

**Report on the Macroeconomic and Demographic Forecasts for
the Kentucky Utilities and Louisville Gas & Electric
Service Territories - 2003 Winter Forecast**

December 17, 2003

Center for Business and Economic Research
Gatton College of Business and Economics
University of Kentucky

Dr. Eric C. Thompson, Acting Director

UK **Gatton**
College of Business and Economics



Introduction

The following document presents a current forecast update for the Kentucky Utilities and Louisville Gas & Electric Service Territories made using the Service Territory Econometric Model (STEM). The forecasts are based on information available as of the winter 2003. Throughout this document the current forecast is compared to the previous forecast, which was made in the spring of 2003.

Forecasts are presented for the entire Kentucky Utilities Service Territory and for key sub-areas such as the Kentucky Retail Service Territory, the Virginia Service Territory and municipal customers. A forecast summary also is presented for the Louisville Gas & Electric Service Territory.

The current long-term economic forecast reflects a continued expectation that strong economic growth is now at hand several years after the end of the recession of 2001. As a consequence, economic growth is anticipated to be rapid over the next few years, beginning with 2004, but also during 2005 and 2006. Growth will be rapid in both industrial value-added¹ and commercial employment.²

However, values for industrial value-added are modestly lower in the current forecast compared to the previous forecast. This occurs because growth rates were lower in 2003 and 2004 in the current forecast than the previous forecast, while growth rates were similar from 2005 through 2019, and beyond on the whole. Industrial value-added never recovered the gap which developed in 2003 and 2004. This gap developed due to a later than expected recovery in the economy during 2003, and a week delay in the recovery of the apparel and electronic equipment sectors in 2004.

Commercial employment in the current forecast also lagged levels in the previous forecast during 2003 and 2004. However, growth in later years was able to close the gap in the Louisville Gas & Electric Service Territory due to the concentration of Kentucky service sector employment in the Louisville area.

Results for the Kentucky Utilities Service Territory

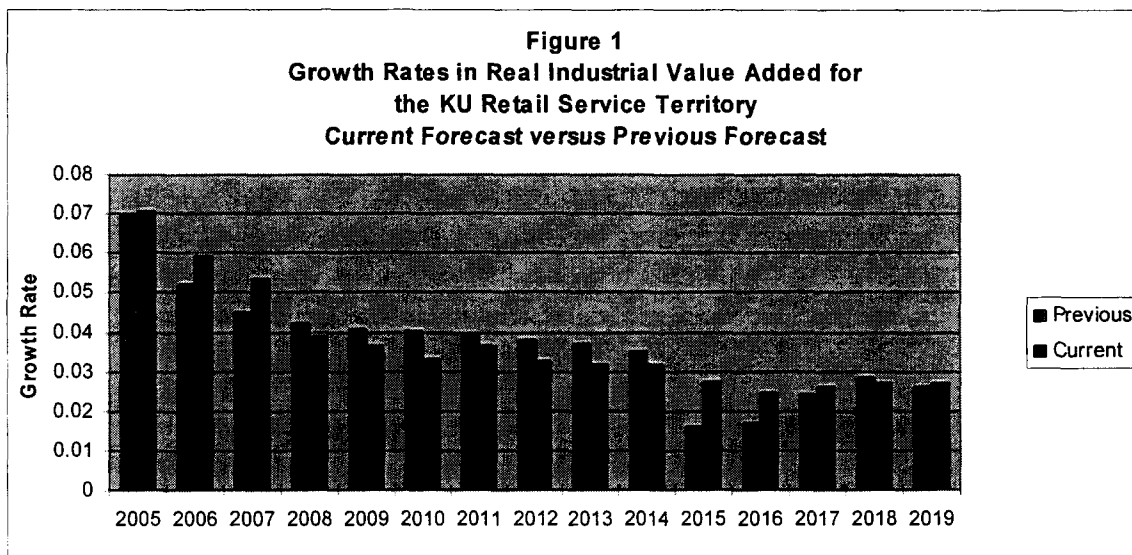
The entire Kentucky Utilities Service Territory includes 82 counties, including 77 counties in Kentucky and 5 counties in southwest Virginia. Forecasts for the entire Kentucky Utilities Service Territory are presented below. Forecasts for aggregate growth measures are presented first followed by forecasts for detailed industrial and demographic categories. The results for this entire service territory should be representative of results for important sub-regions such as the Kentucky Retail Service Territory, and municipal customers.

¹ The industrial sector is defined to include all mining industries (SIC 12-14) and all manufacturing industries (SIC 20-39).

² The commercial sector is defined to include all construction industries (SIC 15-17), all transportation, communications, and public utility industries (SIC 41-49), all wholesale trade industries (SIC 50-51), all retail trade industries (SIC 52-59), all finance, insurance, and real estate industries (SIC 60-67), all services industries (SIC 70-89), and all government industries (SIC 90-99).

Output

Output growth includes the growth in value-added in manufacturing and mining sectors. The current forecast calls for output to grow steadily throughout the next 15 years, particularly over the next 3 years as the economy accelerates after recent sluggishness. Output is forecast to grow on average by 4.9% per year for the 5-year period of 2005 through 2009 and average 3.6% over the entire 15-year period from 2005 to 2019. These annual growth rates are very similar to those in the previous forecast. The growth pattern in part reflects the business cycle. Strong recovery has taken longer to appear in the economy, so that in the current forecast 2005 and 2006 are expected to be strong growth years while the previous forecast called for the strongest growth in 2004 and 2005. The previous forecast called for 4.8% growth in industrial value-added over the 2005 through 2009 period and 3.6% annual growth over the entire 2005 through 2019 period. For the entire 30-year period, industrial value-added for the Kentucky Utilities Service Territory is forecast to grow by 3.1% annually.



Annual growth forecasts from the current forecast and the previous forecast are illustrated in Figure 1 for growth in the Kentucky Retail Service Territory of Kentucky Utilities. This series is presented in the Figure, rather than the series for the entire Kentucky Utilities Service Territory, since it is the Retail Service Territory Industrial Value-Added forecast that is used to forecast industrial sales. Results indicate that growth is faster in the current forecast in 2006 and 2007, although is somewhat in 2005 as well. Growth is consistently slower in the current forecast from 2009 through 2014, but then much stronger in 2015 through 2019. Both patterns reflect the relative growth rates for industrial production forecast by Global Insight in the current forecast versus the previous forecast (see Table 4A).

