1.65	1.62	1.60	1.58
%ch	6.33	(0.44)	(2.35)	(0.72)	(0.27)	(0.59)	(1.41)	(1.52)	(1.45)
U.S. (millions)	0.76	0.72	0.74	0.72	0.70	0.68	0.66	0.63	0.61
%ch	(2.28)	(4.93)	2.28	(2.06)	(2.62)	(2.37)	(4.17)	(3.73)	(3.56)
Construction									
Portland PMSA	60.84	60.89	61.96	62.37	63.05	64.26	65.29	66.25	66.96
%ch	(4.77)	0.08	1.75	0.67	1.09	1.91	1.61	1.47	1.08
U.S. (millions)	6.74	6.52	6.59	6.89	7.17	7.41	7.61	7.78	7.89
%ch	(6.51)	(3.27)	0.97	4.63	4.09	3.25	2.78	2.20	1.40
Wholesale Trade									
Portland PMSA	58.18	58.64	59.49	60.88	62.18	63.45	64.84	66.15	67.39
%ch	0.40	0.79	1.45	2.35	2.14	2.04	2.18	2.03	1.88
U.S. (millions)	5.81	5.76	5.84	5.99	6.12	6.23	6.35	6.47	6.59
%ch	(3.39)	(0.86)	1.37	2.51	2.12	1.95	1.90	1.87	1.83
Retail Trade									
Portland PMSA	109.72	110.91	112.79	114.86	116.53	118.32	120.08	121.24	121.49
%ch	(0.46)	1.08	1.70	1.84	1.45	1.53	1.49	0.97	0.20
U.S. (millions)	15.11	15.40	15.22	15.36	15.46	15.52	15.59	15.56	15.52
%ch	(1.22)	1.94	(1.16)	0.90	0.67	0.36	0.45	(0.17)	(0.23)
TWU (Transportatio									
Portland PMSA	38.06	38.48	39.79	41.50	43.04	44.40	45.71	46.94	47.96
%ch	0.84	1.11	3.41	4.29	3.69	3.16	2.96	2.69	2.16
U.S. (millions)	4.95	4.95	5.09	5.28	5.46	5.61	5.76	5.92	6.07
%ch	(2.41)	0.05	2.74	3.85	3.40	2.75	2.72	2.69	2.48
Information									
Portland PMSA	23.49	23.03	23.60	24.07	24.69	25.37	26.05	26.82	27.57
%ch	(5.29)	(1.95)	2.47	1.99	2.57	2.73	2.70	2.95	2.81
U.S. (millions)	2.02	1.98	2.07	2.08	2.09	2.12	2.14	2.18	2.22
%ch	(4.31)	(1.87)	4.17	0.60	0.61	1.30	1.14	1.66	1.86
Financial Activities									
Portland PMSA	70.19	71.02	72.25	74.21	76.60	78.89	80.95	83.03	84.52
%ch	0.15	1.19	1.72	2.71	3.22	2.99	2.62	2.56	1.79
U.S. (millions)	8.16	8.24	8.29	8.43	8.55	8.57	8.57	8.56	8.51
%ch	(0.57)	1.00	0.62	1.74	1.36	0.24	0.06	(0.16)	(0.62)

Employment

(PMSA in 1,000's)

	2018	2019	2020	2021	2022	2023	2024	2025	2026
Food Processing									
Portland PMSA	9.59	9.58	9.56	9.53	9.52	9.50	9.48	9.47	9.46
%ch	(0.09)	(0.14)	(0.18)	(0.27)	(0.18)	(0.18)	(0.15)	(0.12)	(0.15)
U.S. (in millions)	1.61	1.62	1.62	1.63	1.63	1.63	1.63	1.62	1.62
%ch	1.29	0.48	(0.03)	0.56	0.19	(0.11)	(0.08)	(0.17)	(0.15)
Paper									
Portland PMSA	4.93	4.92	4.91	4.90	4.89	4.87	4.86	4.85	4.85
%ch	(0.33)	(0.28)	(0.32)	(0.08)	(0.32)	(0.23)	(0.28)	(0.28)	(0.03)
U.S. (in millions)	0.43	0.43	0.43	0.43	0.43	0.42	0.42	0.42	0.41
%ch	0.54	0.05	(0.29)	0.12	(0.41)	(0.69)	(0.74)	(0.83)	(0.88)
Other Non-Durable									
Portland PMSA	16.34	16.41	16.47	16.54	16.59	16.65	16.71	16.77	16.82
%ch	0.53	0.44	0.36	0.46	0.30	0.33	0.35	0.36	0.32
U.S. (in millions)	2.59	2.57	2.55	2.53	2.50	2.47	2.43	2.39	2.35
%ch	(0.22)	(0.59)	(1.05)	(0.61)	(1.16)	(1.38)	(1.46)	(1.62)	(1.56)
Total Non-Manuf.									
Portland PMSA	941.21	959.54	977.90	995.53	1,012.78	1,031.05	1,049.68	1,069.07	1,088.92
%ch	1.95	1.95	1.91	1.80	1.73	1.80	1.81	1.85	1.86
U.S. (millions)	114.51	115.60	116.73	117.98	119.33	120.70	122.05	123.40	124.71
%ch	1.05	0.95	0.98	1.07	1.15	1.15	1.12	1.11	1.06
Natural Resources									
Portland PMSA	1.55	1.52	1.49	1.48	1.46	1.45	1.43	1.41	1.40
%ch	(1.85)	(1.78)	(1.63)	(1.17)	(0.99)	(1.13)	(1.08)	(1.08)	(1.00)
U.S. (millions)	0.59	0.57	0.56	0.56	0.55	0.55	0.55	0.55	0.54
%ch	(3.93)	(2.36)	(1.69)	(0.67)	(0.54)	(0.75)	(0.75)	(0.21)	(0.39)
Construction									
Portland PMSA	67.70	68.45	69.18	69.95	70.77	71.72	72.61	73.65	74.79
%ch	1.11	1.10	1.07	1.11	1.18	1.33	1.24	1.43	1.55
U.S. (millions)	7.98	8.05	8.11	8.18	8.27	8.40	8.55	8.74	8.93
%ch	1.23	0.78	0.76	0.91	1.15	1.54	1.76	2.17	2.28
Wholesale Trade									
Portland PMSA	68.55	69.70	70.87	72.01	73.05	74.13	75.26	76.42	77.61
%ch	1.72	1.68	1.68	1.60	1.45	1.48	1.52	1.54	1.56
U.S. (millions)	6.71	6.84	6.98	7.17	7.31	7.43	7.55	7.66	7.77
%ch	1.80	1.97	2.09	2.67	1.88	1.69	1.56	1.51	1.41
Retail Trade									
Portland PMSA	121.54	121.77	122.19	122.66	123.30	124.15	125.12	126.21	127.39
%ch	0.04	0.19	0.35	0.38	0.52	0.70	0.78	0.87	0.93
U.S. (millions)	15.47	15.41	15.38	15.38	15.40	15.41	15.41	15.38	15.34
%ch	(0.33)	(0.42)	(0.20)	0.01	0.12	0.11	0.00	(0.21)	(0.27)
TWU (Transportatio									
Portland PMSA	48.75	49.45	50.16	50.83	51.44	52.11	52.82	53.56	54.32
%ch	1.65	1.44	1.42	1.34	1.22	1.29	1.36	1.40	1.43
U.S. (millions)	6.21	6.33	6.38	6.46	6.55	6.66	6.77	6.88	6.99
%ch	2.44	1.87	0.77	1.20	1.46	1.68	1.63	1.66	1.62
Information									
Portland PMSA	28.27	28.98	29.72	30.52	31.27	32.04	32.81	33.59	34.41
%ch	2.53	2.50	2.57	2.68	2.47	2.45	2.42	2.37	2.45
U.S. (millions)	2.25	2.28	2.32	2.37	2.42	2.47	2.53	2.58	2.63
%ch	1.43	1.28	1.59	2.32	2.22	2.15	2.15	2.01	2.11
Financial Activities									
Portland PMSA	85.82	87.23	88.86	90.38	91.81	93.29	94.78	96.40	97.99
%ch	1.55	1.64	1.87	1.71	1.58	1.61	1.60	1.71	1.65
U.S. (millions)	8.44	8.41	8.42	8.41	8.42	8.42	8.42	8.44	8.44
%ch	(0.77)	(0.34)	0.08	(0.07)	0.08	0.01	0.00	0.21	0.05

Employment

(PMSA in 1,000's)

	2027	2028	2029	2030	2031	2032	2033	2034	2035
Food Processing									
Portland PMSA	9.44	9.43	9.42	9.42	9.41	9.40	9.40	9.40	9.40
%ch	(0.15)	(0.13)	(0.11)	(0.06)	(0.09)	(0.06)	(0.03)	(0.01)	(0.02)
U.S. (in millions)	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.61
%ch	(0.02)	0.03	0.08	0.03	0.08	0.06	(0.11)	(0.30)	(0.37)
Paper									
Portland PMSA	4.84	4.82	4.80	4.79	4.80	4.79	4.76	4.76	4.77
%ch	(0.14)	(0.41)	(0.51)	(0.14)	0.20	(0.26)	(0.53)	(0.04)	0.16
U.S. (in millions)	0.41	0.41	0.40	0.40	0.40	0.39	0.39	0.38	0.38
%ch	(0.85)	(0.92)	(0.90)	(0.94)	(0.93)	(0.92)	(1.08)	(1.17)	(1.24)
Other Non-Durable									
Portland PMSA	16.87	16.90	16.94	16.98	17.02	17.06	17.08	17.12	17.14
%ch	0.28	0.20	0.19	0.24	0.27	0.20	0.16	0.18	0.15
U.S. (in millions)	2.32	2.29	2.26	2.22	2.19	2.16	2.13	2.09	2.05
%ch	(1.39)	(1.28)	(1.36)	(1.59)	(1.46)	(1.34)	(1.52)	(1.74)	(1.97)
Total Non-Manuf.									
Portland PMSA	1,108.43	1,127.32	1,146.07	1,165.85	1,186.26	1,206.18	1,226.17	1,246.62	1,267.14
%ch	1.79	1.70	1.66	1.73	1.75	1.68	1.66	1.67	1.65
U.S. (millions)	126.01	127.26	128.50	129.76	131.23	132.67	134.07	135.44	136.74
%ch	1.04	0.99	0.98	0.98	1.13	1.10	1.05	1.02	0.96
Natural Resources									
Portland PMSA	1.39	1.37	1.36	1.34	1.33	1.32	1.31	1.30	1.28
%ch	(0.94)	(1.00)	(1.07)	(1.13)	(0.83)	(0.76)	(0.95)	(0.99)	(0.93)
U.S. (millions)	0.54	0.54	0.53	0.53	0.53	0.53	0.53	0.53	0.53
%ch	(0.42)	(0.61)	(0.65)	(0.50)	(0.15)	(0.28)	(0.48)	(0.18)	0.00
Construction									
Portland PMSA	75.95	77.03	78.07	79.20	80.38	81.61	82.92	84.21	85.58
%ch	1.54	1.42	1.35	1.45	1.48	1.53	1.61	1.56	1.62
U.S. (millions)	9.12	9.26	9.39	9.57	9.77	9.98	10.17	10.33	10.47
%ch	2.06	1.61	1.39	1.83	2.16	2.11	1.93	1.57	1.40
Wholesale Trade									
Portland PMSA	78.79	79.92	81.01	82.12	83.31	84.44	85.53	86.61	87.67
%ch	1.52	1.44	1.36	1.37	1.45	1.36	1.29	1.26	1.22
U.S. (millions)	7.82	7.87	7.88	7.87	7.87	7.86	7.82	7.77	7.69
%ch	0.64	0.74	0.04	(0.05)	(0.07)	(0.12)	(0.51)	(0.70)	(0.98)
Retail Trade									
Portland PMSA	128.58	129.72	130.84	132.05	133.29	134.52	135.77	137.04	138.33
%ch	0.93	0.89	0.86	0.92	0.94	0.92	0.93	0.94	0.94
U.S. (millions)	15.33	15.32	15.33	15.32	15.35	15.38	15.42	15.43	15.44
%ch	(0.07)	(0.05)	0.08	(0.08)	0.18	0.18	0.27	0.10	0.07
TWU (Transportatio									
Portland PMSA	55.08	55.82	56.54	57.30	58.11	58.90	59.69	60.51	61.35
%ch	1.40	1.34	1.29	1.33	1.41	1.36	1.35	1.38	1.39
U.S. (millions)	7.06	7.11	7.15	7.19	7.25	7.29	7.27	7.26	7.23
%ch	0.91	0.82	0.49	0.60	0.82	0.49	(0.18)	(0.22)	(0.45)
Information									
Portland PMSA	35.25	36.07	36.87	37.68	38.53	39.34	40.11	40.83	41.48
%ch	2.44	2.30	2.23	2.20	2.24	2.12	1.93	1.80	1.61
U.S. (millions)	2.70	2.76	2.83	2.91	2.99	3.09	3.18	3.27	3.37
%ch	2.41	2.45	2.59	2.65	2.95	3.10	3.00	2.97	2.86
Financial Activities									
Portland PMSA	99.43	100.77	102.17	103.80	105.58	107.25	108.91	110.69	112.48
%ch	1.47	1.34	1.39	1.60	1.71	1.58	1.55	1.63	1.62
U.S. (millions)	8.43	8.41	8.41	8.44	8.48	8.51	8.54	8.58	8.61
%ch	(0.15)	(0.22)	0.01	0.33	0.46	0.35	0.36	0.47	0.40

Employment

(PMSA in 1,000's)

