

Sun Corridor Projections Final Report:

Economic and Demographic Forecasts to 2040

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The University of Arizona Eller College of Management's Economic and Business Research Center partnered with the Arizona State University's WP Carey School of Business to (1) conduct the research on economic and demographic trends, (2) build a long-term economic/demographic model, (3) formulate base, high and low scenario assumptions, and (4) use the model to project population and economic conditions over a 35 year forecast horizon for the Sun Corridor megapolitan area. This third and final report describes the modeling effort and the development of the long term projections.

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Executive Summary

As part of a major study of future growth in Pinal County, the Central Arizona Association of Governments commissioned ASU's W. P. Carey School of Business and the UA's Eller College of Management to prepare long term projections for the 3-county "megapolitan" area, or "Sun Corridor." These projections extend through 2040. In addition to this document, readers should refer to a PowerPoint presentation for graphic displays. Highlights are as follows:

- 10.1 million Arizonans will live in the Sun Corridor in 2040.
- The Sun Corridor will grow into one of the nation's 10 "megapolitan" areas.
- The rate of population growth moderates from 3.7% annually in decade of 1990s to 1.9% in 2030s.
- Retirement-related migration will double as boomers retire, but the numbers are small compared 0-64 age group.
- Work-related migration returns to "average" (90-100 thousand per year) by 2015.
- Once the economy recovers from current downturn, annual population growth returns to roughly 160,000 per year in 2015, then drifts slowly upward.
- The proportion of the population age 65+ will increase significantly, but remain less than nationwide.
- AZ will remain one of the youngest states.
- Arizona's school age population will remain flat at 21%.
- Hispanic share of the total population rises from 33% to 48%.
- Hispanic share of school age population increases from 42% to 58%.
- 2.25 mil new nonfarm jobs will be created during the next 32 years to total 4.75 million.
- Most of the new jobs will be in services sectors.
- Employment to population ratio recovers after the recession and drifts slowly upward, remaining below one half.
- Per capita personal income (PCPI) relative to US stabilizes at 88% after ratcheting down during the current recession.
- A larger portion of our income will come from transfer payments and less from "property" income.
- Growth could proceed faster or slower than described above (our BASE, or "best bet" scenario), depending on public investment in infrastructure and education (which affects competitiveness) and on nationwide economic conditions and immigration.
- There is a 20% chance that population could reach as high as 11.5 million and an equal chance that it may reach only 8.9 million. The high number is consistent

with the growth experienced from the mid-1990s through 2006, while the lower number compares with the trend established from the mid 1960s through mid-1990s.

I. Introduction

The purpose of this study is to build an econometric and demographic model of the Sun Corridor to forecast long-term economic and demographic conditions in the “megapolitan” region. To this end, the study examines the long-term economic and demographic forces that could affect economic development in the 3-county Sun Corridor megapolitan area that includes Maricopa, Pinal and Pima Counties. This information is used to develop a set of realistic economic/demographic scenarios to drive the forecasting model.

The University of Arizona Eller College Economic and Business Research Center partnered with the Arizona State University WP Carey School of Business to conduct the research on this project, build a long-term economic/demographic model, formulate base, high and low scenario assumptions, and use the model to project population and economic conditions over a 35 year forecast horizon.

The Sun Corridor model combines Pinal, Maricopa and Pima Counties into a single integrated megapolitan region. The 3-county megapolitan region was used as the basis for analysis instead of the individual counties because the counties are rapidly growing into a large interdependent economic region. The population growth and economic activity that occurs in each county affects the others.

In the sections that follow, a description of the modeling approach and data needs for both the economic and demographic components is presented. That’s followed by the rationale employed in developing the three projection scenarios, which were guided by extensive interviews with experts on potential opportunities and challenges facing the Sun Corridor. Forecasts from the Base scenario and alternative scenarios are presented. Extensive listings of endogenous and exogenous variables, equations, and assumptions for nationwide business conditions for each scenario are presented in appendices.

II. The “Sun Corridor” Model

The Sun Corridor megapolitan model is an econometric, general equilibrium, structural model specifically designed to produce long term projections. The model is an outgrowth of economic models for metro Phoenix and metro Tucson that have been used over the past three decades to produce forecasts four times per year for the economies of Arizona’s largest two metro areas.

The Sun Corridor Model introduces a new innovation by embedding a full-blown cohort-survival component into the model’s structure, thus allowing modeling of detailed population and migration characteristics.

The economic component consists of nearly 100 endogenously determined measures of economic activity. Included are personal income by industry and source, wage rates in the private and government sectors, employment at the NAICS two-digit level (and three-digit level where estimation is enhanced), and various measures of economic activity such as consumer spending, residential building permits, gasoline sales, etc.

The cohort survival component adds nearly 250 additional measures of population and migration flows. Included are cohorts by age (in 5-year increments, 0-4, 5-9, ... , 85&), sex, and ethnicity (Hispanic and non-Hispanic).

A listing of all endogenous measures (variables forecast by the model) is included in Appendix A.

The model is “driven” by some 64 exogenous measures that are forecast by Global Insight, a global leader in economic forecasting. Included are *nationwide* measures such as interest rates, industrial production, consumer spending, employment, homebuilding activity, inflation, relative prices, consumer sentiment, etc. In addition, survivorship rates and birth rates are determined outside the model. A listing of these exogenous measures is included in Appendix B.

Exhibit 1 shows the relationship between the model and measures that are determined exogenously.

In a general equilibrium model of this type, measures for the various blocks are simultaneously determined, just as economic decisions are determined in “real time.” For example, if a large high-tech manufacturer establishes a new plant in the Sun Corridor, it will hire as many workers as it can find from the local area and then recruit from other parts of the country. To attract these workers, they will need to offer higher wage rates. The new recruits will need housing which boosts local homebuilding activity and spurs demand for more construction workers and building materials. Higher wages and more workers lift personal income, which in turn generates additional demand for all products and services, which in turn boosts employment throughout all sectors. Higher wages relative to other parts of the country make the area less attractive for future companies looking to open facilities. The simultaneity of these actions is portrayed in Exhibit 2.