Data presented in Figure 1 focus on long-run growth rates. For the next year, 2004, growth is also anticipated to be robust in the current forecast. From December 2003 through December 2004, industrial value-added is forecast to grow by 5.2% in the

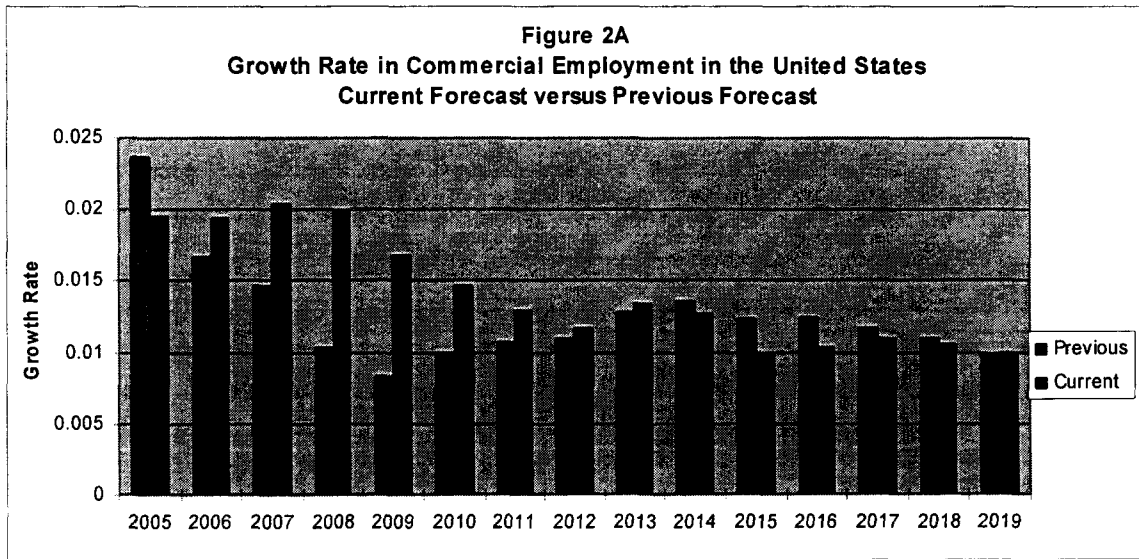
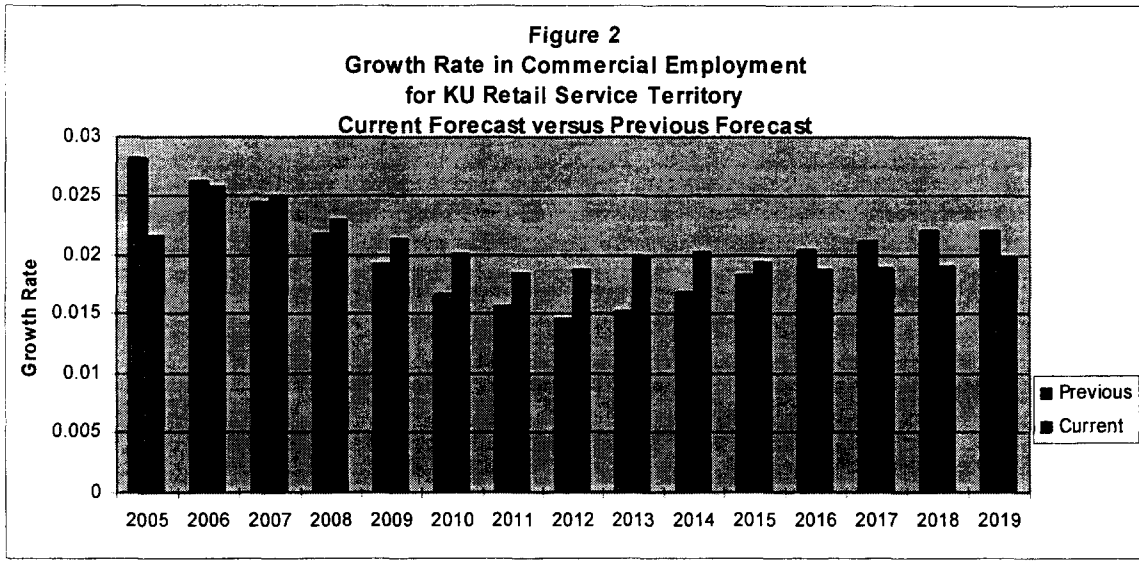
Kentucky Utilities Retail Service Territory according to the current forecast. This is a strong rate of growth but below the 7.3% growth forecast for the same period in the previous forecast. The result is due principally to an expectation in the current forecast that industrial production in the apparel and electronic equipment (appliances, machine tools) industries would continue to decline in 2004. In the previous forecast, both industries had been expected to grow in Kentucky during 2004. The result in the current forecast only represents a delay in the timing of the recovery in these two industries. Both industries are expected to experience strong growth in 2005, as is presented in Table 1 later in the report.

Commercial Employment

Commercial employment growth encompasses growth in wholesale trade, retail trade, trucking, finance, insurance, and real estate, and services industry employment, as well as government employment. Growth in commercial employment in the Kentucky Utilities Service Territory is forecast to grow steadily over the next 15 years. According to the current forecast, commercial employment is forecast to grow by 2.3% annually from 2005 through 2009, and average 2.0% annual growth over the entire 2005 to 2019 period. As seen in Figure 2, these growth rates are only slightly below the previous forecast of 2.4% average annual growth from 2005 through 2009, and 2.0% growth over the entire 2005 through 2019 period. Growth is slower in 2005. More rapid growth in the 2006 through 2015 period is balanced by less rapid growth from 2016 to 2019.

Annual growth forecasts from the current forecast and the previous forecast are illustrated in Figure 2 for commercial employment growth in the Kentucky Retail Service Territory of Kentucky Utilities. This series is presented in the Figure, rather than the series for the entire Kentucky Utilities Service Territory, since it is the Retail Service Territory commercial employment forecast that is used to forecast commercial sales. The importance of changing macroeconomic conditions is also demonstrated in Figure 2A, which shows the forecast for commercial employment growth nationally in the current forecast versus the previous forecast. As with the Service Territory forecast, the current national forecast shows stronger growth in 2006 through 2009, but slower growth in 2005. The current national forecast also calls for slower growth near the end of the forecast from 2014 through 2019.