	2036	2037	2038	2039	2040	Annualized Percentage Rates 1978-2008	2008-20	2020-40
Food Processing								
Portland PMSA	9.39	9.39	9.39	9.39	9.38	0.25%	0.6%	-0.1%
%ch	(0.02)	(0.05)	(0.04)	(0.04)	(0.04)			
U.S. (in millions)	1.60	1.60	1.59	1.58	1.58		0.4%	-0.1%
%ch	(0.48)	(0.45)	(0.37)	(0.37)	(0.37)			
Paper								
Portland PMSA	4.78	4.79	4.78	4.77	4.75	-1.25%	-2.3%	-0.2%
%ch	0.25	0.24	(0.29)	(0.29)	(0.29)			
U.S. (in millions)	0.37	0.37	0.36	0.36	0.35		-2.7%	-1.0%
%ch	(1.30)	(1.26)	(1.26)	(1.26)	(1.26)			
Other Non-Durable								
Portland PMSA	17.16	17.18	17.19	17.20	17.20	0.32%	-1.8%	0.2%
%ch	0.10	0.12	0.03	0.03	0.03			
U.S. (in millions)	2.01	1.98	1.96	1.93	1.91		-4.1%	-1.4%
%ch	(1.86)	(1.43)	(1.30)	(1.30)	(1.30)			
Total Non-Manuf.								
Portland PMSA	1,287.35	1,306.89	1,325.27	1,343.95	1,362.93	2.61%	2.8%	1.7%
%ch	1.59	1.52	1.41	1.41	1.41			
U.S. (millions)	138.07	139.48	140.72	141.97	143.24	2.25%	1.8%	1.0%
%ch	0.97	1.02	0.89	0.89	0.89			
Natural Resources								
Portland PMSA	1.27	1.26	1.25	1.24	1.22	-0.91%	-1.9%	-1.0%
%ch	(0.95)	(0.90)	(1.02)	(1.02)	(1.02)			
U.S. (millions)	0.53	0.52	0.52	0.52	0.51	-0.51%	-0.6%	-0.4%
%ch	(0.05)	(0.21)	(0.61)	(0.61)	(0.61)			
Construction								
Portland PMSA	87.01	88.49	89.96	91.46	92.99	2.80%	2.2%	1.5%
%ch	1.67	1.70	1.67	1.67	1.67			
U.S. (millions)	10.64	10.79	10.90	11.02	11.13	1.72%	1.5%	1.6%
%ch	1.58	1.38	1.07	1.07	1.07			
Wholesale Trade								
Portland PMSA	88.68	89.60	90.38	91.18	91.98	1.84%	2.0%	1.3%
%ch	1.15	1.03	0.88	0.88	0.88			
U.S. (millions)	7.62	7.54	7.45	7.36	7.27	1.14%	1.4%	0.2%
%ch	(0.92)	(0.97)	(1.22)	(1.22)	(1.22)			
Retail Trade								
Portland PMSA	139.62	140.87	142.10	143.34	144.58	1.80%	1.1%	0.8%
%ch	0.93	0.90	0.87	0.87	0.87			
U.S. (millions)	15.43	15.42	15.39	15.36	15.33	1.47%	0.1%	0.0%
%ch	(0.09)	(0.05)	(0.20)	(0.20)	(0.20)			
TWU (Transportatio								
Portland PMSA	62.19	63.02	63.81	64.61	65.43	1.96%	2.2%	1.3%
%ch	1.37	1.33	1.26	1.26	1.26			
U.S. (millions)	7.20	7.18	7.12	7.07	7.02	1.24%	2.0%	0.5%
%ch	(0.33)	(0.35)	(0.72)	(0.72)	(0.72)			
Information								
Portland PMSA	42.05	42.49	42.69	42.89	43.10	1.71%	1.1%	1.9%
%ch	1.36	1.05	0.48	0.48	0.48			
U.S. (millions)	3.46	3.56	3.65	3.74	3.83		-0.9%	2.5%
%ch	2.81	2.80	2.45	2.45	2.45			
Financial Activities								
Portland PMSA	114.17	115.72	117.07	118.44	119.83	2.01%	2.7%	1.5%
%ch	1.50	1.35	1.17	1.17	1.17			
U.S. (millions)	8.64	8.65	8.64	8.63	8.62	1.95%	0.8%	0.1%
%ch	0.29	0.14	(0.13)	(0.13)	(0.13)			

Employment

(PMSA in 1,000's)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Pro. Bus.Services									
Portland PMSA	130.45	127.48	121.67	117.89	122.08	128.53	134.79	136.38	136.95
%ch	5.36	(2.28)	(4.56)	(3.11)	3.56	5.28	4.88	1.18	0.42
U.S. (millions)	16.67	16.48	15.97	15.98	16.39	16.95	17.57	17.97	17.91
%ch	4.49	(1.15)	(3.07)	0.06	2.51	3.43	3.68	2.24	(0.30)
Edu. & Health Serv.									
Portland PMSA	102.92	106.53	110.98	113.61	115.65	119.84	123.22	127.52	131.50
%ch	2.27	3.50	4.18	2.37	1.79	3.62	2.82	3.49	3.12
U.S. (millions)	15.11	15.64	16.20	16.59	16.95	17.37	17.83	18.33	18.89
%ch	2.13	3.53	3.57	2.39	2.19	2.48	2.61	2.81	3.06
Leisure & Hospitality									
Portland PMSA	85.78	85.47	84.82	85.59	87.64	90.09	94.09	97.82	99.42
%ch	1.50	(0.36)	(0.76)	0.90	2.40	2.80	4.43	3.97	1.63
U.S. (millions)	11.86	12.03	11.99	12.18	12.49	12.81	13.11	13.47	13.65
%ch	2.74	1.46	(0.39)	1.58	2.62	2.55	2.30	2.77	1.32
Other Services									
Portland PMSA	33.42	34.18	33.89	33.98	34.74	34.61	35.65	36.64	36.73
%ch	3.13	2.29	(0.86)	0.26	2.23	(0.37)	3.00	2.80	0.24
U.S. (millions)	5.17	5.26	5.37	5.40	5.41	5.39	5.44	5.49	5.53
%ch	1.60	1.73	2.17	0.53	0.16	(0.26)	0.80	0.97	0.76
Fed. Gov. - Civilian									
Portland PMSA	18.89	18.13	17.97	18.56	18.41	18.36	17.96	17.97	18.08
%ch	4.00	(4.05)	(0.89)	3.29	(0.79)	(0.31)	(2.15)	0.02	0.62
U.S. (millions)	2.87	2.76	2.77	2.76	2.73	2.73	2.73	2.73	2.74
%ch	3.44	(3.55)	0.08	(0.19)	(1.06)	0.04	0.00	(0.20)	0.49
State & Local Gov.									
Portland PMSA	111.61	113.31	115.76	114.93	117.86	119.29	120.97	124.49	129.15
%ch	6.38	1.53	2.16	(0.71)	2.54	1.21	1.41	2.91	3.75
U.S. (millions)	17.93	18.36	18.74	18.82	18.89	19.07	19.24	19.47	19.72
%ch	2.18	2.41	2.11	0.41	0.37	0.98	0.87	1.22	1.29
Emp - Pop ratio									
Portland PMSA	0.50	0.49	0.47	0.46	0.46	0.47	0.48	0.48	0.47
U.S.	0.39	0.39	0.38	0.37	0.37	0.38	0.38	0.38	0.38

Employment

(PMSA in 1,000's)

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Pro. Bus.Services									
Portland PMSA	135.71	137.56	142.37	148.12	152.55	157.15	161.86	166.51	170.64
%ch	(0.91)	1.36	3.50	4.04	2.99	3.02	2.99	2.87	2.48
U.S. (millions)	17.41	17.73	18.84	19.74	20.48	21.17	21.96	22.72	23.34
%ch	(2.81)	1.86	6.26	4.77	3.75	3.35	3.76	3.42	2.75
Edu. & Health Serv.									
Portland PMSA	135.17	137.40	140.18	144.92	150.27	155.81	161.60	167.55	173.39
%ch	2.79	1.65	2.02	3.38	3.69	3.69	3.71	3.68	3.49
U.S. (millions)	19.38	19.90	20.36	20.64	20.96	21.29	21.61	21.91	22.20
%ch	2.62	2.68	2.29	1.40	1.56	1.55	1.50	1.42	1.32
Leisure & Hospitalit									
Portland PMSA	98.96	99.03	100.37	102.72	105.12	107.60	110.17	112.77	115.17
%ch	(0.46)	0.07	1.35	2.34	2.34	2.36	2.39	2.36	2.13
U.S. (millions)	13.60	13.53	13.49	13.67	13.88	14.02	14.12	14.21	14.25
%ch	(0.34)	(0.55)	(0.26)	1.32	1.54	1.03	0.71	0.61	0.30
Other Services									
Portland PMSA	36.03	36.20	37.12	38.56	40.14	41.76	43.40	45.02	46.54
%ch	(1.89)	0.45	2.56	3.86	4.09	4.05	3.92	3.75	3.36
U.S. (millions)	5.69	5.72	5.61	5.46	5.37	5.34	5.31	5.30	5.30
%ch	2.79	0.52	(1.89)	(2.59)	(1.71)	(0.60)	(0.54)	(0.15)	0.06
Fed. Gov. - Civilian									
Portland PMSA	18.24	18.54	18.18	18.12	18.10	18.09	18.09	18.08	18.08
%ch	0.93	1.65	(1.97)	(0.31)	(0.15)	(0.02)	(0.02)	(0.02)	(0.02)
U.S. (millions)	2.75	2.79	2.73	2.72	2.71	2.71	2.71	2.71	2.70
%ch	0.36	1.54	(2.39)	(0.36)	(0.21)	(0.05)	(0.04)	(0.04)	(0.04)
State & Local Gov.									
Portland PMSA	130.91	129.76	129.27	129.21	129.92	131.26	133.14	135.05	136.64
%ch	1.36	(0.88)	(0.38)	(0.04)	0.55	1.03	1.43	1.43	1.18
U.S. (millions)	19.68	19.59	19.66	19.85	20.11	20.32	20.50	20.63	20.77
%ch	(0.25)	(0.43)	0.34	0.96	1.36	1.04	0.87	0.64	0.65
Emp - Pop ratio									
Portland PMSA	0.47	0.48	0.47	0.47	0.47	0.47	0.47	0.47	0.46
U.S.	0.38	0.38	0.38	0.39	0.39	0.38	0.38	0.38	0.38

Employment

(PMSA in 1,000's)

	2018	2019	2020	2021	2022	2023	2024	2025	2026
Pro. Bus.Services									
Portland PMSA	174.52	178.54	182.53	186.27	189.89	193.88	197.96	202.20	206.50
%ch	2.27	2.30	2.23	2.05	1.95	2.10	2.10	2.14	2.13
U.S. (millions)	24.01	24.59	25.16	25.68	26.31	26.98	27.68	28.42	29.18
%ch	2.87	2.44	2.28	2.09	2.46	2.53	2.57	2.69	2.67
Edu. & Health Serv.									
Portland PMSA	179.18	184.97	190.37	195.36	200.37	205.47	210.62	215.85	221.15
%ch	3.34	3.23	2.92	2.62	2.56	2.55	2.50	2.48	2.46
U.S. (millions)	22.47	22.68	22.87	23.06	23.24	23.40	23.55	23.64	23.70
%ch	1.21	0.91	0.85	0.82	0.81	0.68	0.62	0.41	0.25
Leisure & Hospitalit									
Portland PMSA	117.38	119.60	121.82	123.99	126.04	128.15	130.28	132.45	134.66
%ch	1.92	1.89	1.86	1.78	1.65	1.67	1.67	1.67	1.66
U.S. (millions)	14.25	14.30	14.39	14.48	14.57	14.64	14.70	14.73	14.76
%ch	0.01	0.35	0.59	0.67	0.62	0.47	0.37	0.24	0.18
Other Services									
Portland PMSA	47.95	49.34	50.72	52.10	53.38	54.68	56.00	57.35	58.71
%ch	3.04	2.88	2.80	2.72	2.46	2.44	2.42	2.41	2.37
U.S. (millions)	5.29	5.31	5.34	5.39	5.43	5.47	5.50	5.52	5.55
%ch	(0.21)	0.24	0.67	0.87	0.79	0.77	0.54	0.35	0.54
Fed. Gov. - Civilian									
Portland PMSA	18.08	18.11	18.59	18.10	18.09	18.10	18.10	18.10	18.10
%ch	(0.02)	0.19	2.63	(2.59)	(0.05)	0.01	0.01	0.01	0.01
U.S. (millions)	2.70	2.71	2.78	2.71	2.71	2.71	2.71	2.71	2.71
%ch	(0.04)	0.21	2.71	(2.78)	0.00	0.00	0.00	0.00	0.00
State & Local Gov.									
Portland PMSA	138.09	139.54	142.05	144.34	146.02	147.91	150.03	152.02	153.63
%ch	1.06	1.05	1.80	1.62	1.16	1.29	1.44	1.33	1.06
U.S. (millions)	20.91	21.06	21.19	21.30	21.41	21.53	21.66	21.79	21.93
%ch	0.71	0.73	0.60	0.54	0.51	0.56	0.59	0.63	0.62
Emp - Pop ratio									
Portland PMSA	0.47	0.47	0.47	0.47	0.47	0.47	0.48	0.48	0.48
U.S.	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.39

Employment

(PMSA in 1,000's)