Exhibit 1 – The “Sun Corridor Megapolitan Model”

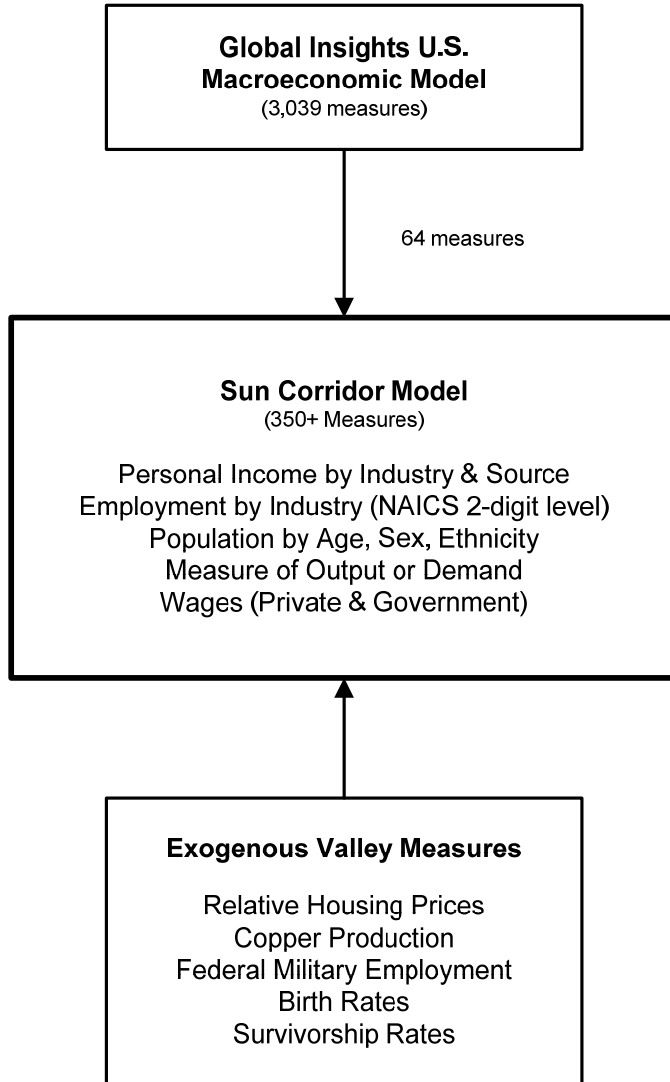
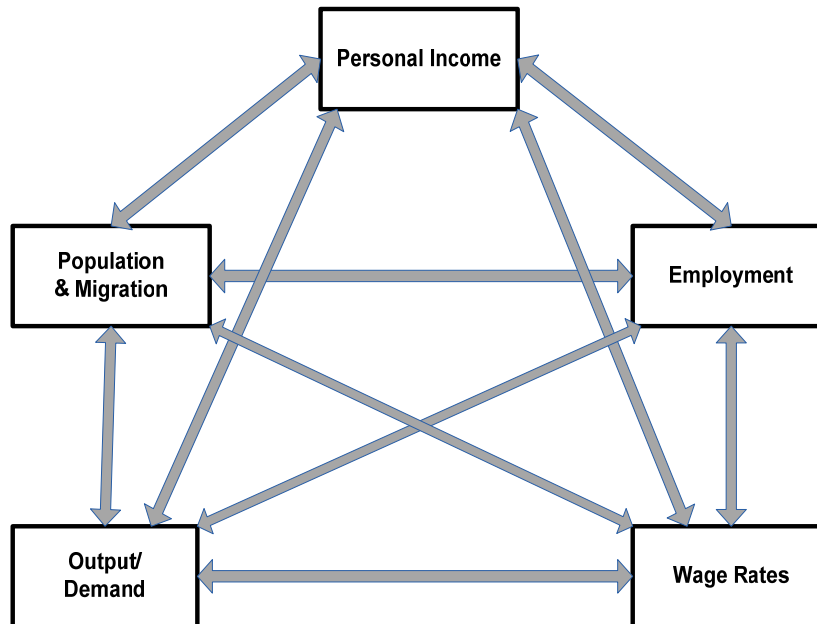


Exhibit 2 – Measures are Simultaneously Determined



The model resides in AREMOS, a software package provided by Global Insight. AREMOS is the modeling package of choice for serious econometricians. It is specially designed for time series data, and provides data basing capabilities with full documentation, several econometric methods for estimating coefficients, model building features including a Tarjan ordering algorithm, and a module using the Gauss-Seidel method to simultaneously solve models. It also includes powerful report writing capabilities, presentation quality graphics, and advanced programming capabilities that allow automation of tasks and operations on lists of variables. It also provides a bridge to Microsoft Excel spreadsheets, the format that is used to provide data for this project.

Model Specification

Employment in export based sectors, such as mining and aerospace manufacturing, are modeled using national demand drivers (that are forecast by Global Insight). Non-basic sectors such as health care, trade, state & local government, and construction are modeled using local demand measures. The general specification of these labor demand equations is a function of output and relative prices. Where measures of output are not available, a

measure of the level of sectoral activity or primary determinants of output may be used. A detailed description of specification issues may be found in Charney (1983). The following two paragraphs provide examples.

Employment in a basic industry like computer and electronic product manufacturing, for example, is estimated as a function of nationwide employment in that same category, relative wage rates (which is not statistically significant, but is left in because doing so doesn't bias the remaining coefficients), and the ratio of nonfarm employment locally relative to nationwide (which adjusts for timing differences between the local and national business cycles). An autoregressive correction is added to capture any missing information. The equation explains 97% of the variation of the dependent variable.

```
V_EMANDCOMPU
Cochrane-Orcutt
ANNUAL data for 16 periods from 1991 to 2006
Date: 11 SEP 2008

log(v_emandcompu)

= 1.01009 * log(emd334) + 0.00027 * v_wrtlp/(ypcompwspd/eeap)
   (11.6289)           (0.47990)

+ 0.02920 * v_enf.1/eea.1 + 2.77431
   (2.66607)           (5.15707)

Sum Sq 0.0027 Std Err 0.0156 LHS Mean 3.9316
R Sq 0.9832 R Bar Sq 0.9771 F 4, 11 160.656
D.W.(1) 1.5113 D.W.(2) 2.1326

AR_0 = + 0.65525 * AR_1
      (2.29257)
```

Non basic sectors such as retailing of building materials and garden supply are estimated as a function of real disposable income locally (to capture remodeling and home improvement projects) and residential building permits (new construction). A two-period moving average is used for both to capture the length of time required to complete projects. Over 95% of the variation of the dependent variable is explained.

```
V_ERTBLDGMAT
Ordinary Least Squares
ANNUAL data for 24 periods from 1983 to 2006
Date: 11 SEP 2008

log(v_ertbldgmat)

= 0.72946 * log(m2(v_ydp/jpc)) + 0.25638 * log(m2(v_hutot))
   (15.1354)           (7.01904)

- 5.08135
   (13.3374)

Sum Sq 0.1029 Std Err 0.0700 LHS Mean 2.4513
R Sq 0.9561 R Bar Sq 0.9519 F 2, 21 228.669
D.W.(1) 0.4633 D.W.(2) 0.9409
```

Population by age, sex and ethnicity requires identities for each cohort or cell. For example, the number of female Hispanics age 30-34 in time period T is found by surviving the age group by one year, subtracting the number of 34 year olds who move into the next age category, adding the number of surviving 29 year olds from the prior year that move into the age group, and finally adding the number of net migrants (equation below).

$$v_popFH30_34 = 0.8 * (v_popFH30_34[-1] * v_survrFH30_34[-1]) + 0.2 * (v_popFH25_29[-1] * v_survrFH25_29[-1]) + v_nmigFH30_34;$$

Survival rates for each cohort are set exogenously. Net migration is allocated to individual cells in a top down approach from the aggregate number of net migrants. The allocation is based on each cell's share of the total as of the most recent data period.