Data presented in Figure 2 focus on long-run growth rates. For the next year, 2004, growth is also anticipated to be robust in the current forecast. From December 2003 through December 2004, commercial employment is forecast to grow by 1.6% in the Kentucky Utilities Retail Service Territory. This is a strong rate of growth but below the 2.5% growth forecast for the same period in the previous forecast. This difference is partly explained by a lower national forecast for commercial employment growth in 2004 by Global Insight. Slower employment growth is also anticipated because the economic recovery in 2004 is not expected to be quite as strong in the service territory as nationally, as was noted above for industrial value-added.

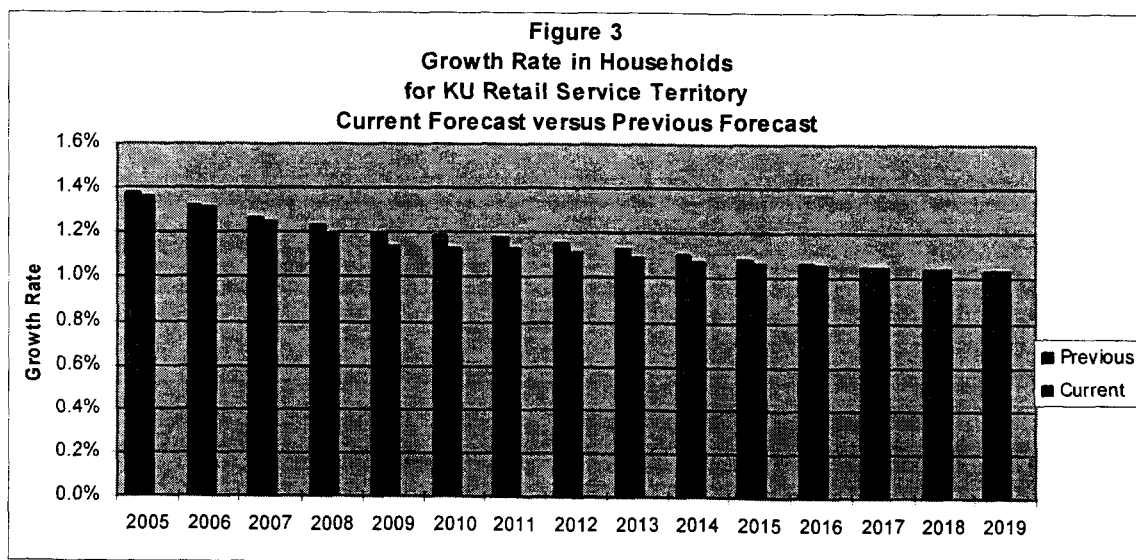


Population and Households

Forecasts of population in the STEM model are made using a cohort-component model, the same type of model utilized in Bureau of Census forecasts. These models utilize birth, survival, and migration rates to forecast population. The major difference between the Bureau of Census and STEM approach is in the estimation of migration rates. Migration behavior in Census models is based on past migration rates, while migration behavior in the STEM model is a function of economic growth in the Service Territory. As a result, with a fast growing economy, it is possible that migration rates in the forecast period can exceed past rates, leading to faster growth in population.

Population forecasts from the STEM model call for a steady increase in population in the Kentucky Utilities Service Territory over the forecast period. Population is forecast to increase by 0.7% per year over the 2005 to 2009 period as well as the entire 2005 to 2019 period. As nationally, the Kentucky Utilities Service Territory is forecast to have an aging population. Since older persons tend to live in smaller households, this aging of the population implies fewer persons per household. This drop in household size implies that the number of households should grow even faster than the population. In the STEM model, household size is assumed to continue to drop, but at a declining rate.

The growth rate for households over the 2005 to 2019 period is indeed faster, averaging 1.1% per year. Households are forecast to increase by 1.2% per year from 2005 to 2009. Both the household and population growth rates from the current forecast for 2005 to 2009 and 2005 to 2019 are similar to those in the previous forecast. Figure 3 shows the forecast household growth rate for the Kentucky Utilities Retail Service Territory in the two forecasts. Note that the more rapid commercial employment growth in the current forecast starting in 2008 does not manifest itself into improved relative performance in Kentucky household growth until much later. This is because gross migration flows into and out of Kentucky is influenced by relative employment growth several years earlier rather than current period growth.



Forecast Detail

Widely varying growth rates in individual industries and age groups underlie these aggregate results. To examine these differences, more disaggregate forecasts are presented below.

Output

Industry value-added growth rates indicate that selected durable goods industries appear to be the impetus for rapid value-added growth in the Kentucky Utilities Service Territory. As seen in Table 1, the most rapidly growing durable goods industries is industrial machinery, which includes the very rapidly growing computer equipment and parts manufacturing industry. A strong cyclical recovery is expected in many durable goods industries as the economy recovers from the recent recession, particularly in 2005. Among non-durable goods industries over the next 5 years, apparel and chemical products are forecast to grow more quickly than the manufacturing average. For apparel products, this reflects an expectation for a post-recession rebound from deep declines during the recession and immediate post recession periods. The chemical products industry is also a pro-cyclical industry and is anticipated to grow steadily over the next five years.

As noted earlier, forecast value-added growth is similar in the current forecast and the previous forecast beginning in 2005. Results in Table 1 illustrate which specific industries contribute the most to this increase in forecast growth. The greatest increases relative to the last forecast are in chemicals and electronic equipment.