	2027	2028	2029	2030	2031	2032	2033	2034	2035
Pro. Bus.Services									
Portland PMSA	210.62	214.57	218.49	222.72	227.10	231.23	235.41	239.79	244.19
%ch	2.00	1.88	1.82	1.94	1.97	1.82	1.81	1.86	1.83
U.S. (millions)	29.96	30.75	31.54	32.30	33.05	33.80	34.59	35.46	36.37
%ch	2.67	2.64	2.57	2.42	2.32	2.25	2.34	2.52	2.56
Edu. & Health Serv.									
Portland PMSA	226.48	231.79	237.15	242.66	248.15	253.70	259.36	265.20	271.09
%ch	2.41	2.35	2.31	2.32	2.27	2.24	2.23	2.25	2.22
U.S. (millions)	23.80	23.89	23.98	24.09	24.24	24.41	24.57	24.71	24.81
%ch	0.41	0.35	0.41	0.43	0.62	0.71	0.66	0.58	0.42
Leisure & Hospitalit									
Portland PMSA	136.82	138.92	140.97	143.09	145.30	147.44	149.54	151.68	153.85
%ch	1.61	1.53	1.48	1.50	1.55	1.47	1.43	1.43	1.43
U.S. (millions)	14.80	14.84	14.90	14.95	15.05	15.12	15.21	15.27	15.33
%ch	0.29	0.25	0.44	0.32	0.65	0.49	0.59	0.38	0.40
Other Services									
Portland PMSA	60.05	61.35	62.61	63.90	65.20	66.45	67.64	68.78	69.85
%ch	2.29	2.16	2.06	2.05	2.04	1.92	1.79	1.68	1.56
U.S. (millions)	5.59	5.62	5.66	5.69	5.74	5.80	5.85	5.89	5.93
%ch	0.73	0.60	0.58	0.61	0.92	1.00	0.77	0.78	0.64
Fed. Gov. - Civilian									
Portland PMSA	18.10	18.10	18.10	18.55	18.14	18.12	18.12	18.12	18.12
%ch	0.01	0.01	0.01	2.48	(2.25)	(0.11)	0.00	0.00	0.00
U.S. (millions)	2.71	2.71	2.71	2.78	2.71	2.71	2.71	2.71	2.71
%ch	0.00	0.00	0.00	2.66	(2.53)	0.00	0.00	0.00	0.00
State & Local Gov.									
Portland PMSA	155.10	156.58	158.18	160.63	163.42	165.66	168.17	171.00	174.17
%ch	0.96	0.96	1.02	1.55	1.74	1.37	1.52	1.68	1.85
U.S. (millions)	22.06	22.19	22.31	22.43	22.53	22.64	22.75	22.85	22.95
%ch	0.60	0.60	0.55	0.51	0.45	0.49	0.50	0.41	0.46
Emp - Pop ratio									
Portland PMSA	0.48	0.49	0.49	0.49	0.50	0.50	0.50	0.50	0.51
U.S.	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39

Employment

(PMSA in 1,000's)

	2036	2037	2038	2039	2040	Annualized Percentage Rates 1978-2008	2008-20	2020-40
Pro. Bus.Services								
Portland PMSA	248.52	252.73	256.74	260.82	264.97	3.96%	2.8%	1.9%
%ch	1.77	1.69	1.59	1.59	1.59			
U.S. (millions)	37.37	38.44	39.59	40.77	41.98		3.5%	2.6%
%ch	2.75	2.89	2.98	2.98	2.98			
Edu. & Health Serv.								
Portland PMSA	277.06	283.02	288.96	295.03	301.22	3.55%	5.3%	2.3%
%ch	2.20	2.15	2.10	2.10	2.10			
U.S. (millions)	24.88	24.95	24.95	24.95	24.96	3.66%	3.5%	0.4%
%ch	0.28	0.25	0.02	0.02	0.02			
Leisure & Hospitalit								
Portland PMSA	155.99	158.10	160.11	162.14	164.20	2.68%	3.0%	1.5%
%ch	1.39	1.35	1.27	1.27	1.27			
U.S. (millions)	15.37	15.43	15.46	15.49	15.53	2.55%	1.6%	0.4%
%ch	0.24	0.40	0.21	0.21	0.21			
Other Services								
Portland PMSA	70.81	71.61	72.20	72.80	73.40	2.11%	3.5%	1.9%
%ch	1.37	1.13	0.83	0.83	0.83			
U.S. (millions)	5.97	6.01	6.05	6.08	6.11	1.42%	0.3%	0.7%
%ch	0.64	0.80	0.53	0.53	0.53			
Fed. Gov. - Civilian								
Portland PMSA	18.12	18.12	18.12	18.12	18.12	0.41%	-0.1%	-0.1%
%ch	0.00	0.00	0.00	0.00	0.00			
U.S. (millions)	2.71	2.71	2.71	2.71	2.71	2.74%	-0.3%	-0.1%
%ch	0.00	0.00	0.00	0.00	0.00			
State & Local Gov.								
Portland PMSA	177.68	181.56	185.80	189.14	192.55	2.11%	2.0%	1.5%
%ch	2.02	2.18	2.34	1.80	1.80			
U.S. (millions)	23.07	23.18	23.27	23.36	23.46	1.42%	1.4%	0.5%
%ch	0.50	0.48	0.40	0.40	0.40			
Emp - Pop ratio								
Portland PMSA	0.51	0.51	0.51	0.51	0.51			
U.S.	0.39	0.40	0.40	0.40	0.40			

Total Nonfarm Wage & Salary Employment Range Projections through Year 2060

Probabilistic Population Forecast Range

	EMPLOYMENT			EMPLOYMENT - annual pct. chg.		
	Low - 5%	Pop. Base	High - 95%	Low - 5%	Pop. Base	High - 95%
1960		279,315			1.42%	
1965		329,203			3.34%	
1970		400,366			3.99%	
1975		465,268			3.05%	
1980		582,663			4.60%	
1985		587,977			0.18%	
1990		726,818			4.33%	
1995		841,682			2.98%	
2000		973,230			2.95%	
2005		983,680			0.21%	
2010	926,200	1,040,100	1,152,400	-1.20%	1.12%	3.22%
2015	1,011,100	1,157,000	1,299,400	1.77%	2.15%	2.43%
2020	1,093,500	1,265,900	1,434,200	1.58%	1.82%	1.99%
2025	1,170,700	1,368,400	1,561,800	1.37%	1.57%	1.72%
2030	1,252,200	1,475,900	1,695,300	1.36%	1.52%	1.65%
2035	1,342,900	1,592,100	1,836,800	1.41%	1.53%	1.62%
2040	1,433,700	1,707,400	1,985,700	1.32%	1.41%	1.57%
2045	1,484,600	1,781,200	2,087,000	0.70%	0.85%	1.00%
2050	1,537,300	1,858,200	2,193,400	0.70%	0.85%	1.00%
2055	1,591,900	1,938,600	2,305,300	0.70%	0.85%	1.00%
2060	1,648,400	2,022,400	2,422,900	0.70%	0.85%	1.00%

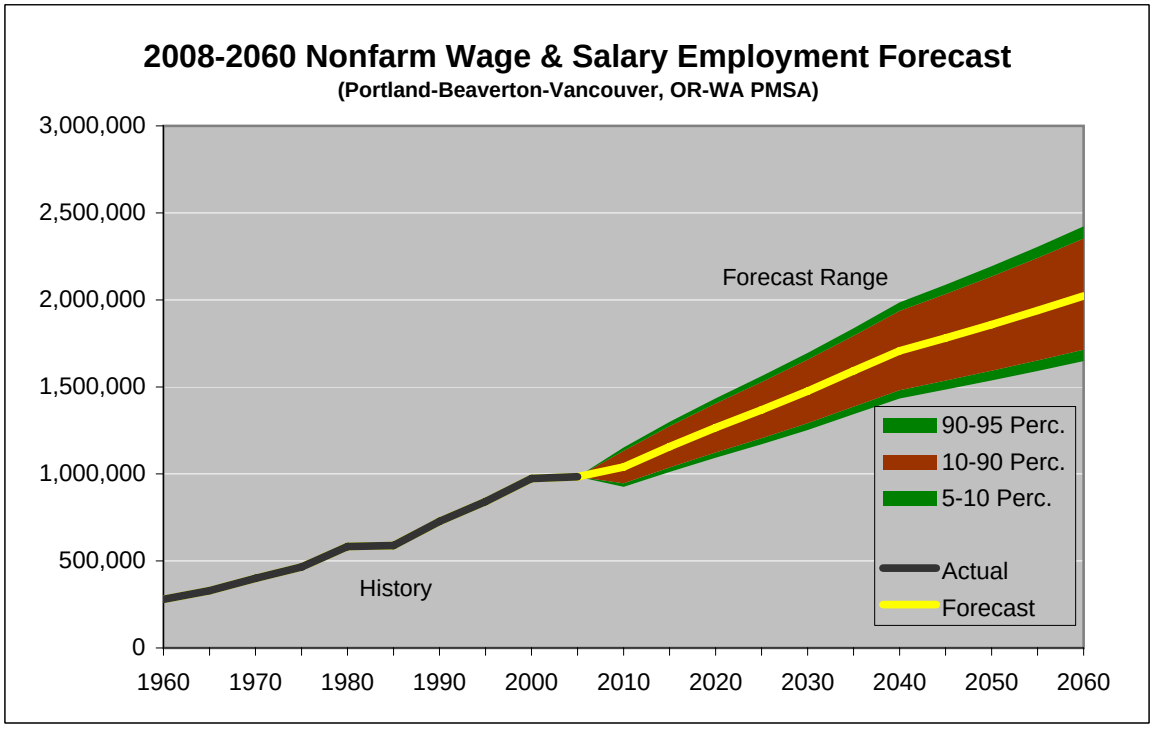
Annual Percentage Rate:

1960-80		3.74%	
1980-00		2.60%	
2000-20	0.58%	1.32%	1.96%
2020-40	1.36%	1.51%	1.64%
2040-60	0.70%	0.85%	1.00%

The Metro econometric model drives the forecast estimation for employment through 2040.

After 2040, the methodology for projecting future jobs is based on a fixed factor employment-population ratio.

Total Nonfarm Wage & Salary Employment Range Projections through Year 2060



Q1 vs. Q4 - 2040 Regional Employment Forecast Comparison

Total Nonfarm Wage & Salary Employment

	Q1	Q4	diff	%diff
2008	1,045.8	1,042.4	(3.36)	-0.3%
2009	1,058.4	1,036.1	(22.37)	-2.2%
2010	1,080.2	1,040.1	(40.06)	-3.9%
2011	1,093.7	1,058.0	(35.72)	-3.4%
2012	1,110.3	1,082.3	(28.00)	-2.6%
2013	1,128.9	1,105.9	(22.95)	-2.1%
2014	1,146.6	1,131.1	(15.46)	-1.4%
2015	1,164.3	1,157.0	(7.29)	-0.6%
2020	1,250.6	1,265.9	15.30	1.2%
2025	1,349.6	1,368.4	18.72	1.4%
2030	1,463.6	1,475.9	12.21	0.8%
2035	1,571.9	1,592.1	20.14	1.3%
2040	1,688.2	1,707.4	19.21	1.1%

Total Manufacturing Employment

	Q1	Q4	diff	%diff
2008	125.0	124.3	(0.71)	-0.6%
2009	125.1	118.9	(6.27)	-5.3%
2010	126.8	116.9	(9.83)	-8.4%
2011	127.0	119.0	(7.99)	-6.7%
2012	126.9	121.2	(5.75)	-4.7%
2013	127.1	122.1	(5.04)	-4.1%
2014	127.4	123.2	(4.24)	-3.4%
2015	127.7	124.2	(3.46)	-2.8%
2020	128.4	127.4	(0.95)	-0.7%
2025	129.9	129.2	(0.70)	-0.5%
2030	132.1	130.8	(1.23)	-0.9%
2035	133.6	132.7	(0.94)	-0.7%
2040	135.1	133.8	(1.32)	-1.0%

Total Non-Manufacturing Employment

	Q1	Q4	diff	%diff
2008	775.9	770.9	(5.00)	-0.6%
2009	788.3	768.1	(20.20)	-2.6%
2010	807.1	774.9	(32.20)	-4.2%
2011	820.5	791.6	(28.97)	-3.7%
2012	837.6	813.9	(23.73)	-2.9%
2013	856.0	835.8	(20.17)	-2.4%
2014	873.2	858.6	(14.61)	-1.7%
2015	890.1	881.6	(8.57)	-1.0%
2020	968.8	977.9	9.15	0.9%
2025	1,057.4	1,069.1	11.68	1.1%
2030	1,157.3	1,165.9	8.54	0.7%
2035	1,256.4	1,267.1	10.77	0.8%
2040	1,363.9	1,362.9	(0.98)	-0.1%

Total Civilian Government Employment

	Q1	Q4	diff	%diff
2008	144.9	147.2	2.35	1.6%
2009	145.1	149.2	4.09	2.7%
2010	146.3	148.3	1.96	1.3%
2011	146.2	147.4	1.24	0.8%
2012	145.9	147.3	1.48	1.0%
2013	145.8	148.0	2.26	1.5%
2014	146.0	149.4	3.39	2.3%
2015	146.5	151.2	4.75	3.1%
2020	153.5	160.6	7.10	4.4%
2025	162.4	170.1	7.73	4.5%
2030	174.3	179.2	4.90	2.7%
2035	182.0	192.3	10.32	5.4%
2040	190.0	210.7	20.67	9.8%

Portland-Beaverton-Vancouver, OR-WA PMSA

Q1 Forecast represents a "pre-recession" projection and set of macro-economic assumptions
Q4 Forecast represents a recognition in the forecast that embeds the most recent recession outlook and assumptions

Personal Income (includes nominal and inflation adjusted figures)