Net migration is modeled in two components: retirement related and all other. Retirement migration (population age 65 and over) is explained by the number of people in that same age group nationwide, relative housing prices in Los Angeles and Phoenix, and the employment-to-population ratio, Sun Corridor relative to U.S. The relative housing price measure enters with a lag of three years (once the gap becomes large enough, Californians cash out and move to Arizona). The equation explains over 77% of the variation in net migration.

Ordinary Least Squares
ANNUAL data for 26 periods from 1981 to 2006

$$v_nmig65/v_pop.1 = 0.15664 * np65a.1/np.1 + 0.00183 * applosangeles$.3/appphx$.3 + 0.04384 * (v_enf.1/v_pop.1)/(eea.1/np.1) - 0.00601 * spike(100,1) - 0.06444$$

(2.42069) (2.47634) (4.56293) (6.65698) (5.73187)

Sum Sq 0.0000 Std Err 0.0009 LHS Mean 0.0017
R Sq 0.8113 R Bar Sq 0.7754 F 4, 21 22.5734
D.W.(1) 1.5109 D.W.(2) 2.1048

$$V_NMIG65=(??)*v_pop.1$$

Development of Demographic Data Needed for Modeling

One of the important design features of the co-joined cohort-survival/economic model is the link between migration and needs of the labor market. To model the two components of migration – work-related and retirement-related -- the characteristics of the migrating population must be known. This is not provided on a year-by-year basis but can be created by aging the population (by age, sex, and ethnicity) in traditional cohort-survival fashion from one period to the next, and then comparing the result to the known distribution for the next time period. The difference between the two is net migration.

This results in estimates for each cell in the age-sex-ethnicity matrix. In the end we needed a *historical time series year-by-year* of retirement related migration and work related migration to adequately model these two components. These data are for the 3-county aggregate region.

Sources of data include the US Census Bureau (Census) and the Arizona Department of Health Services (ADHS). The Census provides population counts by county for each year from 1990 – 2006 by age (19 categories – 5-year intervals), sex, and ethnicity (from which we identify 2 groups – Hispanic and non-Hispanic). Unfortunately, while population by age and sex are provided for the decade of the 1980s, ethnicity is not available so special efforts were required to derive these data.

Ethnicity estimates for the decade of the 1980s were derived by interpolating between 1980 and 1990 each cell's share of the total population in that age-sex cohort. For example, the Hispanic share of males age 20-24 grew from 17.1% in 1980 to 24.0% in 1990. The straight line interpolation of the shares was used to derive an estimate of the number of Hispanic males in that age group for each year from 1981-1989.

The Census also provides county *aggregate* numbers (totals) for population, deaths, births, and net migration for the period 1970 through 2006. Unfortunately, these totals did not match the totals from the cohort data for some years. The two data sets matched for the current decade, but not for prior years. For those years, the cohort data for each cell was therefore adjusted using the ratio of aggregate to cohort total. These adjustments were relatively small, but were necessary to ensure that the cohort estimates added up.

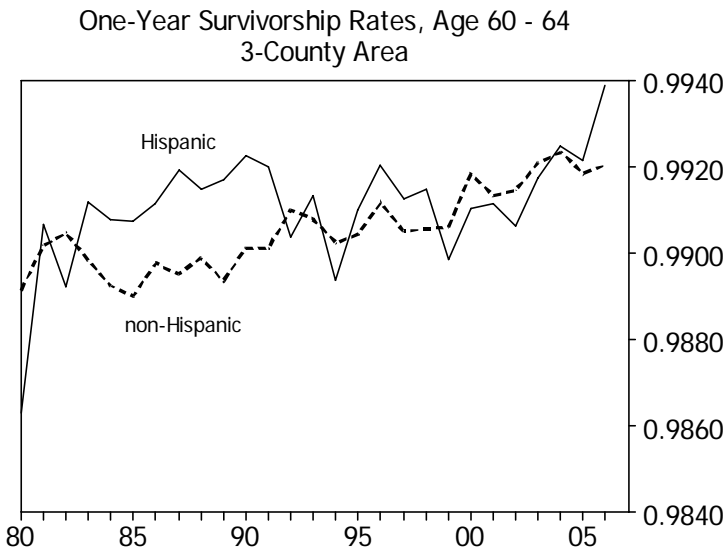
ADHS provides births (by age of mother and ethnicity) by county from 1980 to 2007. Data for 1991- 2006 comes from their annual reports *Arizona Health Status and Vital Statistics*, while 1980-90 and 2007 are from special tabulations. From these estimates, birth rates for Hispanic and non-Hispanic mothers of child-bearing age were calculated.

ADHS provides county-by-county deaths for the three categories for the period 1980 - 2007. Again, 1992-2006 comes from their books, while prior years and 2007 are from special tabulations. From these data, survival rates for each cohort were calculated.

Once birth rates, survival rates and the existing population were in place, it was possible to calculate net migration for each cohort. Starting with the known distribution in 1980, the population was survived and births were added to determine the 1981 “natural increase” population. The difference between the derived result and the known distribution for 1981 is net migration. This process was repeated for each subsequent year.

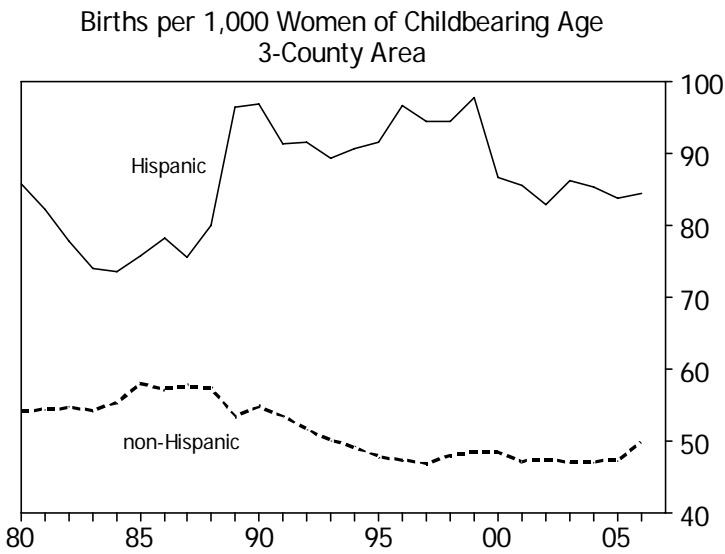
The resulting data set provides new windows on population dynamics over time for the 3-county area. For example, survival rates for older age cohorts have increased significantly in recent years, reflecting advances in detection of disease as well as drugs and procedures for treating various diseases.