Table 1
Growth in Real Industrial Value Added by Detailed Industry
Kentucky Utilities Service Territory
2005-2009

Industry	Annual Growth Rate					Share of Value-Added Growth	Average Annual Growth Rate			
	2005	2006	2007	2008	2009		Current Forecast		Previous Forecast	
	2005	2006	2007	2008	2009		2005-2009	2005-2009	2005-2009	2005-2009
Total Industrial Value Added	6.8%	5.6%	5.1%	3.7%	3.5%	100.0%	4.9%	3.6%	4.8%	3.5%
Coal Mining	1.0%	-0.5%	-0.8%	-0.6%	-0.5%	-0.5%	-0.3%	0.3%	-0.4%	0.2%
Manufacturing	7.3%	6.2%	5.6%	4.0%	3.8%	97.7%	5.4%	3.8%	5.2%	3.8%
Food Processing	4.0%	3.2%	2.9%	3.1%	3.2%	5.4%	3.3%	3.1%	3.0%	2.7%
Tobacco Products	-6.9%	-7.1%	-7.4%	-7.7%	-8.0%	-0.9%	-7.4%	-8.3%	-7.3%	-8.6%
Textiles	2.7%	1.0%	0.7%	0.4%	0.4%	0.2%	1.0%	0.3%	0.6%	-0.1%
Apparel	21.2%	5.2%	-1.3%	-2.7%	-2.9%	1.2%	3.5%	-0.5%	3.4%	-1.3%
Wood Products	-0.5%	2.8%	4.4%	-1.5%	-3.1%	0.1%	0.4%	0.4%	4.8%	1.3%
Furniture	3.7%	8.4%	5.7%	3.4%	2.9%	0.6%	4.8%	3.5%	2.9%	2.3%
Paper Products	3.6%	3.6%	3.1%	2.7%	2.9%	2.0%	3.2%	3.0%	3.3%	2.8%
Printing & Publishing	2.7%	3.0%	2.4%	2.0%	1.9%	1.6%	2.4%	2.1%	2.2%	2.0%
Chemicals Products	7.4%	8.9%	7.4%	6.5%	6.2%	5.9%	7.3%	6.0%	3.2%	4.8%
Petroleum & Coal Refining	1.8%	1.7%	1.6%	1.8%	1.9%	0.1%	1.7%	1.9%	1.8%	2.0%
Plastic Products	8.8%	3.4%	3.4%	1.3%	1.0%	2.6%	3.6%	2.0%	3.9%	2.5%
Leather Products	-5.8%	-4.9%	-4.7%	-4.8%	-4.8%	-0.2%	-5.0%	-4.5%	-3.4%	-2.0%
Stone, Clay & Glass	9.8%	5.4%	6.1%	3.7%	4.5%	3.8%	5.9%	4.1%	3.5%	3.4%
Primary Metals	16.8%	7.5%	6.2%	5.5%	4.4%	10.8%	8.0%	3.9%	7.0%	4.4%
Fabricated Metal	9.7%	3.9%	3.6%	1.1%	2.4%	5.8%	4.1%	3.0%	4.6%	3.2%
Industrial Machinery	17.8%	16.6%	13.7%	10.8%	9.0%	36.5%	13.5%	8.5%	13.6%	8.5%
Electronic Equipment	6.2%	12.1%	10.0%	6.0%	1.7%	5.1%	7.1%	4.7%	4.5%	2.5%
Transportation Equipment	2.6%	3.7%	3.9%	2.3%	2.8%	16.9%	3.1%	2.1%	3.8%	2.8%
Instruments	5.8%	2.2%	1.1%	0.8%	0.7%	0.2%	2.1%	1.1%	1.4%	0.7%
Misc. Manufacturing	4.1%	3.9%	2.4%	0.9%	-0.3%	0.3%	2.2%	0.9%	0.3%	-1.0%

Commercial Employment

Forecasts for growth in commercial employment are illustrated in Table 2. Data in that table indicate broad-based growth. Each of the commercial industries presented in Table 2 is expected to add employment over the next 15 years.

The health care industry is expected to experience rapid growth over the next 15 years. On average, its growth rate is expected to exceed the overall growth rate of commercial employment from 2005 through 2019 by 0.8%. In general, job growth rates in eating and drinking places and other retail sectors will lag overall commercial job growth rates while employment growth in services industries will exceed overall rates.

Table 2
Growth in Commercial Employment by Detailed Industry
Kentucky Utilities Service Territory
2005-2019

Industry	Annual Growth Rate					Average Annual Growth Rate	
	2005	2006	2007	2008	2009	2005-2009	2005-2019
Total Commercial	2.1%	2.5%	2.5%	2.2%	2.1%	2.3%	2.0%
Wholesale Trade	3.2%	4.0%	3.9%	3.6%	3.4%	3.6%	3.4%
Eating Places	1.5%	1.8%	1.9%	1.8%	1.7%	1.7%	1.6%
Other Retail	1.3%	1.5%	1.6%	1.5%	1.4%	1.5%	1.5%
FIRE ¹	1.1%	1.1%	1.2%	1.3%	1.3%	1.2%	1.4%
Personal Services	3.1%	2.8%	2.8%	2.7%	2.7%	2.8%	3.0%
Health Care	3.2%	4.6%	4.7%	3.7%	3.2%	3.9%	2.8%
Education	0.1%	0.8%	0.6%	0.5%	0.6%	0.5%	0.5%
Misc. Services	2.5%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
Government	1.6%	1.8%	1.6%	1.6%	1.7%	1.7%	1.8%

¹ FIRE is finance, insurance, and real estate.

Demographic Change

National trends towards an older age distribution are clearly evident in forecasts for the Kentucky Utilities Service Territory. Table 3 shows this aging process by presenting forecast population growth rates for selected age groups. Younger age cohorts as a whole will grow more slowly than the older age cohorts but growth will be strong in selected cohorts. For both men and women, it is evident that the growth in the population age 15 to 24 will be limited over the next 15 years. But, growth rates in the population age 25 to 34 will be robust, slightly exceeding the overall population growth.

At the same time, population is forecast to grow rapidly among many older age cohorts. Rapid growth among persons age 55 through 69 reflects the aging of the baby boom generation. These cohorts are forecast to grow by 2% to 3% per year over the next 5 years, and 1% to 2.5% per year over the next 15 years.

The growth rate of persons over age 85 is also rapid throughout the period, particularly over the next 5 years. This does not reflect the aging of the baby boom population since baby-boomers will not have reached that age as of yet. Instead, the growth reflects the rising life expectancy of Kentuckians and people throughout the United States.