	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
Portland-Beaverton-Vancouver, OR-WA PMSA Components of Personal Income - Nominal Levels (annualized percent change)											
Personal Income	6.49	7.25	7.35	3.08	5.31	6.35	5.97	5.04	4.88	4.67	4.66
+ Wage Disbursement	8.63	7.28	8.57	2.43	2.52	5.53	5.59	4.76	4.64	4.48	4.53
- Social Ins. Contribution	9.16	8.03	7.37	3.13	1.91	5.09	5.29	4.09	3.93	3.88	3.98
+ Transfer Payments	5.88	8.44	5.77	6.53	7.71	5.70	5.68	5.45	5.24	4.76	4.59
+ Other Labor Income	7.82	7.80	6.80	4.71	7.01	6.96	6.21	5.54	5.39	5.26	5.10
+ Farm Proprietors Inc.	19.74	(9.11)	6.54	10.14	8.06	2.94	4.55	0.09	2.18	2.42	2.12
+ Bus. Proprietors Inc.	10.21	4.87	7.50	5.90	1.62	0.65	0.73	0.66	0.65	0.65	0.68
+ Div., Interest, & Rent	7.99	7.23	5.27	1.61	0.99	10.67	8.08	5.59	5.10	4.81	4.85
+ Res. Adjustment	0.38	(45.73)	(319.35)	151.38	(193.03)	(5.44)	(5.40)	(4.77)	(4.72)	(4.60)	(4.60)
Personal Income (in millions)	$28,582	$40,561	$57,823	$67,302	$87,186	$118,638	$158,515	$202,719	$257,198	$323,114	$405,751
% change	6.49	7.25	7.35	3.08	5.31	6.35	5.97	5.04	4.88	4.67	4.66
inflation adjusted (2000$)	$43,001	$50,430	$61,916	$67,160	$71,147	$83,940	$100,393	$115,940	$133,217	$151,670	$172,523
% change	4.37	3.24	4.19	1.64	1.16	3.36	3.64	2.92	2.82	2.63	2.61
Per Capita Income	$18,756	$23,186	$29,993	$32,156	$38,483	$47,272	$58,628	$70,343	$84,322	$100,635	$120,275
% change	4.57	4.33	5.28	1.4	3.66	4.2	4.4	3.71	3.69	3.6	3.63
inflation adjusted (2000$)	$26,098	$26,812	$29,863	$29,068	$31,405	$33,447	$37,132	$40,232	$43,676	$47,239	$51,166
% change	0.83	0.54	2.18	-0.54	1.56	1.27	2.11	1.62	1.66	1.58	1.61
Average Household Inc.	$48,191	$60,378	$77,894	$84,254	$97,697	$118,869	$146,011	$173,874	$207,246	$246,240	$293,163
% change	N/A	4.61	5.23	1.58	3	4	4.2	3.55	3.57	3.51	3.55
inflation adjusted (2000$)	$67,339	$70,132	$77,894	$76,495	$80,706	$85,143	$93,616	$100,671	$108,668	$117,011	$126,240
% change	N/A	0.82	2.12	-0.36	1.08	1.08	1.92	1.46	1.54	1.49	1.53
U.S. Personal Income Components - Nominal Levels (annualized percent change)											
Personal Income	6.71	4.75	6.50	4.03	4.36	5.50	5.14	4.60	4.53	4.38	4.38
+ Wage Disbursement	6.65	4.42	7.15	3.27	3.79	4.91	4.50	4.07	4.02	3.93	3.96
- Social Ins. Contribution	7.83	5.37	5.69	4.47	3.48	5.52	5.31	4.31	4.01	3.92	3.95
+ Transfer Payments	6.98	8.07	4.32	7.00	6.21	5.99	6.43	6.02	5.70	5.17	4.98
+ Other Labor Income	6.06	5.50	4.32	8.71	4.07	4.67	4.08	3.74	3.63	3.64	3.54
+ Farm Proprietors Inc.	8.91	(6.58)	0.00	8.49	(3.05)	2.94	4.55	0.09	2.18	2.42	2.12
+ Bus. Proprietors Inc.	7.63	6.13	8.49	5.58	3.81	5.48	5.89	5.42	4.94	4.72	4.70
+ Div., Interest, & Rent	6.94	3.15	6.18	1.43	4.80	7.39	5.95	4.64	4.76	4.75	4.87
U.S. Personal Income (in billions)	$4,879	$6,152	$8,430	$10,270	$12,710	$16,609	$21,341	$26,728	$33,359	$41,340	$51,222
% change	6.71	4.75	6.5	4.03	4.36	5.5	5.14	4.6	4.53	4.38	4.38
inflation adjusted (2000$)	$6,429	$6,952	$8,430	$9,055	$10,006	$11,623	$13,494	$15,252	$17,176	$19,199	$21,437
% change	2.64	1.58	3.93	1.44	2.02	3.04	3.03	2.48	2.4	2.25	2.23
U.S. Per Capita Income	$19,468	$23,044	$29,807	$34,611	$40,818	$50,839	$62,287	$74,477	$88,929	$105,638	$125,586
% change	5.68	3.43	5.28	3.03	3.35	4.49	4.15	3.64	3.61	3.5	3.52
inflation adjusted (2000$)	$25,656	$26,039	$29,807	$30,518	$32,135	$35,577	$39,385	$42,499	$45,787	$49,061	$52,567
% change	1.65	0.3	2.74	0.47	1.04	2.06	2.05	1.53	1.5	1.39	1.39
U.S. Avg. Household Inc.	$52,027	$61,459	$78,755	$90,295	$106,243	$130,708	$158,710	$189,760	$226,934	$270,984	$324,339
% change	5.22	3.39	5.08	2.77	3.31	4.23	3.96	3.64	3.64	3.61	3.66
inflation adjusted (2000$)	$68,565	$69,448	$78,755	$79,618	$83,644	$91,470	$100,355	$108,284	$116,842	$125,851	$135,711
% change	1.21	0.26	2.55	0.22	0.99	1.8	1.87	1.53	1.53	1.5	1.52
U.S. Consumer Price Index	130.66	152.38	172.19	195.28	218.72	246.06	272.32	301.75	334.44	370.76	410.83

Industry Wage Rates and Projections - Nominal Levels

	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
Portland-Beaverton-Vancouver, OR-WA PMSA Industry Hourly Wage Rates (annualized percent change)												
Ag., Forestry & Fisheries	2.4	2.3	5	3.1	0.9	1.7	1.9	2	1.7	1.7	1.6	1.6
Lumber & Wood Products	2.3	3.1	5.6	2.6	2.9	1.6	1.8	2.8	1.9	1.9	1.5	2.1
Primary Metal Mfg.	3.4	4.2	3	4	1.4	3.1	2.7	2.7	2.2	2.1	1.8	1.9
Fabricated Metal Mfg.	2.9	3.3	3	4	2.7	1.2	1.5	2.2	1.9	1.9	1.7	1.8
Machinery Mfg.	4.5	4.2	3.7	6.3	1	2.5	3.2	3.3	2.7	2.8	2.7	2.7
Computer & Electronics	6.9	5.6	9	12.5	-2.4	1.8	4.8	4.3	3.5	3.4	3.2	3.2
Transportation Equipment	5	3.1	2.2	5.3	4	1.5	1.7	2.3	2.1	2.3	2.4	2.6
Other Durables	4.2	3.3	3.8	3.9	2.2	2.3	2.4	2.5	2.1	2.1	2	2
Food Manufacturing	2.6	1.5	3.9	4	-2.3	0.5	3.3	3.8	3.1	2.7	2.3	2.2
Paper Manufacturing	6.3	1.8	4.1	1.8	2.3	1.2	2.7	2.7	2.2	2.1	1.9	2
Other Nondurables	3.2	3.9	3.7	4.3	2.6	2.9	2.5	2.5	2	2	1.9	1.9
Wholesale Trade	3.5	4.1	4.7	6.3	-5.9	2.5	6.1	5	3.4	2.7	2.3	2.3
Retail Trade	3.1	2.7	4.1	4.1	2.3	3.2	2.3	2.2	1.8	1.7	1.7	1.7
Transport., Warehousing & Ut	2.2	3.6	2.4	5.2	1.6	1	1.7	2	1.8	1.7	1.6	1.7
Information	6.2	3.5	5.6	7.8	1.2	1.2	3.3	3.6	3.3	3.4	3.5	3.5
Finance & Insurance	6.1	6	5.5	5.3	7.1	2.7	4.2	5	4.3	4.3	4	4.2
Real Estate Rental & Leasing	3.9	4.7	3.6	5.5	3.9	2.9	3.5	2.9	2.7	2.5	2.4	2.4
Pro., Sci., & Tech. Services	6.8	7.8	4.2	5.7	1.1	2	3.2	4.1	3.7	3.7	3.5	3.5
Management of Co.	3.8	7.3	4.2	12.7	-1.6	5.3	3.9	4.2	3.5	3.5	3.2	3.3
Admin. & Waste Support	4.1	1.1	3.7	6.3	-1.1	0.5	3.2	4.2	3.6	3.3	2.8	2.8
Educational Services	4.5	3.7	3.9	3.5	3.4	2.5	2.8	3.1	2.7	2.7	2.5	2.6
Health Services	6.2	5	4.5	3.6	4.1	3.1	3.2	3.6	3	3	2.8	2.9
Federal Govt., Civilian	6.9	4.8	4.9	2.7	4.4	2.9	3	3.1	2.7	2.6	2.4	2.4
State & Local Govt.	7.8	3.5	4.1	3.3	3.9	2.8	2.9	3.3	2.8	2.8	2.6	2.7
Portland-Beaverton-Vancouver, OR-WA PMSA Industry Hourly Wage Rates (nominal dollars)												
Ag., Forestry & Fisheries	5.56	6.23	7.96	9.25	9.67	10.54	11.58	12.81	13.95	15.18	16.42	17.78
Lumber & Wood Products	7.87	9.15	12.05	13.66	15.75	17.08	18.72	21.46	23.6	25.98	27.98	31.04
Primary Metal Mfg.	12.44	15.25	17.69	21.56	23.12	26.94	30.8	35.25	39.34	43.63	47.79	52.51
Fabricated Metal Mfg.	10.37	12.22	14.19	17.29	19.77	20.93	22.58	25.22	27.72	30.44	33.15	36.24
Machinery Mfg.	11.24	13.81	16.59	22.57	23.68	26.77	31.4	36.85	42.13	48.3	55.1	62.95
Computer & Electronics	12.32	16.15	24.8	44.7	39.67	43.42	55.02	67.97	80.74	95.38	111.51	130.53
Transportation Equipment	13.65	15.86	17.71	22.96	27.89	30	32.66	36.57	40.49	45.43	51.18	58.19
Other Durables	9.26	10.9	13.11	15.84	17.64	19.78	22.22	25.19	28.02	31.1	34.29	37.86
Food Manufacturing	9.74	10.49	12.73	15.45	13.74	14.07	16.53	19.93	23.23	26.56	29.77	33.19
Paper Manufacturing	15.35	16.76	20.45	22.41	25.17	26.74	30.62	34.92	38.91	43.08	47.34	52.27
Other Nondurables	9.62	11.64	13.94	17.21	19.55	22.55	25.51	28.86	31.91	35.2	38.59	42.40
Wholesale Trade	11.97	14.64	18.38	24.9	18.37	20.77	27.86	35.52	41.88	47.81	53.57	60.02
Retail Trade	6.6	7.55	9.23	11.31	12.65	14.8	16.57	18.51	20.25	22.06	23.95	26.06
Transport., Warehousing & Ut	11.55	13.75	15.51	19.96	21.63	22.75	24.71	27.32	29.8	32.47	35.18	38.27
Information	11.01	13.07	17.18	25.03	26.51	28.16	33.08	39.42	46.41	54.82	64.97	77.16
Finance & Insurance	9.43	12.61	16.51	21.39	30.1	34.31	42.17	53.82	66.57	82.05	99.9	122.72
Real Estate Rental & Leasing	6.36	8.01	9.55	12.5	15.1	17.43	20.67	23.81	27.21	30.8	34.68	39.05
Pro., Sci., & Tech. Services	10.34	15.09	18.57	24.54	25.87	28.54	33.34	40.68	48.83	58.6	69.48	82.52
Management of Co.	13.54	19.3	23.66	43.08	39.81	51.47	62.34	76.44	90.87	107.7	126.24	148.49
Admin. & Waste Support	6.61	6.98	8.38	11.34	10.72	11.02	12.91	15.85	18.95	22.27	25.62	29.41
Educational Services	6.91	8.28	10.01	11.9	14.08	15.94	18.27	21.3	24.34	27.74	31.38	35.68
Health Services	9.59	12.21	15.22	18.16	22.17	25.82	30.27	36.06	41.89	48.54	55.72	64.28
Federal Govt., Civilian	18.53	23.4	29.69	33.95	42.12	48.67	56.31	65.63	74.84	85.01	95.74	107.79
State & Local Govt.	12.08	14.35	17.58	20.64	24.96	28.68	33.16	38.97	44.77	51.4	58.4	66.72

Industry Wage Rates and Projections - Inflation Adjusted (Year 2000 Levels)