Figure 1



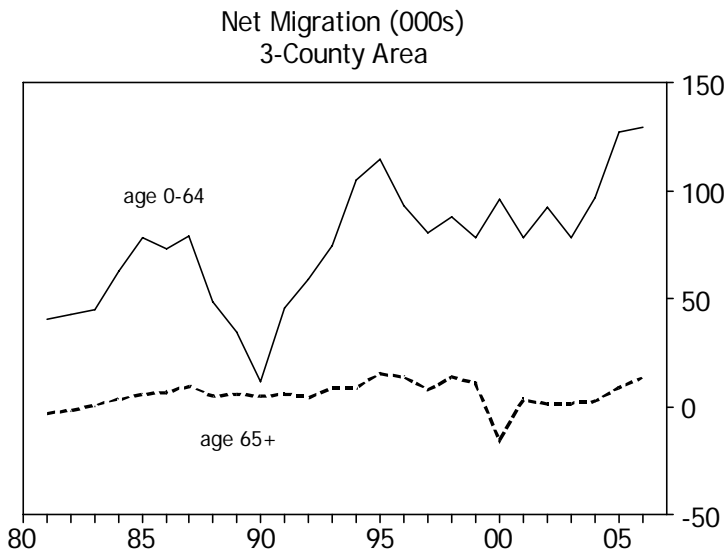
Birth rates for Hispanic women were nearly double that of non-Hispanics during the 1990s. During the current decade, Hispanic birth rates have moved lower, while non-Hispanic rates have been stable. The gap was narrowest during the mid to late 1980s.

Figure 2



Migration patterns vary significantly over the business cycle for the “working age” population (and their dependents) while the much smaller “retirement-related” migration has held relatively steady over the past two-and-a-half decades.

Figure 3



This new database provides a treasure trove of information for future demographic research.

Development of Economic Data Needed for Modeling

For most of the nearly 100 economic measures, data for the 3-county area was calculated by adding together data for the two metropolitan areas that was already contained in EBR's data bases. Most but not all 2-digit NAICS sectors were available. A few 3-digit NAICS categories were included when doing so improved modeling accuracy.

Challenges arose in dealing with some categories for which Pima county data is not reported. For example, the educational services category is not reported as part of LMI's monthly CES-based estimates. Due to the growth of charter schools (and other privately owned schools), we've found that to successfully model employment of "teachers" one must combine public school employment (part of state and local government) with the private sector educational services category. Data from the QCEW (quarterly census of employment and wages), was used to construct the needed data for Pima County. Utilities were another unreported category, which we were able to generate from QCEW.

Additionally, EBR's data bases contain estimates for CES-reported NAICS categories going back into the 1960s and 1970s, depending on the category. When the SIC system was replaced with NAICS a few years ago, BLS only provided historical data back to 1990. In an extensive effort that used 2-digit SIC data from unemployment insurance records (to which EBR had access from the mid-1970s through 1991), bridge tables provided by BLS, and intimate knowledge of the industrial composition of Arizona employment, we were able to create historical data prior to 1990 for Arizona, metro Phoenix and metro Tucson. Without the additional data developed by EBR, econometric

modeling with annual frequency models would be severely limited due to the short history.

III.Sun Corridor Forecast Scenario Rationale

The forecast scenarios were developed on the basis of the work done on the Pinal Projections Project including the Demographic White Paper, the Economic White Paper, and interviews with state and local economic development experts. In addition, national economic forecasts from Global Insight (GI) were used to measure the impact of base, high and low economic conditions on the economy of the 3-county megapolitan region.

One issue that came up repeatedly in the expert interviews was the need for future investments in education, workforce development and infrastructure in order for Arizona to attract high tech industry, raise income levels, and improve the overall quality of life. The level of investment in education and infrastructure, along with national economic conditions were key factors in developing the three forecast scenarios for the megapolitan region.

The base scenario assumes that the national economy will grow according to the GI base (trend) economic forecast. The level of investment in education and infrastructure is assumed to remain on a business as usual basis.

The high scenario assumes that the GI high economic scenario will boost the rate of economic growth in megapolitan region and that relatively higher housing prices in other regions will sustain a high rate of in-migration. In addition, the high scenario, assumes that the state will make a commitment to increase the level of spending for education and infrastructure on a sustained basis. That investment will result, with a lag, in better education, improved workforce skills, increased attraction of higher waged industries, higher average wage levels and a better quality of life.

The increased economic opportunities will result in lower birth rates for working aged Hispanic females, but their birthrates will not fall as low as those for non-Hispanic females.

Increased spending for education and infrastructure will raise the wages for educators, improve the quality of the workforce and result in greater success attracting, retaining and expanding higher wage industries, including high tech industries.

Construction employment will benefit from increased expenditures for infrastructure development. Employment will increase in utilities as solar power generation capacity is added. Employment will also rise in other manufacturing industries due to increased activity in high tech industries such as biotechnology, pharmaceuticals, etc. Healthcare

industries employment will expand due to increased research and development activity and higher incomes. Transportation and warehousing employment will expand to take advantage of better rail, highway and airport infrastructure.

The low scenario assumes that the national economy grows at the GI low scenario. Homes in other parts of the country become relatively less expensive than those in the megapolitan region, resulting in slower in-migration rates. Expenditures for education and infrastructure are inadequate to support population growth. This results in deteriorating workforce quality, slower income growth, and a lower overall quality of life in the region.

The poor workforce quality and weaker infrastructure will cause employment to suffer in manufacturing industries and information technology industries, especially those with higher wages and higher workforce skill requirements. Transportation and warehousing employment will drop due to poorer transportation infrastructure. Finally, the diminished quality of life in the region will discourage employment in the leisure and hospitality industry as tourism activity declines.