Table 3
Growth in Population by Age and Gender Cohort
Kentucky Utilities Service Territory
2005-2019

	Annual Growth Rate					Average Annual Growth Rate	
	2005	2006	2007	2008	2009	2005-2009	2005-2019
Total Population	0.7%	0.7%	0.7%	0.8%	0.7%	0.7%	0.7%
Males							
Age 15-19	-0.9%	-0.8%	-0.7%	-0.6%	-0.5%	-0.7%	-0.2%
Age 20-24	0.5%	0.3%	0.2%	0.1%	0.0%	0.2%	0.1%
Age 25-29	2.1%	1.9%	1.7%	1.4%	1.1%	1.6%	0.9%
Age 30-34	0.8%	1.1%	1.3%	1.4%	1.4%	1.2%	1.0%
Age 55-59	2.7%	2.3%	2.1%	1.8%	1.6%	2.1%	1.2%
Age 60-64	3.3%	3.2%	3.0%	2.8%	2.6%	3.0%	2.0%
Age 65-69	3.0%	3.1%	3.2%	3.1%	3.1%	3.1%	2.5%
Above age 85	6.0%	4.9%	4.1%	3.5%	3.1%	4.3%	3.3%
Females							
Age 15-19	-0.8%	-0.7%	-0.6%	-0.5%	-0.4%	-0.6%	-0.2%
Age 20-24	0.8%	0.6%	0.5%	0.3%	0.2%	0.5%	0.2%
Age 25-29	1.8%	1.7%	1.6%	1.4%	1.2%	1.5%	0.9%
Age 30-34	0.2%	0.5%	0.8%	0.9%	1.0%	0.7%	0.8%
Age 55-59	2.8%	2.4%	2.2%	1.9%	1.6%	2.2%	1.2%
Age 60-64	3.5%	3.3%	3.1%	2.9%	2.6%	3.1%	2.1%
Age 65-69	3.0%	3.1%	3.2%	3.1%	3.1%	3.1%	2.5%
Above age 85	4.0%	3.4%	3.0%	2.6%	2.3%	3.1%	2.4%

The Kentucky Retail Territory

The Kentucky Retail Service Territory of Kentucky Utilities includes parts of 77 Kentucky counties, but excludes Kentucky Utilities' twelve municipal customers. The territory makes up a large portion of the entire Service Territory of Kentucky Utilities. Thus it is not surprising that the results for the retail territory are quite similar to those for the entire territory.

The basic results, as with value-added for the entire service territory, was for the level of value-added in the current forecast to fall below its level in the previous forecast, beginning in 2003 and 2004. This is seen in Figure 4. This gap is retained throughout the forecast period since growth in the two forecasts is very similar from 2005 onward.

As was noted earlier, such a gap opens in 2003 because the U.S. economic recovery did not hit full force as early in 2003 as anticipated at the time of the previous forecast. Growth in the year 2004 is strong in both the current and previous forecasts, but is somewhat lower in the current forecast, due to a weak performance by the apparel and electronic equipment sectors in 2004 in Kentucky. This served to increase the gap between the current forecast and the last forecast.

That gap is sustained over the forecast period, because, as was noted earlier, growth is quite similar between the current and previous forecast beginning in 2005. This pattern also occurred for U.S. Industrial Production, as is illustrated in Figure 4A. A gap also opened between Industrial Production and was sustained throughout the forecast period.

With commercial employment, a gap also opens between the current forecast and the previous forecast in 2003 and 2004, and is maintained throughout the forecast period, as is seen in Figure 5. The gap does close through 2017 but then grows again through 2033. The widening in the gap is in contrast to the pattern for U.S. Commercial Employment, where the current forecast exceeds the previous forecast in the later stages of the forecast period. This difference emerges due the relatively small share of service sector employment in the KU Retail Service Territory versus the nation overall. The KU Retail Service Territory, with fewer service jobs, does not benefit is much by expectation for even more rapid growth among services. Note that a similar gap is closed for the LG&E Service Territory, which is dominated by the Louisville area, where service sector employment is concentrated for Kentucky.

For population, the current forecast in the Kentucky Utility Retail Service Territory is 0.8% on average from 2005 to 2009, and 0.8% on average from 2005 to 2019. The forecast for household growth is 1.3% annually from 2005 to 2009, and 1.1% on average from 2005 to 2019. These forecasts are somewhat below the previous forecast, as was found for the Kentucky Utilities Service Territory overall.

Figure 4
Real GSP KU Retail Service Territory
Current Forecast Versus Previous Forecast