	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
Portland-Beaverton-Vancouver, OR-WA PMSA Industry Hourly Wage Rates (annualized percent change, inflation adjusted)												
Ag., Forestry & Fisheries	2.4	2.3	5.0	3.0	0.9	1.7	1.9	2.0	1.7	1.7	1.6	1.6
Lumber & Wood Products	2.3	3.1	5.7	2.5	2.9	1.6	1.9	2.8	1.9	1.9	1.5	2.1
Primary Metal Mfg.	3.4	4.2	3.0	4.0	1.4	3.1	2.7	2.7	2.2	2.1	1.8	1.9
Fabricated Metal Mfg.	2.9	3.3	3.0	4.0	2.7	1.1	1.5	2.2	1.9	1.9	1.7	1.8
Machinery Mfg.	4.5	4.2	3.7	6.3	1.0	2.5	3.2	3.3	2.7	2.8	2.7	2.7
Computer & Electronics	6.9	5.6	9.0	12.5	-2.4	1.8	4.8	4.3	3.5	3.4	3.2	3.2
Transportation Equipment	5.0	3.0	2.2	5.3	4.0	1.5	1.7	2.3	2.1	2.3	2.4	2.6
Other Durables	4.2	3.3	3.8	3.9	2.2	2.3	2.4	2.5	2.2	2.1	2.0	2.0
Food Manufacturing	2.6	1.5	3.9	3.9	-2.3	0.5	3.3	3.8	3.1	2.7	2.3	2.2
Paper Manufacturing	6.3	1.8	4.1	1.8	2.4	1.2	2.7	2.7	2.2	2.1	1.9	2.0
Other Nondurables	3.2	3.9	3.7	4.3	2.6	2.9	2.5	2.5	2.0	2.0	1.9	1.9
Wholesale Trade	3.5	4.1	4.7	6.3	-5.9	2.5	6.0	5.0	3.3	2.7	2.3	2.3
Retail Trade	3.1	2.7	4.1	4.1	2.3	3.2	2.3	2.2	1.8	1.7	1.7	1.7
Transport., Warehousing & Ut	2.2	3.5	2.4	5.2	1.6	1.0	1.7	2.0	1.8	1.7	1.6	1.7
Information	6.1	3.5	5.6	7.8	1.2	1.2	3.3	3.6	3.3	3.4	3.5	3.5
Finance & Insurance	6.1	6.0	5.5	5.3	7.1	2.7	4.2	5.0	4.3	4.3	4.0	4.2
Real Estate Rental & Leasing	3.9	4.7	3.6	5.5	3.9	2.9	3.5	2.9	2.7	2.5	2.4	2.4
Pro., Sci., & Tech. Services	6.8	7.9	4.2	5.7	1.1	2.0	3.2	4.1	3.7	3.7	3.5	3.5
Management of Co.	3.8	7.3	4.2	12.7	-1.6	5.3	3.9	4.2	3.5	3.5	3.2	3.3
Admin. & Waste Support	4.1	1.1	3.7	6.2	-1.1	0.6	3.2	4.2	3.6	3.3	2.8	2.8
Educational Services	4.4	3.7	3.9	3.5	3.4	2.5	2.8	3.1	2.7	2.6	2.5	2.6
Health Services	6.2	4.9	4.5	3.6	4.1	3.1	3.2	3.6	3.0	3.0	2.8	2.9
Federal Govt., Civilian	6.9	4.8	4.9	2.7	4.4	2.9	3.0	3.1	2.7	2.6	2.4	2.4
State & Local Govt.	7.8	3.5	4.1	3.3	3.9	2.8	2.9	3.3	2.8	2.8	2.6	2.7
Portland-Beaverton-Vancouver, OR-WA PMSA Industry Hourly Wage Rates (inflation adjusted to year 2000 dollars)												
Ag., Forestry & Fisheries	8.90	9.97	12.74	14.80	15.47	16.87	18.53	20.50	22.32	24.29	26.28	28.45
Lumber & Wood Products	12.59	14.64	19.28	21.86	25.20	27.33	29.96	34.34	37.77	41.58	44.78	49.68
Primary Metal Mfg.	19.91	24.40	28.31	34.50	37.00	43.11	49.29	56.41	62.95	69.82	76.48	84.02
Fabricated Metal Mfg.	16.59	19.56	22.71	27.67	31.64	33.49	36.13	40.36	44.36	48.71	53.05	58.00
Machinery Mfg.	17.99	22.10	26.55	36.12	37.89	42.84	50.25	58.97	67.42	77.29	88.18	100.74
Computer & Electronics	19.72	25.84	39.69	71.53	63.48	69.48	88.05	108.77	129.21	152.63	178.45	208.89
Transportation Equipment	21.84	25.38	28.34	36.74	44.63	48.01	52.27	58.52	64.80	72.70	81.90	93.12
Other Durables	14.82	17.44	20.98	25.35	28.23	31.65	35.56	40.31	44.84	49.77	54.87	60.58
Food Manufacturing	15.59	16.79	20.37	24.72	21.99	22.52	26.45	31.89	37.17	42.50	47.64	53.12
Paper Manufacturing	24.56	26.82	32.73	35.86	40.28	42.79	49.00	55.88	62.27	68.94	75.76	83.64
Other Nondurables	15.39	18.63	22.31	27.54	31.29	36.09	40.82	46.18	51.06	56.33	61.75	67.85
Wholesale Trade	19.16	23.43	29.41	39.85	29.40	33.24	44.58	56.84	67.02	76.51	85.73	96.05
Retail Trade	10.56	12.08	14.77	18.10	20.24	23.68	26.52	29.62	32.41	35.30	38.33	41.70
Transport., Warehousing & Ut	18.48	22.00	24.82	31.94	34.61	36.41	39.54	43.72	47.69	51.96	56.30	61.25
Information	17.62	20.92	27.49	40.05	42.42	45.06	52.94	63.08	74.27	87.73	103.97	123.48
Finance & Insurance	15.09	20.18	26.42	34.23	48.17	54.91	67.48	86.13	106.53	131.30	159.87	196.38
Real Estate Rental & Leasing	10.18	12.82	15.28	20.00	24.16	27.89	33.08	38.10	43.54	49.29	55.50	62.48
Pro., Sci., & Tech. Services	16.55	24.15	29.72	39.27	41.40	45.67	53.35	65.10	78.14	93.78	111.19	132.06
Management of Co.	21.67	30.89	37.86	68.94	63.71	82.37	99.76	122.33	145.42	172.35	202.02	237.63
Admin. & Waste Support	10.58	11.17	13.41	18.15	17.15	17.64	20.66	25.36	30.33	35.64	41.00	47.07
Educational Services	11.06	13.25	16.02	19.04	22.53	25.51	29.24	34.09	38.95	44.39	50.22	57.09
Health Services	15.35	19.54	24.36	29.06	35.48	41.32	48.44	57.71	67.04	77.68	89.17	102.87
Federal Govt., Civilian	29.65	37.45	47.51	54.33	67.40	77.89	90.11	105.03	119.76	136.04	153.21	172.50
State & Local Govt.	19.33	22.96	28.13	33.03	39.94	45.90	53.07	62.36	71.64	82.25	93.46	106.77

Headship Rates by County

2000 Census Headship Rates by Age of Head Householder

	Clackamas	Columbia	Marion	Multnomah	Polk	Washington	Yamhill	Clark	PMSA
Households 15 to 24 years	0.135	0.114	0.155	0.200	0.175	0.181	0.120	0.155	0.169
Households 25 to 34 years	0.458	0.467	0.440	0.492	0.462	0.491	0.422	0.478	0.477
Households 35 to 44 years	0.526	0.536	0.512	0.557	0.519	0.551	0.495	0.544	0.541
Households 45 to 54 years	0.562	0.548	0.552	0.595	0.555	0.579	0.532	0.568	0.573
Households 55 to 64 years	0.587	0.573	0.579	0.617	0.577	0.599	0.563	0.595	0.596
Households 65 to 74 years	0.617	0.618	0.609	0.635	0.604	0.615	0.589	0.618	0.620
Households 75 to 84 years	0.663	0.684	0.653	0.669	0.633	0.648	0.632	0.656	0.658
Households 85 years and over	0.626	0.639	0.608	0.609	0.449	0.604	0.557	0.581	0.598
Total	0.483	0.484	0.462	0.507	0.467	0.491	0.434	0.485	0.487
Average Household Size:	**2.64**	**2.66**	**2.80**	**2.43**	**2.71**	**2.63**	**2.96**	**2.71**	**2.61**

1990 Census Headship Rates by Age of Head Householder

	Clackamas	Columbia	Marion	Multnomah	Polk	Washington	Yamhill	Clark	PMSA
Households 15 to 24 years	0.116	0.116	0.154	0.204	0.177	0.165	0.125	0.148	0.165
Households 25 to 34 years	0.454	0.473	0.445	0.502	0.455	0.495	0.440	0.487	0.482
Households 35 to 44 years	0.537	0.541	0.522	0.579	0.541	0.565	0.512	0.554	0.556
Households 45 to 54 years	0.573	0.568	0.560	0.599	0.561	0.590	0.548	0.582	0.582
Households 55 to 64 years	0.581	0.567	0.571	0.603	0.564	0.588	0.551	0.590	0.587
Households 65 to 74 years	0.623	0.641	0.620	0.650	0.611	0.630	0.608	0.629	0.633
Households 75 to 84 years	0.645	0.687	0.638	0.671	0.616	0.636	0.621	0.667	0.653
Households 85 years and over	0.645	0.688	0.638	0.671	0.617	0.636	0.621	0.667	0.653
Total	0.478	0.487	0.470	0.517	0.473	0.495	0.451	0.489	0.494
Average Household Size:	**2.69**	**2.70**	**2.74**	**2.41**	**2.73**	**2.62**	**2.92**	**2.69**	**2.60**

Change in Headship Rates: 1990 to 2000

	Clackamas	Columbia	Marion	Multnomah	Polk	Washington	Yamhill	Clark	PMSA
Households 15 to 24 years	0.019	-0.002	0.001	-0.004	-0.002	0.016	-0.005	0.007	0.004
Households 25 to 34 years	0.004	-0.006	-0.005	-0.010	0.007	-0.004	-0.017	-0.010	-0.005
Households 35 to 44 years	-0.011	-0.005	-0.009	-0.022	-0.022	-0.013	-0.017	-0.010	-0.015
Households 45 to 54 years	-0.011	-0.019	-0.008	-0.003	-0.006	-0.011	-0.016	-0.014	-0.009
Households 55 to 64 years	0.006	0.007	0.007	0.014	0.012	0.011	0.012	0.004	0.009
Households 65 to 74 years	-0.005	-0.023	-0.011	-0.014	-0.007	-0.015	-0.019	-0.011	-0.013
Households 75 to 84 years	0.019	-0.004	0.015	-0.001	0.017	0.011	0.011	-0.011	0.005
Households 85 years and over	-0.019	-0.048	-0.030	-0.062	-0.168	-0.032	-0.065	-0.085	-0.055
Total	**0.005**	**-0.003**	**-0.009**	**-0.011**	**-0.006**	**-0.004**	**-0.016**	**-0.004**	**-0.006**

Headship rates are calculated by dividing the number of householders by the population in each age group.
Headship rates are used to project the number of future households from a population forecast. Headship rates change over time as demographic and economic factors fluctate.