Base Scenario Forecast Assumptions

The BASE scenario was developed using the following assumptions (for a detailed description of the base, high and low Global Insight economic scenarios, see Appendix D):

- The national economy will grow according to the Global Insight base (trend) economic forecast prepared in October 2008 and described in “U.S. Economic Outlook” (short term), and “U.S. Economy” (long term). The long term forecasts, which end in 2038, were extended two more years using growth rates near the end of the period for each measure.
 - Short-term assumptions
 - Real GDP will decline for three quarters in a row, starting 3Q '08. Growth will be just 0.2% in 2009.
 - Inflation has peaked and will fall close to zero in mid-2009.
 - Long-term assumptions
 - CPI rises at modest 2.0% rate
 - Real oil prices fall, but remain high by historical standards (no oil embargos in forecast)
 - Federal budget deficit average 4.4% of GDP
 - Real consumption grows at 2.1% annual rate
 - Productivity grows at 2.0% annual rate
- Gasoline prices in the Phoenix area remain high and drift upward from current levels to near \$4.00 per gallon in 2015
- Relative housing prices (Los Angeles to Sun Corridor) stabilize and then maintain a constant ratio until 2040.

- Birth rates and survivorship rates remain constant by age, sex and ethnicity through the period of the long-term forecast.
- The demographic composition of the net migrants into the Sun Corridor remains constant by race, sex and ethnicity through the period of the study.
- The impact of the Arizona employer sanction law will be felt in the short-run, but the labor market will adjust and not be materially impacted in the long-run. The current Arizona recession has reduced the demand for labor and likely has dampened the short-run impact of the law on the State's economy.
- No adjustment has been made for the impact of baby boomer retirement on the labor force. The retirement of the baby boomers is not projected to have a major impact on the Arizona labor market in the long-run.
- Government spending, at all levels, and private sector investment is assumed to be sufficient to provide adequate infrastructure (water, wastewater, energy, transportation, telecommunications, housing, schools, etc.) to meet the demands of the State's growing population and economy. The forecast assumes that spending and investment is sufficient enough not to cause major constraints to future economic and population growth. However, it is not high enough to overcome the education and infrastructure issues that are keeping Arizona and the Sun Corridor from being highly attractive to targeted high tech industries.

IV. The Sun Corridor Long-Term Outlook (Base Scenario)

Official estimates from the U.S. Census Bureau show that Arizona was the 16th largest state as of July 1, 2007, with a population of 6.4 million. Indiana's population count was greater by only 6,500. The addition of an estimated 135,000 during the past year vaults Arizona past Indiana, Massachusetts, and Washington into the 13th spot.

During the first seven years of this decade, Arizona's population grew by 22.7% (according to Census Bureau estimates). The addition of nearly 1.2 million residents accounts for fully 6% of the nation-wide gain. Only Texas, California, Florida and Georgia added more people.

Arizona's growth is expected to continue at a rapid pace and could double in the next 30 years. Arizona may well become the fifth largest state in the U.S., trailing only California, Texas, New York, and Florida.

Long-term conditions in the Sun Corridor will be influenced by Arizona's continued rapid growth. In fact, much of Arizona's growth will occur within the 3-county megapolitan region. The long-term economic forecast for the Sun Corridor region is summarized in Exhibit 1. These projections are shown in 10-year intervals for selected aggregate measures from 2000-2040.

Exhibit 1: Sun Corridor Long-term Model Projections to 2040

	2000	2010	2020	2030	2040
Population (000s)	4,122	5,323	6,740	8,370	10,100
Nonfarm Jobs (000s)	1,925	2,180	3,020	3,830	4,760
Personal Income (\$bil)	113	188	380	670	1,150
Retail Sales (\$bil)	46	67	129	215	353

Highlights of the 30-year base forecast.

- Sun Corridor population will grow from 5.2 million in 2008 to 10.1 million in 2040, an average annual growth rate of 2.1%.
- The number of jobs in the 3-county megapolitan region will more than double over the next 32 years as 2.5 million new jobs will be created, boosting the total to 4.8 million.
- Sun Corridor employment to population ratio will remain below its peak established in 1999 (47%) and after dipping to near 41.1% in 2010, finishes in 2040 at 47.2%. After dipping below the U.S. average from 2007 to 2014, the Sun Corridor's employment to population ratio will be slightly higher than the national average until 2040.
- Per capita personal income relative to the nation will slow its downward slide and increase from about 87% today to 88% thirty years from now. This ratio peaked at 113% in 1981 and will dip below 85% during this recession.
- As the Sun Corridor population continues to age, an increasing share of personal income will come from transfer payments, of which social security is the largest component. The share will rise from 15.7% today to 19% by 2040. Per capita transfers in the Sun Corridor however remain steady at 90% of the corresponding nationwide measure, so the Sun Corridor is mirroring national trends.
- Retail sales relative to income will continue to fall, dropping to around 30% from over 50% in the 1980. An aging population that spends more on services (especially health care) and a smaller portion on goods accounts for the decline.
- Migration flows will continue to account for the lion's share of Sun Corridor population growth. On average, natural increase (births minus deaths) accounts for one third while net migration provides the remainder. The latter varies significantly, of course, over the business cycle.
- The annual number of net migrants continues its upward trend to reach nearly 109,000 per year in 2040, compared to 142,000 in 2006. As a percent of the standing population, net migration falls from 2.8% in 2005 to 1.1% in 2040.

Employment Highlights

The employment forecast by industry is reported in Exhibit 4.

Exhibit 4 - Sun Corridor Employment by Industry 2008 and 2040 (1,000s)

	Employment 2008	Employment 2040	Share 2008	Share 2040	Growth 2008-2040	Annual %Δ 2008-2040
Natural Resources and Mining	5.1	2.1	0.23%	0.05%	(3.0)	-2.7%
Utilities	11.3	22.6	0.50%	0.47%	11.3	2.2%
Construction	154.2	207.4	6.80%	4.36%	53.2	0.9%
Manufacturing	162.0	256.1	7.14%	5.38%	94.1	1.4%
Wholesale Trade	98.0	211.1	4.32%	4.44%	113.1	2.4%
Retail Trade	281.0	568.4	12.39%	11.95%	287.3	2.2%
Transportation and Warehousing	66.7	129.3	2.94%	2.72%	62.6	2.1%
Information	37.4	97.4	1.65%	2.05%	60.0	3.0%
Financial Activities	167.8	365.1	7.40%	7.67%	197.3	2.5%
Professional and Business Svc.	380.2	990.9	16.76%	20.83%	610.8	3.0%
Educational and Health Services	272.0	626.1	11.99%	13.16%	354.1	2.6%
Leisure and Hospitality	223.8	542.3	9.86%	11.40%	318.5	2.8%
Other Services	90.0	201.7	3.97%	4.24%	111.7	2.6%
Total Government Employment	319.1	537.1	14.07%	11.29%	218.0	1.6%
Total Nonfarm Employment	2,268.7	4,757.7	100.00%	100.00%	2,489.0	2.3%

- Construction, manufacturing and government will represent smaller shares of total jobs 30 years from now. Construction's share will decline from 6.8% to 4.4%, manufacturing from 7.1% to 5%, and government from 14% to 11.3%.
- The two sectors that gain the largest shares are health care & social assistance (from 10.1% to 10.3%) and professional and business services (from 16.7% to 20.8%).