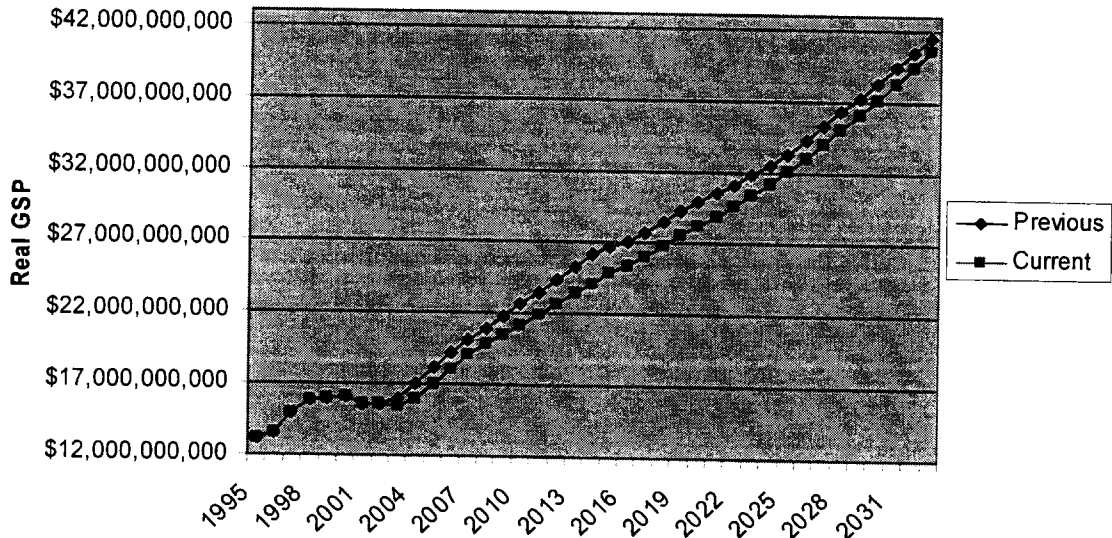


Figure 4A
U.S. Industrial Production
Current Forecast Versus Previous Forecast

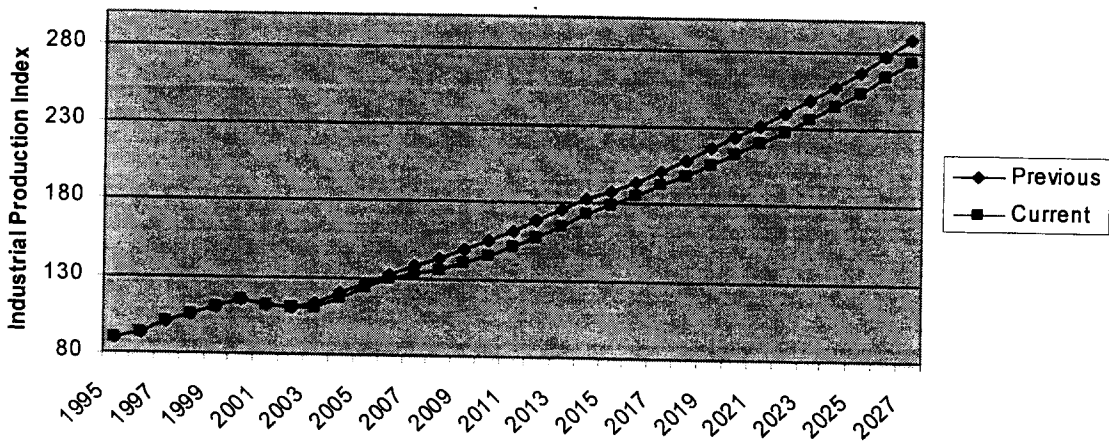


Figure 5
Commercial Employment KU Retail Service Territory
Current Forecast Versus Previous Forecast

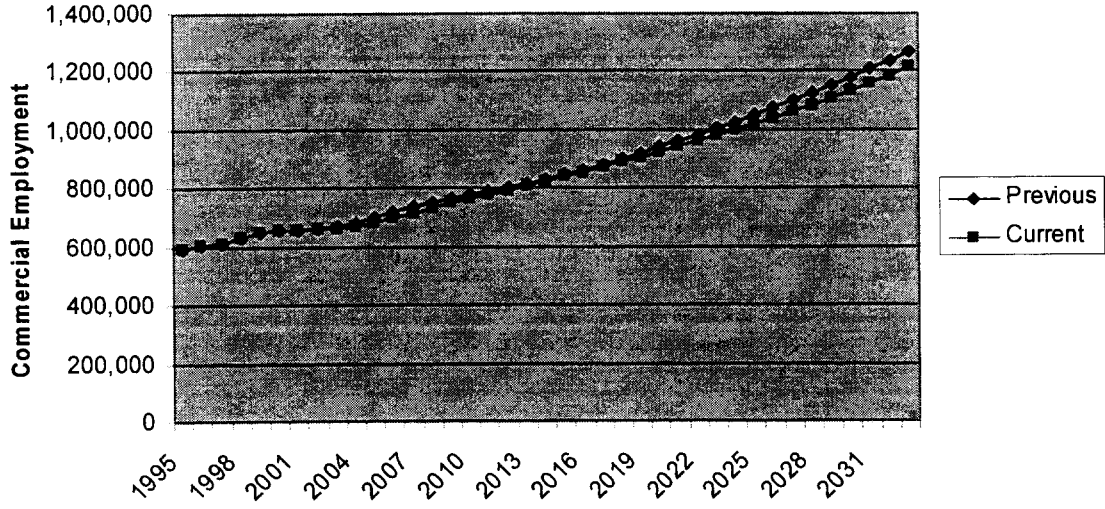
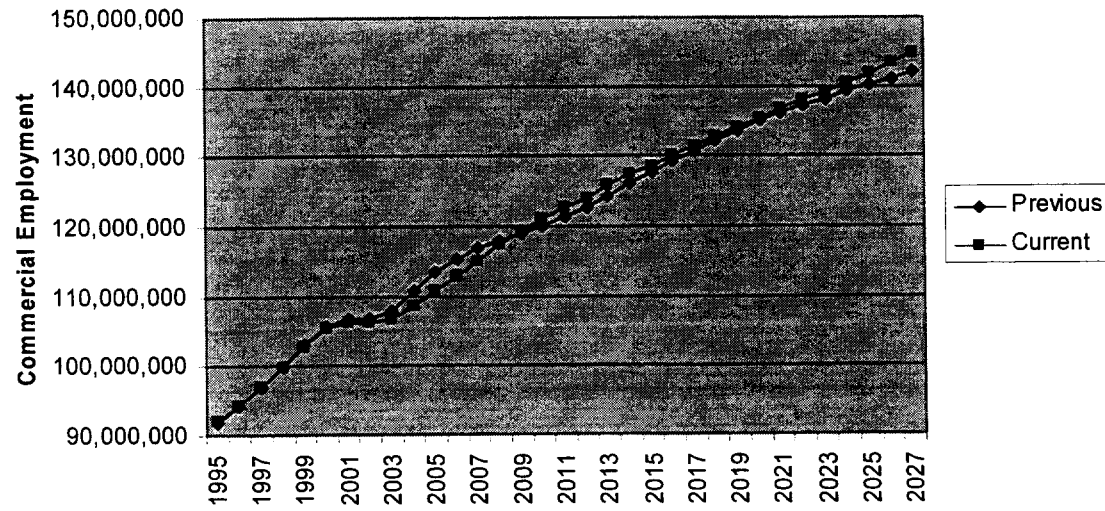


Figure 5A
U.S. Commercial Employment
Current Forecast Versus Previous Forecast



Louisville Gas and Electric Service Territory

The System Territory Econometric Model also generates forecasts for the Louisville Gas & Electric Service Territory. Forecasts are produced for both all counties in the electric power Service Territory of LG&E, and the larger group of counties in the natural gas Service Territory of LG&E. The forecasts described here focus on the LG&E electric power service territory, the smaller territory focused on Jefferson County and surrounding Kentucky counties.