Source: 1990 U.S. Census, 2000 U.S. Census as compiled by Metro DRC

Location Quotients

Portland-Beaverton-Vanouver, OR-WA PMSA

	1990	1995	2000	2005	2008	2010	2015	2020	2025	2030	2035	2040
Manufacturing, total	1.06	1.09	1.12	1.18	1.22	1.27	1.23	1.22	1.26	1.28	1.3	1.29
Durable Goods, total	1.25	1.29	1.34	1.43	1.45	1.53	1.45	1.45	1.51	1.54	1.56	1.53
Wood Products	2.21	1.54	1.31	1.45	1.34	1.22	1.15	1.12	1.14	1.12	1.05	1
Primary Metal	1.86	1.47	1.68	1.77	2.09	2.22	2.03	1.82	1.67	1.66	1.72	1.82
Fabricated Metal	1.01	1.13	1.06	1.12	1.11	1.16	1.07	1.01	1	1	1.02	1.03
Machinery	0.98	1.01	0.97	0.96	0.95	0.96	0.85	0.8	0.8	0.8	0.81	0.8
Electrical Machinery	2.23	2.7	3.07	3.77	3.75	3.63	4.38	4.79	5.01	4.86	4.56	4.33
Transportation Equipment	0.67	0.67	0.73	0.69	0.71	0.83	0.74	0.82	0.97	1.07	1.06	0.98
Non-durable Goods, total	0.78	0.79	0.76	0.77	0.8	0.85	0.84	0.82	0.82	0.83	0.84	0.86
Food Processing	0.95	0.86	0.77	0.79	0.83	0.85	0.79	0.72	0.68	0.65	0.64	0.63
Paper	1.75	1.55	1.46	1.4	1.32	1.45	1.47	1.39	1.36	1.35	1.37	1.4
Non-manufacturing, total	1.03	1.03	1.01	1.01	1	1	1.01	1.01	1.01	1.01	1.01	1.01
Natural Resources	0.4	0.44	0.42	0.39	0.28	0.31	0.31	0.32	0.3	0.29	0.27	0.26
Construction	1.05	1.2	1.06	1.08	1.17	1.22	1.09	1.03	0.99	0.93	0.89	0.88
Retail Trade	0.94	0.93	0.95	0.93	0.95	0.94	0.98	0.96	0.96	0.97	0.98	0.99
Motor Vehicle & Parts	1.09	1.04	1.04	1	0.97	0.92	1.01	1.07	1.08	1.09	1.08	1.08
Food & Beverage Stores	0.82	0.8	0.85	0.89	0.93	0.89	0.97	1.01	1.01	1.03	1.05	1.08
Other Retail	0.96	0.95	0.96	0.93	0.95	0.96	0.97	0.93	0.93	0.94	0.94	0.95
Transp., Warehouse, & Utilities	1.13	1.08	1.04	1.02	0.98	1.01	1	0.95	0.91	0.9	0.93	0.96
Information, total	0.9	0.93	0.97	1.02	1.09	1.08	1.11	1.14	1.14	1.12	1.05	0.98
Publishing	0.78	0.99	1.27	1.37	1.56	1.66	1.86	2.14	2.36	2.51	2.48	2.34
Internet & Other	0.97	0.9	0.85	0.87	0.9	0.85	0.83	0.78	0.74	0.69	0.64	0.62
Finance Activities	1.14	1.13	1.14	1.14	1.13	1.12	1.2	1.28	1.34	1.39	1.42	1.45
Finance & Insurance	0.91	0.91	0.99	0.99	0.95	0.96	1.04	1.11	1.17	1.21	1.24	1.25
Real Estate	1.84	1.77	1.57	1.55	1.62	1.61	1.63	1.74	1.8	1.89	1.96	2.03
Pro. Business Services	1.08	1.14	1.06	1.03	1.01	1.01	0.93	0.88	0.83	0.78	0.73	0.69
Pro., Sci., & Tech.	1.21	1.2	0.98	0.95	0.91	0.9	0.89	0.85	0.76	0.67	0.59	0.54
Mgmt. of Companies	0.92	1.23	1.52	1.56	1.62	1.61	1.95	2.32	2.66	3.1	3.56	3.89
Admin. Support	1.01	1.05	1.02	0.99	0.96	0.99	0.81	0.73	0.7	0.67	0.65	0.63
Edu. & Health Care	1.01	0.92	0.92	0.94	0.92	0.9	0.95	1.01	1.07	1.14	1.19	1.24
Educational	1.04	0.98	1.02	1	0.96	0.96	1.09	1.21	1.29	1.38	1.45	1.52
Health Care	1	0.91	0.9	0.92	0.91	0.89	0.92	0.98	1.03	1.1	1.15	1.2
Leisure & Hospitality	1.03	1.01	0.98	0.96	0.96	0.95	0.99	1.03	1.05	1.08	1.09	1.11
Arts, Entertainment & Rec.	1.32	1.13	0.99	0.95	0.92	0.91	0.98	0.99	0.96	0.96	0.95	0.96
Accommodation & Food	0.99	0.99	0.98	0.96	0.97	0.96	0.99	1.03	1.07	1.1	1.12	1.14
Other Services	0.91	0.89	0.88	0.87	0.88	0.83	1.04	1.15	1.21	1.27	1.28	1.28
Government, Civilian total	0.89	0.85	0.9	0.9	0.91	0.91	0.86	0.85	0.85	0.83	0.85	0.87
Federal, Civilian	0.89	0.85	0.89	0.91	0.87	0.87	0.85	0.81	0.78	0.75	0.73	0.72
State & Local	0.81	0.79	0.84	0.85	0.86	0.86	0.82	0.81	0.82	0.81	0.83	0.85

U.S. Population and Labor Force Productivity Measures

	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
Components of Population (in millions)															
Population (U.S.)	205.4	216.2	228	238.7	250.6	267	282.8	296.7	311.4	326.7	342.6	358.9	375.1	391.3	407.8
Pct. Chg. (5-year avg.)	1.09	1.03	1.06	0.93	0.97	1.27	1.16	0.96	0.97	0.97	0.96	0.93	0.89	0.85	0.83
Annual Avg. Change	2.2	2.2	2.4	2.2	2.4	3.3	3.2	2.8	2.9	3.1	3.2	3.3	3.2	3.2	3.3
Population by Age (in millions)															
0 to 4 years old	17.2	16.1	16.5	17.9	18.9	19.6	19.2	20.3	21.2	22.2	23	23.6	24.3	25.2	26.4
5 to 15 years old	44.8	42.5	38.8	37.4	38.7	42.6	45.2	44.7	44.9	47	49.2	51.4	53.2	54.8	56.6
16 to 21 years old	22.6	25.2	25.9	23.4	22.4	21.7	24.3	25	26.3	25.5	26.6	28.1	29.5	30.8	32.0
22 to 54 years old	82	89.6	99.3	109.4	118.2	127.9	134.5	139.3	142.2	144.3	145.7	149.7	155.6	162.1	168.0
55 to 64 years old	18.7	20.1	21.8	22.1	21.1	21.4	24.5	30.5	36.4	40.6	43	41.9	40.2	40.7	43.1
65 to 84 years old	18.7	20.9	23.5	25.8	28.2	30.1	30.8	31.7	34.4	40.5	48.2	56.7	63.4	66.3	68.0
85 years and older	1.4	1.8	2.3	2.7	3.1	3.7	4.3	5.1	6	6.5	6.8	7.4	8.9	11.5	14.1
Population Share by Age (in percent)															
0 to 4 years old	0.08	0.07	0.07	0.07	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06
5 to 16 years old	0.22	0.2	0.17	0.16	0.15	0.16	0.16	0.15	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17 to 21 years old	0.11	0.12	0.11	0.1	0.09	0.08	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22 to 54 years old	0.4	0.41	0.44	0.46	0.47	0.48	0.48	0.47	0.46	0.44	0.43	0.42	0.41	0.41	0.41
55 to 64 years old	0.09	0.09	0.1	0.09	0.08	0.08	0.09	0.1	0.12	0.12	0.13	0.12	0.11	0.1	0.11
65 to 84 years old	0.09	0.1	0.1	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.14	0.16	0.17	0.17	0.17
85 years and older	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03
Population A.P.R. (in percent)															
0 to 4 years old	-2.71	-1.37	0.57	1.58	1.14	0.73	-0.4	1.12	0.91	0.9	0.68	0.55	0.57	0.74	0.92
5 to 16 years old	0.79	-1.06	-1.81	-0.69	0.67	1.93	1.18	-0.19	0.07	0.93	0.92	0.85	0.69	0.61	0.66
17 to 21 years old	3.2	2.27	0.51	-1.97	-0.9	-0.61	2.24	0.62	0.97	-0.59	0.86	1.04	1.01	0.87	0.75
22 to 54 years old	1.28	1.8	2.07	1.96	1.55	1.59	1.02	0.69	0.41	0.29	0.2	0.54	0.78	0.82	0.71
55 to 64 years old	1.8	1.42	1.62	0.31	-0.93	0.24	2.79	4.49	3.61	2.21	1.13	-0.5	-0.82	0.22	1.13
65 to 84 years old	1.49	2.25	2.32	1.91	1.82	1.3	0.45	0.59	1.6	3.35	3.55	3.3	2.25	0.89	0.50
85 years and older	5.66	4.99	4.53	3.24	2.84	3.73	3.11	3.39	3.29	1.73	0.9	1.76	3.61	5.24	4.17
Labor Force (in millions)															
Population 16 years and old	143.4	157.7	172.7	183.4	193	204.8	218.4	231.7	245.2	257.4	270.4	283.9	297.6	311.3	324.9
Labor Force, total	82.8	93.8	107	115.9	125.9	133.1	142.6	149.3	156	163	168.4	172.9	178.6	186.1	194.3
16 to 64 years old	79.6	90.8	103.9	113	122.4	129.2	138.3	144	149.3	155	158.4	161	165.4	172.6	180.7
65 years and older	3.2	3	3.1	2.9	3.5	3.9	4.3	5.3	6.7	8.1	10	11.9	13.2	13.5	13.7
Participation Rate (in percent)															
Labor Force, total	57.7	59.5	61.9	63.2	65.2	65	65.3	64.4	63.6	63.3	62.3	60.9	60	59.8	59.8
16 to 64 years old	64.6	67.3	70.7	72.9	75.7	75.6	75.4	73.9	72.9	73.7	73.6	73.3	73.4	73.9	74.2
65 years and older	16	13	11.9	10.2	11	11.5	12.4	14.3	16.6	17.2	18.2	18.5	18.2	17.3	16.9
Employment and Manhour															
Total Nonfarm Employment	71	77.1	90.5	97.5	109.5	117.3	131.8	133.7	135.6	146.5	153.3	159.9	166.5	173.5	180.6
Unemployment Rate (percer	5	8.5	7.2	7.2	5.6	5.6	4	5.1	8.2	5.7	4.9	4.9	4.9	4.9	4.9
Average Weekly Hours	35.9	34.6	33.7	33.9	33.3	33.4	33.4	32.6	32.3	32.5	32.5	32.5	32.5	32.5	32.5
Manufacturing Workweek	39.8	39.4	39.7	40.5	40.5	41.3	41.2	40.6	40.6	40.9	40.7	40.8	40.8	40.7	40.6
Durable Mfg.	40.5	40	40.3	41.3	41.2	42.2	41.8	41.1	40.8	41.1	40.8	40.8	40.9	40.8	40.7
Nondurable Mfg.	39	38.6	38.8	39.4	39.6	40.1	40.3	39.9	40.2	40.5	40.6	40.7	40.7	40.6	40.5
Productivity Measures (annual pct. change)															
GDP / Employment	0.27	1.04	0.38	1.72	0.91	1.06	1.7	1.99	1.07	1.56	1.84	1.64	1.6	1.6	1.71
FRB Ind. Production, total	3.23	1.78	4.54	2.24	2.96	3.22	5.87	0.77	-0.17	3.89	3.2	3.17	3.28	3.22	3.12
FRB Ind.Production, Mfg.	3.5	1.79	4.21	1.71	2.63	2.89	5.21	0.67	0.05	3.15	2.51	2.52	2.49	2.42	2.39
Employment Cost Index (annual pct. change)															
Pvt. Sector wages & salarie	N/A	N/A	7.88	6.01	3.72	3.07	3.67	3	2.54	2.57	2.76	2.34	2.3	2.14	2.21

Key U.S. Economic Indicators & Forecast Variables

	1975	1980	1985	1990	1995	2000	2005	2010
Components of GDP (in pct. change)								
Gross Domesitc Product	2.7	3.7	3.2	3.3	2.5	4.1	2.3	1.4
Consumption	3.2	3.2	3.8	3.3	2.6	4.4	2.9	1.6
Durables	4.9	3.6	7.9	3.8	4	9.3	5.6	1.7
Computers	N/A	N/A	105.9	43.8	51.4	61.3	32.2	18.2
Software	N/A	N/A	N/A	N/A	51.9	40.4	13.5	8.7
Medical Devices	3.1	1.4	7.8	12.4	-1.2	6.2	0.2	3.6
Nondurables	1.8	2.7	2.4	2.7	2	3.5	3	1.5
Food	1.1	2.2	1.8	2.4	1.1	2.3	2.5	1.7
Medical Services	5.7	4.4	3.6	4.6	2.6	3.4	4.3	2.6
Prescription Drugs	5.4	5.4	3.3	4.6	3.2	9.9	5.7	2.8
Gross Domestic Investments	1.2	7.3	5.7	1	4.8	8.9	1.5	-3.2
Nonresidential Fixed Investments	2.6	8.1	4.7	1.6	5.1	10.1	-0.1	0.5
Industrial Equipment	1.3	4	-0.2	0.5	4.3	3.4	-1.8	-1.8
Computer Equipment	24.6	61.9	42.7	14.6	29.2	38.8	9.4	13.1
Software	14.2	14.5	18.9	18.2	12.4	19.7	3.3	4.3
Transportation Equip.	3.3	5	3.7	-2.9	8.3	5.9	-1.4	-9.8
Structures	-0.8	7.8	2.9	-2	-2.1	4.8	-4.4	0.4
Residential Fixed Investments	0.6	3.9	4.4	0.1	3.4	4.8	5.9	-9.9
Equipment	N/A	N/A	N/A	N/A	0.6	3.5	4.8	-0.5
Structures	0.4	3.9	4.4	0	3.5	4.9	5.9	-10.1
Exports	6.9	7.5	0.3	11	7.1	7.1	1.9	5.5
Goods	7.4	8.1	-0.4	11	7.8	8	1.5	5.7
Services	5.6	5.4	3.1	10.9	5.4	4.9	2.9	5
Imports	1.3	6.5	8.6	5.3	6.9	11.7	4.3	1.2
Federal Spending	-3	2.4	5.2	2.2	-2.5	-0.1	4.6	1.9
State & Local Spending	3.1	1.2	1.7	3.8	2.2	3.4	1.2	0.9
Inflation Measures (in pct. change)								
GDP Deflator	6.7	7.3	5.2	3.2	2.5	1.7	2.5	2.3
Consumer Price Index	6.7	8.9	5.5	4	3.1	2.5	2.5	2.3
excluding Food & Energy	5.7	8.4	6.2	4.4	3.5	2.4	2.1	2.1
Producer Price Index	9.6	9	2.8	2.4	1.4	1.3	3.5	2.5
Employment Cost Index	N/A	7.9	6	3.7	3.1	3.7	3	2.5
Interest Rates (in percents)								
Fed Funds	5.8	13.4	8.1	8.1	5.8	6.2	3.2	1.2
3-month Treasury Bill	5.8	11.4	7.5	7.5	5.5	5.8	3.1	1.8
30-Year Treasury Bond	N/A	11.3	10.8	8.6	6.9	5.9	4.6	4.3
30-Year Fixed Mortgage	9	13.8	12.4	10.1	8	8.1	5.9	5.6
Personal Income (in pct. change)								
Nominal	9.7	11.6	8.9	6.7	4.7	6.5	4	4.4
Inflation adjusted	2.8	2.5	3.2	2.6	1.6	3.9	1.4	2
Other Key U.S. Economic Measure								
Oil Prices ($ / barrel) - nominal								
W. Texas Intermediate	N/A	N/A	27.9	24.5	18.4	30.4	56.6	63.3
Refiners Acquistion Cost	10.4	28.2	26.7	22.3	17.2	28.2	50.3	56.9
Domestic Crude	8.4	24.2	26.7	22.4	17.3	29	53	58.5
Imported Crude	13.9	34	27	22.2	17.1	27.7	48.9	56.1
Exchange Rate Indexes 2000=1.0 (weighted, inflation-adjusted)								
Major Trading Partners	0.942	0.836	1.13	0.832	0.8	1	0.825	0.744
Other Important Partners	N/A	0.799	1.16	1.094	0.986	1	0.919	0.683
Housing Starts (in millions)	1.16	1.3	1.741	1.203	1.361	1.573	2.073	1.082
Single-family	0.891	0.855	1.071	0.901	1.082	1.232	1.719	0.912
Multi-family	0.269	0.445	0.671	0.303	0.279	0.341	0.354	0.171
Consumer Sentiment	70.4	64.4	93.2	81.6	92.2	107.6	88.6	67.1