Population and Demographic Highlights

The population projection for the 3-county megapolitan region is summarized in Exhibit.

Exhibit 5 - Sun Corridor Population by Demographic Cohort 2008 and 2040

Demographic Cohort	2008	2040	Share 2008	Share 2040
Population Total	5,205	10,100	100%	100%
Age				
Population 5-19 (School Age)	1,100	2,150	21%	21%
Population 20-64 (Working Age)	3,046	5,380	59%	53%
Population 65 & Over (Retirement Age)	648	1,750	13%	17%
Gender				
Population Female	2,591	4,950	50%	49%
Population Male	2,614	5,100	50%	51%
Ethnicity				
Population Non-Hispanic	3,565	5,410	68%	54%
Population Hispanic	1,640	4,680	32%	46%

- Total population in the 3-county megapolitan region will grow from 5.2 million in 2008 to 10.1 million in 2040. The annual population growth rate will average 2.1%.
- The age distribution of the Sun Corridor population will shift from working age to retirement age as baby boomers reach retirement age. The working age share of total population will decrease from 59% in 2008 to 53% in 2040. The retirement aged share of Sun Corridor population will increase from 13% to 17% over the same period. The school aged share of population will remain virtually unchanged at 21%.
- The ratio of males and females to Sun Corridor total population are roughly equal in 2008. However, by 2040, there will be a slightly higher proportion of males in the population.
- The Hispanic share of Sun Corridor population will increase rapidly over the next 32 years, rising from 32% in 2008 to 46% in 2040. The growth in the Hispanic

population is attributable to higher birthrates for Hispanic women. The Hispanic population will eventually become the majority population in the Sun Corridor and Arizona. However, this does not occur over the forecast horizon of this study. Nevertheless, Hispanics will become a formidable marketing, political, social and cultural force in Arizona.

V. Alternative Scenarios

Forecast scenarios were developed on the basis of the work done on the Demographic & Economic White Papers, and expert interviews. National economic forecasts from Global Insight (GI) were used to incorporate alternative economic assumptions of business conditions. Future investments in education, workforce development and infrastructure are necessary for Arizona to attract high tech industry, raise income levels, and improve the overall quality of life. The level of investment in education and infrastructure, along with national economic conditions were key factors in developing the three forecast scenarios.

High Scenario Assumptions

- The GI high economic scenario boosts regional economic growth
- Relatively higher housing prices in other regions sustains a high rate of in-migration
- The state makes a commitment to increase expenditures for education and infrastructure on a sustained basis
- That investment results, with a lag, in better education, improved workforce skills, increased attraction of higher waged industries, higher average wage levels and a better quality of life
- Increased economic opportunities result in lower birth rates for working aged Hispanic females, but their birth rates remain above those for non-Hispanic females
- Increased spending for education and infrastructure raise wages for educators, improves the quality of the workforce and results in greater success attracting, retaining and expanding higher wage industries, including high tech industries
- Construction employment benefits from increased expenditures for infrastructure development
- Employment increases in utilities as solar power generation capacity is added
- Employment also rises in other manufacturing industries due to increased activity in high tech industries such as biotechnology, pharmaceuticals, etc
- Healthcare industry employment expands due to increased research and development activity and higher incomes

- Transportation and warehousing employment expand to take advantage of better rail, highway and airport infrastructure

Low Scenario Assumptions

- The national economy grows at the GI low scenario
- Homes in other parts of the country become relatively less expensive than those in the megapolitan region, resulting in slower in-migration rates
- Expenditures for education and infrastructure are inadequate to support population growth, resulting in deteriorating workforce quality, slower income growth, and a lower overall quality of life in the region
- The poor quality workforce and weaker infrastructure cause employment to suffer in manufacturing, information technology industries, and those with higher wages and higher workforce skill requirements
- Transportation and warehousing employment grows more slowly than in the base due to poorer transportation infrastructure
- Finally, the diminished quality of life in the region discourages employment in the leisure and hospitality industry as tourism activity grows more slowly than in the base

Alternative Scenarios Highlights

In the high scenario, growth quickly returns to “trend” that was established during the second half of the 1990s and the first half of this decade. In this “continuation of recent trends” scenario, population increases return to the 200,000 per year rate by 2015 and trends higher to a 250,000 annual rate by the end of the forecast period. In 2040, the number of Sun Corridor residents approaches 11.5 million, some 1.4 million higher than in the Base scenario. An additional 560,000 housing units is required. A larger portion of the population is employed, which along with higher wage rates, produces higher per capita personal income. An additional 1.4 million jobs are created compared to the Base scenario.

Population growth in the low scenario returns to a trend that was established prior to the mid-1990s. By 2015, annual increases of 120,000 per year are attained, a rate that persists over the next two decades. By 2040, nearly 8.9 million residents call the Sun Corridor home. The number of houses needed to be built is nearly a half million less than in the Base. The 3.9 million jobs are nearly 900,000 less than in the Base scenario.

In short, the alternatives are roughly 10% higher and 10% lower than in the Base scenario, a reasonable interval to use for planning purposes. Neither of these alternative scenarios assumes a drastic departure from historical growth patterns due to any natural or man-made disasters, occurring either in Arizona or elsewhere.

Alternative Population Forecasts to 2040, Sun Corridor (000s)

Scenario	2000	2010	2020	2030	2040
Base	4,122	5,323	6,740	8,370	10,100
High		5,336	7,050	9,150	11,490
Low		5,288	6,370	7,590	8,870
Range		48	680	1,560	2,620

VI. Concluding Remarks

Arizona has been the second-fastest growing state over the past several decades, and is expected to continue riding the crest for at least the next few decades. The Sun Corridor megapolitan area will accommodate the lion's share of that new growth.

The projections developed in this project provide a reasonable and informed description of what the future holds for the area. The base scenario is the most likely to which we assign a subjective probability of 60%. The high and low scenarios call for population counts roughly 10% more or less, respectively. Each alternative is assigned a 20% probability.

By combining the best of econometric and cohort-survival techniques, this modeling approach breaks new ground for the analysis and understanding of Arizona's future growth.