For the LG&E Electric Service Territory, industrial value-added in the current forecast falls below values from the last forecast beginning in 2003 and 2004, as is seen in Figure 6. The gap that develops is larger than for the KU Retail Service Territory since the electronic equipment (appliances, machine tools) industry is a larger part of the economy in the Louisville area. There also are anticipated declines in the food and tobacco sectors in 2004 in Louisville that contribute to the gap. The gap even widens throughout the next 10 years, due to a forecast for continued weak performance in the electronic equipment sector, though the gap closes in the later years of the forecast.

With commercial employment, a gap also opens up between the current forecast and the previous forecast in 2003 and 2004. However, that gap steadily closes and is entirely closed by 2012. Commercial employment in the LG&E Electric Service Territory in the current forecast exceeds forecast levels from the previous forecast in each year after 2012. This is the same as the national pattern, and occurs because the Louisville area has as large a share of commercial employment in the rapidly growing service sector as the nation.

For population, the current forecast is for 0.5% growth each year from 2005 to 2009, and an average growth of 0.6% annually from 2005 to 2019. The forecast for household growth is 0.8% annually from 2005 to 2009, and 0.8% on average from 2005 to 2019. These slower growth rates reflect the lower population growth rates in Jefferson County.

Figure 6
Real GSP LG&E Electric Service Territory
Current Forecast Versus Previous Forecast

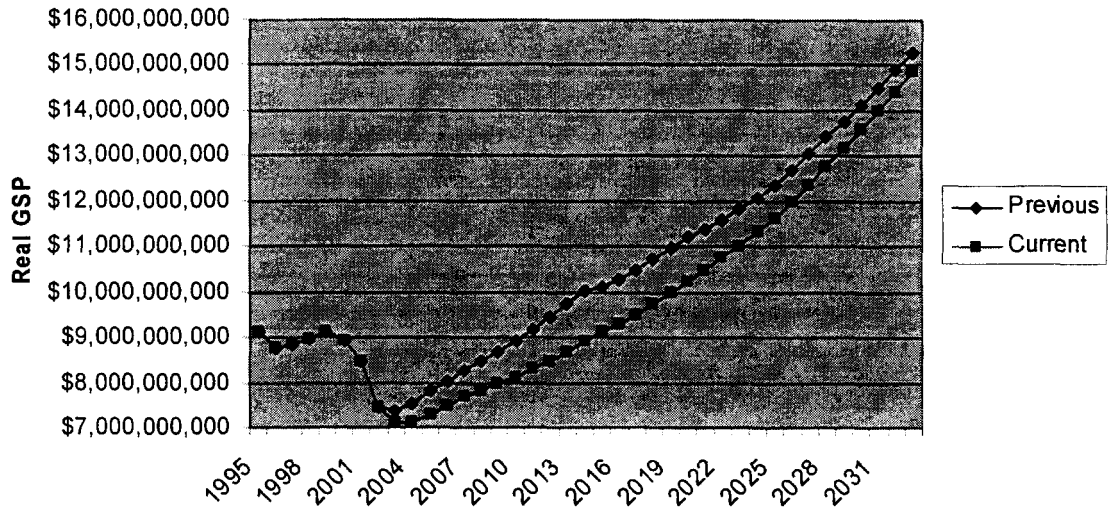
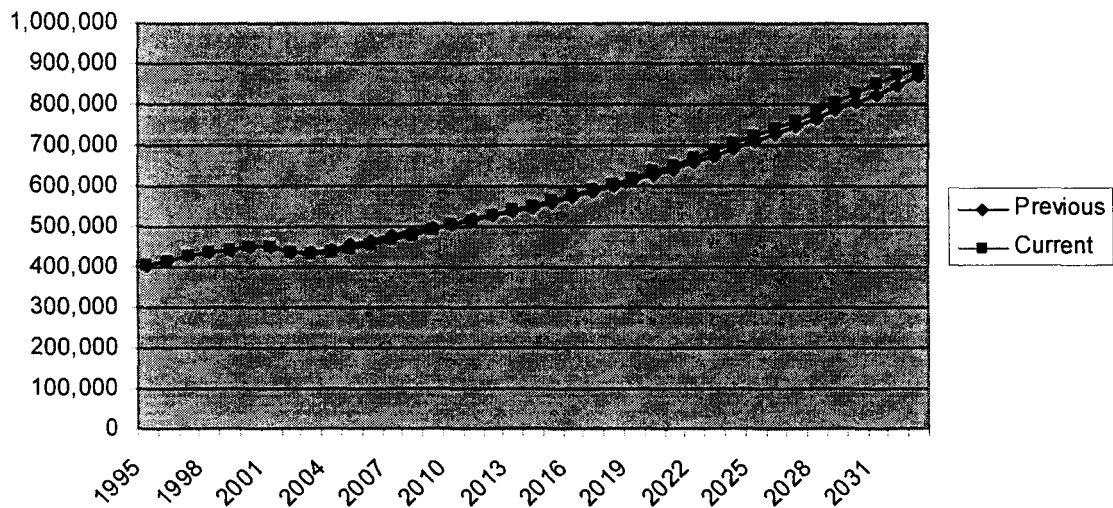


Figure 7
Commercial Employment LG&E Electric Service Territory
Current Forecast Versus Previous Forecast



The Virginia Territory

The rate of growth in the Virginia Service Territory is slower than the rate of growth in the Kentucky Retail Service Territory. This is because the Virginia Service Territory has a larger concentration of two industries that are forecast to grow modestly in the long-run: coal mining and apparel.

Total value-added is forecast to grow at an annual rate of 3.1% from 2005 through 2009, and 2.5% annually on average from 2005 to 2019. These rates are nearly identical to those called for in the previous forecast. The results reflect that modest growth is forecast for value-added output among mining industries. In the current forecast, coal mining value-added in these Virginia Counties is forecast to grow by 1.9% per year on average over the 15-year period. Manufacturing output is forecast to grow by 3.3% on average from 2005 through 2009 and average 2.6% growth per year from 2005 through 2019. These manufacturing growth rates are slower than those in the Kentucky Retail Service Territory, and reflect the lower rate of growth found in the central Appalachian region compared to faster growing areas such as the Bluegrass or areas along the I-75 and I-65 corridors in Kentucky.