Key U.S. Economic Indica

	2015	2020	2025	2030	2035	2040
Components of GDP (in pct. chang						
Gross Domesitc Product	3.1	2.8	2.5	2.4	2.4	2.5
Consumption	2.7	2.9	2.5	2.4	2.4	2.4
Durables	5.2	4.6	4.5	4.8	5.1	5.2
Computers	21.2	20	19	18.7	18.5	18.4
Software	11	9.6	8.8	8.9	8.8	8.9
Medical Devices	4.8	3.6	2.8	2.7	2.5	2.3
Nondurables	2.1	2.6	2.5	2.4	2.4	2.3
Food	1.8	1.8	1.7	1.5	1.4	1.4
Medical Services	3.9	3.7	2.9	2.7	2.6	2.5
Prescription Drugs	6.5	6.3	4.5	4.1	3.6	3.3
Gross Domestic Investments	7.7	2.9	3	3.1	3.4	3.5
Nonresidential Fixed Investments	7.2	3.9	4.2	4.2	4.4	4.4
Industrial Equipment	4.2	3	2.4	2.8	3	2.8
Computer Equipment	20	19.2	18.6	14.6	14.7	14.7
Software	4.7	3.1	3.3	3.5	3.4	3.3
Transportation Equip.	13.6	4.3	4	4.6	5.4	5.4
Structures	6	1	1.1	1.2	1.3	1.5
Residential Fixed Investments	8.2	0.7	-0.4	-0.2	0.3	0.6
Equipment	4.1	4.6	5	6	6.8	7.2
Structures	8.3	0.6	-0.5	-0.3	0.2	0.5
Exports	7.6	6.4	5.4	5.2	5.3	5.4
Goods	8.2	6.9	5.7	5.4	5.6	5.9
Services	6.3	5.4	4.8	4.7	4.6	4.5
Imports	5.4	4.7	4.5	4.6	4.8	4.7
Federal Spending	0	0.9	0.8	1.1	0.9	1
State & Local Spending	0.4	1	1.1	1.1	1	1
Inflation Measures (in pct. change)						
GDP Deflator	1.9	1.9	1.7	1.8	1.8	1.8
Consumer Price Index	2.4	2	2.1	2.1	2.1	2.1
excluding Food & Energy	2.2	2.1	2	2	2.1	2.1
Producer Price Index	2	0.7	0.9	0.7	0.7	0.7
Employment Cost Index	2.6	2.8	2.3	2.3	2.1	2.2
Interest Rates (in percents)						
Fed Funds	4.8	4.8	4.8	4.8	4.7	4.7
3-month Treasury Bill	4.6	4.6	4.6	4.6	4.6	4.6
30-Year Treasury Bond	5.8	5.8	5.8	5.8	5.8	5.8
30-Year Fixed Mortgage	7.1	7.1	7.1	7.1	7.1	7.1
Personal Income (in pct. change)						
Nominal	5.5	5.1	4.6	4.5	4.4	4.4
Inflation adjusted	3	3	2.5	2.4	2.3	2.2
Other Key U.S. Economic Measure						
Oil Prices ($ / barrel) - nominal						
W. Texas Intermediate	86.5	85	101.1	105.8	110	112.5
Refiners Acquistion Cost	78.9	78.1	94.2	98.9	103.1	105.5
Domestic Crude	80.6	79.6	95.7	100.4	104.6	107
Imported Crude	78.2	77.5	93.7	98.4	102.6	105
Exchange Rate Indexes 2000=1.0 (						
Major Trading Partners	0.706	0.669	0.666	0.664	0.657	0.654
Other Important Partners	0.594	0.561	0.542	0.523	0.509	0.5
Housing Starts (in millions)	1.834	1.793	1.685	1.592	1.544	1.512
Single-family	1.443	1.379	1.287	1.183	1.128	1.106
Multi-family	0.391	0.414	0.398	0.409	0.416	0.406
Consumer Sentiment	84	86.6	86.6	86.4	86.2	85.9

U.S. Employment and Industry Detail (NAICS)

	1980	1985	1990	1995	2000	2005	2010	2015
Employment, nonfarm	90.53	97.51	109.49	117.31	131.79	133.69	135.62	146.5
pct. chg. (annual)	3.27	1.5	2.35	1.39	2.36	0.29	0.29	1.55
Private Employment	74.15	80.98	91.08	97.87	111	111.89	113.24	123.29
pct. chg. (annual)	3.56	1.78	2.38	1.45	2.55	0.16	0.24	1.72
Manufacturing	18.73	17.82	17.7	17.24	17.27	14.23	11.99	12.78
pct. chg. (annual)	2.06	-1	-0.14	-0.52	0.02	-3.8	-3.36	1.29
Durable Goods	11.68	11.03	10.74	10.37	10.88	8.96	7.46	8.2
Lumber	N/A	N/A	0.54	0.57	0.61	0.56	0.43	0.55
Primary Metals	N/A	N/A	0.69	0.64	0.62	0.47	0.37	0.38
Fab. Metals	N/A	N/A	1.61	1.62	1.75	1.52	1.29	1.47
Machinery	N/A	N/A	1.41	1.44	1.46	1.17	1.05	1.2
Electronics	N/A	N/A	1.9	1.69	1.82	1.32	1.15	1.01
Transport. Eq.	N/A	N/A	2.13	1.98	2.06	1.77	1.39	1.61
Oth. Durables	N/A	N/A	2.45	2.43	2.56	2.15	1.79	1.99
Non-Durables	7.05	6.78	6.96	6.87	6.39	5.27	4.53	4.58
Food Proc.	N/A	N/A	1.51	1.56	1.55	1.48	1.45	1.55
Paper	N/A	N/A	0.65	0.64	0.6	0.48	0.41	0.42
Other Non-Dur.	N/A	N/A	4.8	4.67	4.23	3.31	2.67	2.61
Non-Mfg.	71.79	79.69	91.79	100.07	114.53	119.45	123.63	133.71
pct. chg. (annual)	4.1	2.65	3.05	1.9	3.06	0.82	0.72	1.77
Nat. Resources	1.08	0.97	0.76	0.64	0.6	0.63	0.72	0.66
Construction	4.45	4.79	5.27	5.28	6.79	7.33	6.52	7.61
Wholesale Trade	4.56	4.91	5.27	5.43	5.93	5.76	5.76	6.35
Retail Trade	10.24	11.73	13.18	13.9	15.28	15.28	15.4	15.59
Auto parts	N/A	N/A	1.49	1.63	1.85	1.92	1.95	1.91
Food & Bev.	N/A	N/A	2.78	2.88	2.99	2.82	2.94	2.78
Other Retail	N/A	N/A	8.91	9.39	10.44	10.54	10.51	10.89
TWU	3.61	3.73	4.22	4.51	5.01	4.92	4.95	5.76
Information	2.36	2.44	2.69	2.84	3.63	3.06	2.78	2.96
Printing	N/A	N/A	0.87	0.91	1.03	0.9	0.8	0.82
Internet, etc.	N/A	N/A	1.82	1.93	2.59	2.16	1.98	2.14
Financial Activities	5.02	5.81	6.61	6.83	7.69	8.15	8.24	8.57
Finance & Ins.	N/A	N/A	4.98	5.07	5.68	6.02	6.11	6.33
Real Estate	N/A	N/A	1.64	1.76	2.01	2.13	2.13	2.24
Pro. Business	N/A	N/A	10.85	12.85	16.67	16.94	17.73	21.96
Pro., Sci., Tech.	N/A	N/A	4.54	5.08	6.7	7.02	7.88	8.98
Mgmt. of Co.	N/A	N/A	1.67	1.69	1.8	1.76	1.8	1.72
Admin & Waste	N/A	N/A	4.64	6.08	8.17	8.16	8.05	11.26
Edu. & Health	7.07	8.66	10.98	13.29	15.11	17.37	19.9	21.61
Education	N/A	N/A	1.69	2.01	2.39	2.83	3.24	3.06
Health Care	N/A	N/A	9.3	11.28	12.72	14.54	16.66	18.55
Leisure & Hospitality	6.72	7.87	9.29	10.5	11.86	12.81	13.53	14.12
Arts & Entertain.	N/A	N/A	1.13	1.46	1.79	1.89	1.97	1.95
Accomm. & Food Ser.	N/A	N/A	8.15	9.04	10.07	10.92	11.56	12.17
Other Services	2.75	3.37	4.26	4.57	5.17	5.39	5.72	5.31
Govt., Civilian, total	16.38	16.53	18.41	19.43	20.79	21.81	22.38	23.21
Civilian Fed	3	3.01	3.2	2.95	2.87	2.73	2.79	2.71
State & Local	13.38	13.52	15.22	16.49	17.93	19.07	19.59	20.5

U.S. Employment

	2020	2025	2030	2035	2040	1990-05	2005-40
Employment, nonfarm	153.33	159.9	166.49	173.54	180.58	1.3%	0.9%
pct. chg. (annual)	0.92	0.84	0.81	0.83	0.8		
Private Employment	129.36	135.4	141.28	147.88	154.40	1.4%	0.9%
pct. chg. (annual)	0.97	0.92	0.85	0.92	0.87		
Manufacturing	12.63	12	11.52	11.14	10.97	-1.4%	-0.7%
pct. chg. (annual)	-0.24	-1.01	-0.81	-0.67	-0.30		
Durable Goods	8.04	7.57	7.28	7.1	7.13	-1.2%	-0.6%
Lumber	0.53	0.49	0.46	0.47	0.49	0.2%	-0.4%
Primary Metals	0.37	0.37	0.33	0.29	0.24	-2.5%	-1.9%
Fab. Metals	1.5	1.45	1.39	1.3	1.22	-0.4%	-0.6%
Machinery	1.18	1.11	1.05	1	0.97	-1.2%	-0.5%
Electronics	0.94	0.9	0.94	1.01	1.11	-2.4%	-0.5%
Transport. Eq.	1.47	1.24	1.11	1.1	1.24	-1.2%	-1.0%
Oth. Durables	2.05	2.01	1.99	1.92	1.87	-0.9%	-0.4%
Non-Durables	4.59	4.43	4.25	4.04	3.83	-1.8%	-0.9%
Food Proc.	1.62	1.62	1.62	1.61	1.58	-0.1%	0.2%
Paper	0.43	0.42	0.4	0.38	0.35	-2.0%	-0.9%
Other Non-Dur.	2.55	2.39	2.22	2.05	1.90	-2.4%	-1.6%
Non-Mfg.	140.71	147.9	154.95	162.39	169.75	1.8%	1.0%
pct. chg. (annual)	1.1	1.12	1.01	1.05	0.89	-8.4%	0.2%
Nat. Resources	0.56	0.55	0.53	0.53	0.51	-1.2%	-0.6%
Construction	8.11	8.74	9.57	10.47	11.20	2.2%	1.2%
Wholesale Trade	6.98	7.66	7.87	7.69	7.29	0.6%	0.7%
Retail Trade	15.38	15.38	15.32	15.44	15.36	1.0%	0.0%
Auto parts	1.81	1.79	1.78	1.8	1.82	1.7%	-0.2%
Food & Bev.	2.61	2.6	2.55	2.52	2.44	0.1%	-0.4%
Other Retail	10.96	11	10.99	11.12	11.10	1.1%	0.1%
TWU	6.38	6.88	7.19	7.23	7.05	1.0%	1.0%
Information	3.15	3.44	3.8	4.32	4.87	0.9%	1.3%
Printing	0.84	0.86	0.89	0.95	1.02	0.2%	0.4%
Internet, etc.	2.32	2.58	2.91	3.37	3.85	1.1%	1.7%
Financial Activities	8.42	8.44	8.44	8.61	8.66	1.4%	0.2%
Finance & Ins.	6.22	6.21	6.22	6.39	6.49	1.3%	0.2%
Real Estate	2.2	2.23	2.22	2.22	2.17	1.8%	0.1%
Pro. Business	25.16	28.42	32.3	36.37	41.89	3.0%	2.6%
Pro., Sci., Tech.	10.2	12.29	14.79	17.96	21.92	2.9%	3.3%
Mgmt. of Co.	1.6	1.53	1.45	1.39	1.31	0.4%	-0.8%
Admin & Waste	13.36	14.6	16.06	17.02	18.70	3.8%	2.4%
Edu. & Health	22.87	23.64	24.09	24.81	25.04	3.1%	1.1%
Education	3.01	3.05	3.06	3.09	3.04	3.5%	0.2%
Health Care	19.86	20.6	21.03	21.73	22.01	3.0%	1.2%
Leisure & Hospitality	14.39	14.73	14.95	15.33	15.55	2.2%	0.6%
Arts & Entertain.	2.09	2.29	2.42	2.54	2.59	3.5%	0.9%
Accomm. & Food Ser.	12.3	12.44	12.53	12.79	12.96	2.0%	0.5%
Other Services	5.34	5.52	5.69	5.93	6.13	1.6%	0.4%
Govt., Civilian, total	23.97	24.5	25.2	25.66	26.20	1.1%	0.5%
Civilian Fed	2.78	2.71	2.78	2.71	2.71	-1.1%	0.0%
State & Local	21.19	21.79	22.43	22.95	23.49	1.5%	0.6%