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Appendix A – Endogenous Variable List

ENDOGENOUS VARIABLE INDEX, "Sun Corridor" 3-county model

CPIUWEST 196001 200701
United State - West Urban Consumer Price Index: All Items
All Urban Consumers, Index 82-84=1
Bureau of Labor Statistics

DISC 194801 200701
Arizona - Disposable income relative to total personal income (\$
millions)(az_yp-tnt_tot)/az_yp

PGAS 196301 200701
Phoenix - Price of Gas (regular unleaded retail self-serve
including taxes)
(\$ per gallon) 63 to 78 Platt Report, 79 to 81:3, Platt-Lundberg
Survey.
From 81q4 Lundberg letter, Biweekly survey

V_BIRTHS 198001 200701
Births (male&female), 3-county

V_BIRTHSH 198001 200701
Births (male&female), 3-county, Hispanic

V_BIRTHSH&15 198001 200701
Births (male&female), 3-county, Hispanic, age of mother &15

V_BIRTHSH15_19 198001 200701
Births (male&female), 3-county, Hispanic, age of mother 15_19

V_BIRTHSH20_24 198001 200701
Births (male&female), 3-county, Hispanic, age of mother 20_24

V_BIRTHSH25_29 198001 200701
Births (male&female), 3-county, Hispanic, age of mother 25_29

V_BIRTHSH30_34 198001 200701
Births (male&female), 3-county, Hispanic, age of mother 30_34

V_BIRTHSH35_39 198001 200701
Births (male&female), 3-county, Hispanic, age of mother 35_39

V_BIRTHSH40_44 198001 200701
Births (male&female), 3-county, Hispanic, age of mother 40_44

V_BIRTHSH45& 198001 200701
Births (male&female), 3-county, Hispanic, age of mother 45&over

V_BIRTHSNH 198001 200701
Births (male&female), 3-county, non-Hispanic

V_BIRTHSNH&15 198001 200701
Births (male&female), 3-county, non-Hispanic, age of mother &15

V_BIRTHSNH15_19 198001 200701
Births (male&female), 3-county, non-Hispanic, age of mother 15_19

V_BIRTHSNH20_24 198001 200701
Births (male&female), 3-county, non-Hispanic, age of mother 20_24

V_BIRTHSNH25_29 198001 200701
Births (male&female), 3-county, non-Hispanic, age of mother 25_29

V_BIRTHSNH30_34 198001 200701
Births (male&female), 3-county, non-Hispanic, age of mother 30_34

V_BIRTHSNH35_39 198001 200701
Births (male&female), 3-county, non-Hispanic, age of mother 35_39

V_BIRTHSNH40_44 198001 200701
Births (male&female), 3-county, non-Hispanic, age of mother 40_44

V_BIRTHSNH45& 198001 200701
Births (male&female), 3-county, non-Hispanic, age of mother
45&over

V_DEATHFH 198001 200701
Deaths (000s), 3-county, females, Hispanic

V_DEATHFH0_4 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 0_4
V_DEATHFH10_14 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 10_14
V_DEATHFH15_19 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 15_19
V_DEATHFH20_24 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 20_24
V_DEATHFH25_29 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 25_29
V_DEATHFH30_34 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 30_34
V_DEATHFH35_39 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 35_39
V_DEATHFH40_44 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 40_44
V_DEATHFH45_49 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 45_49
V_DEATHFH50_54 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 50_54
V_DEATHFH55_59 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 55_59
V_DEATHFH5_9 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 5_9
V_DEATHFH60_64 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 60_64
V_DEATHFH65_69 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 65_69
V_DEATHFH70_74 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 70_74
V_DEATHFH75_79 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 75_79
V_DEATHFH80_84 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 80_84
V_DEATHFH85& 198001 200701
Deaths (000s), 3-county, females, Hispanic, age 85&
V_DEATHFNH 198001 200701
Deaths (000s), 3-county, females, non-Hispanic
V_DEATHFNH0_4 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 0_4
V_DEATHFNH10_14 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 10_14
V_DEATHFNH15_19 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 15_19
V_DEATHFNH20_24 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 20_24
V_DEATHFNH25_29 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 25_29
V_DEATHFNH30_34 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 30_34
V_DEATHFNH35_39 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 35_39
V_DEATHFNH40_44 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 40_44
V_DEATHFNH45_49 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 45_49

V_DEATHFNH50_54 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 50_54
V_DEATHFNH55_59 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 55_59
V_DEATHFNH5_9 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 5_9
V_DEATHFNH60_64 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 60_64
V_DEATHFNH65_69 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 65_69
V_DEATHFNH70_74 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 70_74
V_DEATHFNH75_79 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 75_79
V_DEATHFNH80_84 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 80_84
V_DEATHFNH85& 198001 200701
Deaths (000s), 3-county, females, non-Hispanic, age 85&
V_DEATHMH 198001 200701
Deaths (000s)+ 3-county, males, Hispanic
V_DEATHMH0_4 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 0_4
V_DEATHMH10_14 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 10_14
V_DEATHMH15_19 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 15_19
V_DEATHMH20_24 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 20_24
V_DEATHMH25_29 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 25_29
V_DEATHMH30_34 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 30_34
V_DEATHMH35_39 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 35_39
V_DEATHMH40_44 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 40_44
V_DEATHMH45_49 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 45_49
V_DEATHMH50_54 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 50_54
V_DEATHMH55_59 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 55_59
V_DEATHMH5_9 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 5_9
V_DEATHMH60_64 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 60_64
V_DEATHMH65_69 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 65_69
V_DEATHMH70_74 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 70_74
V_DEATHMH75_79 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 75_79
V_DEATHMH80_84 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 80_84
V_DEATHMH85& 198001 200701
Deaths (000s), 3-county, males, Hispanic, age 85&

V_DEATHMNH 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic

V_DEATHMNH0_4 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 0_4

V_DEATHMNH10_14 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 10_14

V_DEATHMNH15_19 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 15_19

V_DEATHMNH20_24 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 20_24

V_DEATHMNH25_29 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 25_29

V_DEATHMNH30_34 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 30_34

V_DEATHMNH35_39 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 35_39

V_DEATHMNH40_44 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 40_44

V_DEATHMNH45_49 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 45_49

V_DEATHMNH50_54 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 50_54

V_DEATHMNH55_59 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 55_59

V_DEATHMNH5_9 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 5_9

V_DEATHMNH60_64 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 60_64

V_DEATHMNH65_69 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 65_69

V_DEATHMNH70_74 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 70_74

V_DEATHMNH75_79 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 75_79

V_DEATHMNH80_84 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 80_84

V_DEATHMNH85& 198001 200701
 Deaths (000s), 3-county, males, non-Hispanic, age 85&

V_DEATHS 198001 200701
 Deaths (000s), 3-county

V_ECON 196401 200601
 Sun Corridor (3-county megapolitan) - Employment:
 Construction(000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_EFI 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Finance and
 Insurance (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_EFINANCIAL 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Financial
 Activities (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_EFINRE 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Real Estate,
 Rental, and Leasing (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_EGOODSPROD 197401 200601
 Sun Corridor (3-county megapolitan) - Total Goods-Producing
 Nonfarm Employment (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_EGOV 196001 200601