The forecast for commercial employment growth in the Virginia Service Territory is a 1.2% growth rate each year from 2005 to 2009. The 15-year forecast also calls for a 1.2% average annual growth rate. These forecast annual growth rates are in line with those called for in the previous forecast. Households in the Virginia Service Territory are forecast to grow by 0.1% per year from 2005 through 2009, and unchanged over the entire 15-year period. This is slightly below the previous forecast, as was found in other areas.

Municipals

Kentucky Utilities serves 12 municipal customers. Each of these municipalities has a unique growth forecast. However, in the interest of brevity, an aggregate forecast for all 12 municipal customers is presented here. While the forecasts for individual municipal customers will differ, the forecast for this aggregate of all twelve municipals is similar to the Retail Service Territory forecast for households and commercial employment, but not for industrial output. Specifically, the aggregate municipal forecast growth rate is between 1% and 2% lower each year in terms of value-added output but similar in terms of the commercial employment and household forecasts. The result for industrial value-added is not surprising since manufacturing plants found within municipal boundaries are typically older than plants located in more exurban industrial parks.

Aggregate value-added output for the twelve municipals is forecast to grow at an annual rate of 3.1% per year from 2005 to 2009, and 2.7% per year over the entire 15-year period. Commercial employment is forecast to grow by 2.1% per year from 2005 to 2009, and 1.8% annually from 2005 to 2019. The number of households is forecast to grow by 1.2% annually from 2005 to 2009, and by 1.1% each year on average from 2005 to 2019. All growth forecasts listed above are similar to those from the previous forecast.

Summary

This document compared current economic forecasts for the KU and LG&E Service Territories that were prepared in the Winter 2003 with those prepared in the Spring of 2003. The current long-term economic forecast reflects a continued expectation that strong economic growth is now at hand several years after the end of the recession of 2001. As a consequence, economic growth is anticipated to be rapid over the next few years, beginning with 2004, but also during 2005 and 2006. Growth will be rapid in both industrial value-added and commercial employment.

However, the levels for industrial value-added tend to be modestly lower in the current forecast compared to the previous forecast. This occurs because growth rates were lower in 2003 and 2004 in the current forecast than in the previous forecast, while growth rates were similar from 2005 through 2019, and beyond. Industrial value-added never recovers the gap which develops in 2003 and 2004. This gap develops due to a later than expected recovery in the economy during 2003, and a delay in the recovery of the apparel and electronic machinery industries in 2004.

Commercial employment in the current forecast also lags that in the previous forecast during 2003 and 2004. However, faster growth in later years closes the gap in the Louisville Gas & Electric Service Territory, though not in the Kentucky Utilities Service Territory. As a consequence, current forecasts of households in the Kentucky Utilities Service Territory also lag those from the previous forecast.

Global Insight Macroeconomic Assumptions

The Center for Business and Economic Research develops an economic forecast for the Commonwealth of Kentucky in order to drive its forecast for the Kentucky Utilities Service Territory and the Louisville Gas & Electric Service Territory. In turn, this economic forecast for Kentucky is developed using variables from a national economic forecast developed by Global Insight. Thus, the national macroeconomic forecast from Global Insight has an important influence on the economic, and therefore, the Energy and Demand Forecast, for the Kentucky Utilities Service Territory.

The current forecast from Global Insight calls for lower levels of industrial production and commercial employment in the United States over the next 5 years than the previous forecast, as is evident in Figures 4A and 5A above. The current Global Insight forecast is from October 2003 while the previous forecast was from February 2003. The key difference between the two forecasts is that the economic recovery took longer to develop than was predicted back in February of 2003. This led to a gap between the current forecast and the previous forecast in 2003. This gap never closes in the U.S. Industrial Production forecast, and in fact the gap widens around 2008. The gap in commercial employment eventually closes and in the long-run commercial employment levels are higher in the current forecast than in the previous forecast.

Some of the key assumptions behind Global Insight's October 2003 national forecast are presented below.

- The long-term potential growth rate for the U.S. economy is assumed to remain strong. The national economy is able to sustain real gross domestic product growth at an average annual rate of 3.6% from 2004 through 2008, and a 4.2% rate in 2004 as the economy continues to experience strong growth following the recent recession.
- Non-farm business productivity, as measured by output per hour of work, is forecast to average 2.5% growth from 2004 through 2008. This represents a continuation of the recent trend towards high productivity growth that should power U.S. production and income growth. This is similar to the productivity growth predicted for five years out in the February 2003 forecast.
- Inflation over the forecast will remain moderate. The inflation rate is forecast to average 1.8% over the 2004 through 2008 period. This very low inflation outlook is roughly one-half percent lower than what was expected in the February 2003 forecast. Low inflation typically creates a favorable environment for economic growth.
- Federal Reserve Bank policy is anticipated to remain favorable for economic growth in the future, which is a factor contributing to the positive macroeconomic outlook. The federal funds rate, which is currently at historically low levels around 1 percent, is forecast to remain about the same in 2004, before beginning to rise in 2005. The funds rate is expected to reach 2 percent by 2005 and 3.5 percent by 2008.

Key assumptions such as these about the national economy influence the forecasts of the STEM model. To begin with, key assumptions on the federal funds rate, inflation, and productivity drive the full Global Insight forecast for the national economy, and key variables in that forecast such as industrial production. The Global Insight national forecasts in turn become key inputs into the University of Kentucky State Econometric Model and thereby drive statewide forecasts for the Kentucky economy. State forecasts are then used as key inputs into the STEM model, which produces forecasts for those portions of Kentucky that are part of the Kentucky Utilities Service Territory, the L,G&E Service Territories, and for 5 Virginia counties that are part of the Old Dominion Power Service Territory. Overall then, key assumptions about the national economy by Global Insight drive state forecasts and forecasts for the Service Territories of Kentucky Utilities and Louisville Gas & Electric.

There are 4 key sets of variables in the national forecasts that drive outcomes in the STEM forecast. The key variables are national forecasts for industrial production, commercial employment, personal income, and consumer spending. Industrial production indexes for each manufacturing and mining industry are key drivers for forecasts of value-added in the industrial sector of the STEM model. In this way, national industrial production index forecasts from Global Insight determine forecasts of industrial growth in STEM. National forecasts for employment and retail sales are key drivers for forecasts of commercial employment in the STEM model. National income growth forecasts from Global Insight drive forecasts of Service Territory income growth, which also influence commercial employment growth.

Appendix 1