U.S. National Income

	1975	1980	1985	1990	1995	2000	2005	2010	2015
(Nominal billions of dollars unless othewise noted)									
Total Personal Income	1,335.1	2,307.9	3,526.7	4,878.6	6,152.3	8,429.7	10,269.8	12,709.5	16,608.9
pct. chg. (annual)	9.70	11.60	8.90	6.70	4.70	6.50	4.00	4.40	5.50
Inflation-adjusted	3,712.4	4,430.8	5,268.5	6,060.5	6,718.0	8,429.3	9,203.1	10,262.5	12,078.6
pct. chg. (annual)	3.20	3.60	3.50	2.80	2.10	4.60	1.80	2.20	3.30
Wage & Salary Disbursements	814.8	1,377.7	1,995.7	2,754.0	3,419.3	4,829.2	5,671.7	6,829.7	8,677.8
Social Security Contributions	89.3	166.2	281.4	410.1	532.8	702.7	874.3	1,037.2	1,356.9
Transfer Payments to Persons	170.0	279.5	424.9	595.3	877.4	1,084.1	1,520.7	2,054.9	2,749.2
Other Labor Income	87.6	185.2	281.5	377.8	493.6	609.9	926.0	1,130.3	1,420.2
Proprietors, total	119.5	174.1	262.3	380.6	492.1	728.4	959.8	1,145.2	1,490.6
Farm	21.7	11.4	20.8	31.9	22.7	22.7	34.1	29.2	33.7
Businesses (nonfarm)	97.8	162.8	241.5	348.7	469.5	705.7	925.7	1,116.0	1,456.9
Dividends, Interest and Rent	188.1	373.5	702.1	982.1	1,147.1	1,547.8	1,661.7	2,100.6	3,000.7
(annualized percent change)									
Wage & Salary Disbursements	8.10	11.10	7.70	6.70	4.40	7.10	3.30	3.80	4.90
Social Security Contributions	14.00	13.20	11.10	7.80	5.40	5.70	4.50	3.50	5.50
Transfer Payments to Persons	17.90	10.50	8.70	7.00	8.10	4.30	7.00	6.20	6.00
Other Labor Income	15.90	16.20	8.70	6.10	5.50	4.30	8.70	4.10	4.70
Proprietors, total	8.80	7.80	8.50	7.70	5.30	8.20	5.70	3.60	5.40
Farm	11.30	-12.20	12.90	8.90	-6.60	0.00	8.50	-3.10	2.90
Businesses (nonfarm)	8.30	10.70	8.20	7.60	6.10	8.50	5.60	3.80	5.50
Dividends, Interest and Rent	10.20	14.70	13.50	6.90	3.20	6.20	1.40	4.80	7.40

U.S. National Income

	2020	2025	2030	2035	2040	1975-05	2005-40
(Nominal billions of dollars unl							
Total Personal Income	21,340.6	26,727.8	33,358.9	41,340.2	51,233.2	7.0%	4.7%
pct. chg. (annual)	5.10	4.60	4.50	4.40	4.40		
Inflation-adjusted	14,128.4	16,135.7	18,328.9	20,684.4	23,325.1	3.1%	2.7%
pct. chg. (annual)	3.20	2.70	2.60	2.40	2.40		
Wage & Salary Disbursements	10,812.3	13,200.8	16,073.5	19,490.4	23,701.8	6.7%	4.2%
Social Security Contributions	1,757.7	2,170.3	2,641.9	3,202.5	3,893.1	7.9%	4.4%
Transfer Payments to Persons	3,753.7	5,026.9	6,633.2	8,535.3	10,843.7	7.6%	5.8%
Other Labor Income	1,734.4	2,084.3	2,491.1	2,978.4	3,533.8	8.2%	3.9%
Proprietors, total	1,982.1	2,568.3	3,261.5	4,101.5	5,152.6	7.2%	4.9%
Farm	42.1	42.3	47.2	53.2	59.0	1.5%	1.6%
Businesses (nonfarm)	1,940.0	2,526.0	3,214.4	4,048.4	5,093.7	7.8%	5.0%
Dividends, Interest and Rent	4,005.9	5,025.8	6,342.0	7,999.6	10,168.5	7.5%	5.3%
(annualized percent change)							
Wage & Salary Disbursements	4.50	4.10	4.00	3.90	4.00		
Social Security Contributions	5.30	4.30	4.00	3.90	3.90		
Transfer Payments to Persons	6.40	6.00	5.70	5.20	5.00		
Other Labor Income	4.10	3.70	3.60	3.60	3.50		
Proprietors, total	5.90	5.30	4.90	4.70	4.70		
Farm	4.50	0.10	2.20	2.40	2.10		
Businesses (nonfarm)	5.90	5.40	4.90	4.70	4.70		
Dividends, Interest and Rent	5.90	4.60	4.80	4.80	4.90		

U.S. Manufacturing Productivity Measures

	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
U.S. Manufacturing Productivity Measures (Federal Reserve Board) (annualized percent change)													
Total Industrial Production	4.21	1.71	2.63	2.89	5.21	0.67	0.05	3.15	2.51	2.52	2.49	2.42	2.39
Manufacturing, total	4.55	2.22	3.06	3.46	6.00	0.97	-0.05	4.24	3.42	3.43	3.53	3.44	3.40
Nondurable Goods	3.32	1.82	2.74	1.76	1.33	0.49	-0.79	2.78	2.56	1.99	1.85	1.56	1.31
Food Processing	2.70	2.39	1.89	1.90	1.55	1.31	1.35	2.51	1.99	1.80	1.78	1.73	1.71
Paper	4.05	1.81	2.47	1.91	-0.32	-1.54	-2.01	2.79	1.85	1.30	0.99	0.93	0.96
Durable Goods	5.39	2.51	3.30	4.82	9.49	1.39	0.49	6.06	4.55	5.36	5.55	5.72	6.00
Wood Products	1.96	1.95	2.88	1.59	2.66	1.26	-7.17	4.89	0.38	0.04	-0.52	0.85	2.19
Primary Metals	0.54	-6.00	2.56	1.86	1.00	-0.63	-1.42	3.11	1.73	0.61	-0.27	-1.33	-1.79
Fabricated Metals	3.73	-0.22	0.85	3.33	3.19	-1.34	-0.93	3.01	1.60	1.35	1.19	0.99	0.85
Machinery	4.27	-2.64	2.29	3.35	2.86	-1.30	-2.54	5.18	2.06	1.95	2.23	2.47	2.37
Computer & Electronics	22.48	14.55	8.32	14.04	30.58	7.21	10.56	12.43	12.02	13.88	11.91	11.44	11.54
Transport Equipment	3.02	3.15	2.16	1.44	3.97	0.95	-2.40	5.47	1.76	2.54	4.02	5.69	6.69
U.S. Manufacturing Productivity Measures (Federal Reserve Board) (index 2002=100)													
Total Industrial Production	56.3	61.3	69.7	80.4	103.7	107.2	107.5	125.5	142	160.8	181.9	205	219.9
Manufacturing, total	50.5	56.3	65.5	77.6	103.9	109	108.8	133.8	158.3	187.4	222.9	264	291.6
Nondurable Goods	70	76.6	87.7	95.7	102.2	104.8	100.7	115.5	131	144.6	158.5	171.3	177.7
Food Processing	66.6	74.9	82.3	90.4	97.7	104.2	111.4	126.2	139.2	152.2	166.2	181.1	190.5
Paper	78.8	86.2	97.4	107	105.3	97.5	88.1	101.1	110.8	118.1	124.1	129.9	133.7
Durable Goods	39.7	44.9	52.8	66.9	105.2	112.7	115.5	155	193.6	251.3	329.2	434.8	518.9
Wood Products	66.2	72.9	84	91	103.7	110.4	76.1	96.6	98.5	98.7	96.2	100.3	104.5
Primary Metals	116.1	85.2	96.7	106	111.4	108	100.5	117.1	127.6	131.6	129.8	121.4	114.6
Fabricated Metals	77.8	77	80.3	94.6	110.7	103.5	98.7	114.5	124	132.6	140.7	147.8	151.3
Machinery	88.5	77.4	86.7	102.2	117.7	110.2	96.9	124.8	138.2	152.2	169.9	192	205.4
Computer & Electronics	4.7	9.3	13.8	26.7	101.3	143.5	237.1	425.9	751.2	1438.7	2525.2	4339.6	6022.7
Transport Equipment	58.8	68.7	76.5	82.1	99.7	104.6	92.6	120.9	131.9	149.5	182	240	293.8

Appendix 13: Capacity definitions

Introduction

The urban growth report (UGR) uses a complex accounting system to track the urban growth boundary's (UGB) capacity for growth. Capacity falls into several categories:

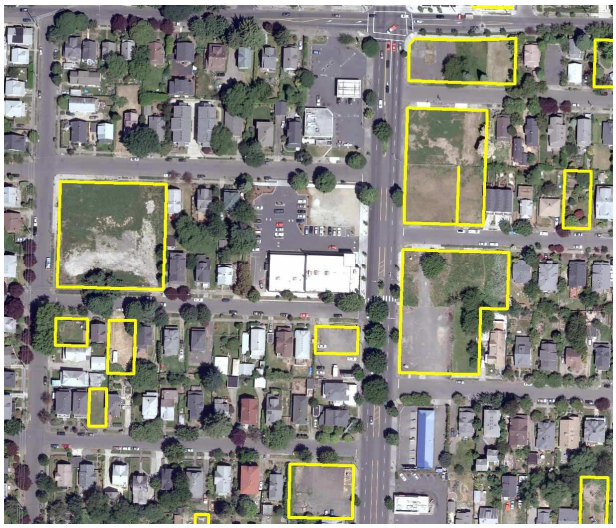
- Vacant land
- Developed land
- Partially vacant land
- Infill capacity
- Redevelopment capacity

These terms, as used in the UGR, have meanings that are somewhat different from their common usage. These differences in definitions can lead to misunderstandings. This glossary is intended to provide policy makers with a shared understanding of how these words are used in the context of the UGR and in growth management decisions.

When calculating the UGB's capacity, the UGR assumes that current zoning remains unchanged. No changes to zoning are assumed even though a number of cities will be updating their comprehensive plans to reflect changing local aspirations and to support vibrant communities.

Vacant land

The vacant land inventory consists of taxlots that have negligible or no improvement value or building(s). Aerial photos, building permit data, and tax assessor data are used to identify vacant land. The vacant land designation does not, however, necessarily indicate that the land is buildable (because of environmental constraints or lack of infrastructure) or that there is a market for its development. There is no minimum lot size for vacant lands. Examples of vacant lots are shown outlined in the photo below.



Developed taxlots

Many taxlots inside the UGB are already developed. Depending on their size, zoning, and the value of structures, they may or may not be available for additional development as partially vacant, infill, or redevelopment capacity (described below).

Partially vacant land

The undeveloped portion of a developed taxlot may be included in the vacant land inventory if it meets certain criteria:

- The entire taxlot is at least one acre
- Zoning would allow for the creation of a new lot
- There is at least ½ acre that is undeveloped

If the undeveloped portion of the taxlot is less than ½ acre, it would not be considered vacant, but the taxlot could be eligible for infill (defined below).

Infill development

Infill occurs when more units (residential or employment) are added to an already-developed taxlot that is smaller than one acre (the vacant portion of larger developed taxlots would be included in the partially vacant category). Infill can only occur if existing structures are built below maximum zoned density.

In the UGR, infill capacity is not calculated on a taxlot-by-taxlot basis since infill development depends on economic conditions and the decisions of individual land owners. Instead, the UGR accounts for infill as a part of the refill rate (defined below).

Infill occurs in many locations, including centers, corridors and neighborhoods. The 2040 Growth Concept's focus is on encouraging infill in centers and along corridors, not in existing neighborhoods.

What it's not: In the context of the UGR, infill is not development on a vacant lot in an existing neighborhood. This would be categorized as development on vacant land.

An example of mixed-use infill

before

after (addition of units to existing development)

Examples of residential infill

Redevelopment

Redevelopment occurs when a structure is removed and a new structure (or structures) is built in its place. Redevelopment tends to occur when an existing building has a low value compared to the value of the land. Redevelopment can only occur to the degree that it is allowed by local zoning. The 2040 Growth Concept's focus is on encouraging redevelopment in centers and along corridors, not in existing neighborhoods.

What it's not: In the context of the UGR, the rehabilitation of a building is not considered redevelopment. While rehabilitation of buildings improves communities, it does not necessarily add capacity. Consequently, rehabilitation is not monitored for the UGR. If the rehabilitation of a building includes the addition of units, it would be considered infill.

An example of redevelopment

Before redevelopment

After redevelopment

Refill rate

The refill rate measures the share of new development (either residential or employment) that occurs through both infill and redevelopment (i.e. not on vacant land), net of any existing development. For example, if four new residences are built in a year and one of them occurs through infill or redevelopment (refill), the refill rate would be 25 percent.

Refill development tends to occur in areas with high market demand and during periods of economic growth. Refill capacity is not finite; it is continually renewed as buildings become obsolete and as land values increase. Potential refill is, however, limited by current zoning. In estimating future refill rates, the UGR does not assume any changes to current zoning.

The 2040 Growth Concept's focus is on encouraging refill in centers and along corridors, not in existing neighborhoods.