Sun Corridor (3-county megapolitan) - Total Government Employment
 (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EGOVF 197601 200601
 Sun Corridor (3-county megapolitan) - Employment: Federal
 Government(000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EGOVSL 197601 200601
 Sun Corridor (3-county megapolitan) - Employment: State and Local
 Government(000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EGOVSLED 197601 200601
 Sun Corridor (3-county megapolitan) - Employment: State and Local
 Govt Education(000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EGOVSLXED 197601 200601
 Sun Corridor (3-county megapolitan) - Employment: State and Local
 Government Less Education (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EINFO 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Information (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EK_12 197601 200601
 V_EL&HACCOMO 196401 200601
 Sun Corridor (3-county megapolitan) - Employment: Accommodation
 (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EL&HARTS 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Arts,
 Entertainment, and Recreation (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EL&HF&DRINK 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Food Svcs and
 Drinking Places(000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_ELEIS&HOSP 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Leisure and
 Hospitality (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EMAN 196001 200601
 Sun Corridor (3-county megapolitan) - Employment: Manufacturing
 (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EMAND 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Durable Goods
 Manufacturing(000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EMANDAERO 197701 200601
 Sun Corridor (3-county megapolitan) - Employment: Aerospace
 Products and Parts(000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_EMANDCOMPU 197501 200601
Sun Corridor (3-county megapolitan) - Employment: Computer and
Electronic Prod.(000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_EMANDOTH 197701 200601
Sun Corridor (3-county megapolitan) - Employment: Information less
Publishing and Telecommunications(000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_EMANND 197501 200601
Sun Corridor (3-county megapolitan) - Employment: Non-Durable
Manufacturing (000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_EMB 196901 200601
Sun Corridor (3-county megapolitan) - B.E.A. Total Employment
(000)
U.S. Department of Commerce, Bureau of Economic Analysis, Table
CA25

V_EMIN 197401 200601
Sun Corridor (3-county megapolitan) - Employment: Natural
Resources and Mining(000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_ENF 196401 200601
Sun Corridor (3-county megapolitan) - Total (Private + Government)
Nonfarm Employment (000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_EPRIV 196401 200601
Sun Corridor (3-county megapolitan) - Total Private Nonfarm
Employment(000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_ERT 197501 200601
Sun Corridor (3-county megapolitan) - Employment: Retail Trade
(000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_ERTBLDGMAT 197501 200601
Sun Corridor (3-county megapolitan) - Employment: Building
Material, Retail Garden Supply (000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_ERTCLO 197501 200601
Sun Corridor (3-county megapolitan) - Employment: Clothing and
Gen. Merchandise Retail (000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_ERTF&B 197501 200601
Sun Corridor (3-county megapolitan) - Employment: Food and
Beverage Retail (000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_ERTMV&P 197501 200601
Sun Corridor (3-county megapolitan) - Employment: Motor Vehicles
and Parts Retail(000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_ERTOTH 197501 200601
Sun Corridor (3-county megapolitan) - Employment: Retail Trade
Less Food & Beverage (000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_ESED 197501 200601
Sun Corridor (3-county megapolitan) - Employment: Educational
Services (000)
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_ESED%EK_12 197601 200601
Sun Corridor (3-county megapolitan) - Ratio of private to public
employment in K-12 education
Source: ADOC Labor Market Information and EBR, CES based on NAICS

V_ESED&HEALTH 197501 200601

Sun Corridor (3-county megapolitan) - Employment: Educational and Health Services(000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_ESERVPROV 197401 200601
 Sun Corridor (3-county megapolitan) - Total Service-Providing Nonfarm Employment(000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_ESHC&SA 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Health Care and Social Assistance (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_ESOTH 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Other Services (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_ESP&B 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Professional and Business Services (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_ETRANS&WARE 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Transportation and Warehousing(000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_ETRANSWU 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Transp., Warehousing, and Utilities (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_ETTU 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Trade, Transportation, and Utilities (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EUTIL 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Utilities (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS
 V_EWT 197501 200601
 Sun Corridor (3-county megapolitan) - Employment: Wholesale Trade (000)
 Source: ADOC Labor Market Information and EBR, CES based on NAICS

 V_GAS 196001 200701
 Sun Corridor (3-county megapolitan) - Taxable sales: gasoline (mill of gallons)ma_gas+pn_gas
 V_HU1 196601 200701
 Sun Corridor (3-county megapolitan) - Single Housing Units authorized by building permits
 Data prior 1993 formed as ma_hu1 + pn_hu1. From 1993 on U.S. Dept. of Commerce Bureau of the Census, C-40 series
 V_HU2& 196601 200701
 Sun Corridor (3-county megapolitan) - Multifamily Housing units authorized by building permits (units)
 V_hutot-V_hu1

V_HUMF 198001 200701
 Sun Corridor (3-county megapolitan) - Multifamily Housing units
 authorized by building permits (units)
 V_hu2&

V_HUTOT 196201 200701
 Sun Corridor (3-county megapolitan) - Total Housing Units
 authorized by building permits (units)
 Data prior 1993 formed as ma_hutot + pn_hutot.
 From 1993 on U.S. Dept. of Commerce, Bureau of the Census, C-40
 series

V_NETMIG 196101 200701

V_NMIG 198101 200601
 Net migration (000s), 3-county

V_NMIG0_64 198101 200601
 Net migration (000s), 3-county, age 0 to 64

V_NMIG65& 198101 200601
 Net migration (000s), 3-county, age 65 and over

V_NMIGF 198101 200601
 Net migration (000s), 3-county, females

V_NMIGFH 198101 200601
 Net migration (000s), 3-county, females, Hispanic

V_NMIGFH0_4 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 0_4

V_NMIGFH10_14 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 10_14

V_NMIGFH15_19 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 15_19

V_NMIGFH20_24 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 20_24

V_NMIGFH25_29 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 25_29

V_NMIGFH30_34 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 30_34

V_NMIGFH35_39 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 35_39

V_NMIGFH40_44 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 40_44

V_NMIGFH45_49 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 45_49

V_NMIGFH50_54 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 50_54

V_NMIGFH55_59 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 55_59

V_NMIGFH5_9 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 5_9

V_NMIGFH60_64 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 60_64

V_NMIGFH65_69 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 65_69

V_NMIGFH70_74 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 70_74

V_NMIGFH75_79 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 75_79

V_NMIGFH80_84 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 80_84

V_NMIGFH85& 198101 200601
 Net migration (000s), 3-county, females, Hispanic, age 85+

V_NMIGFNH 198101 200601
 Net migration (000s), 3-county, females, non-Hispanic

V_NMIGFNH0_4 198101 200601
 Net migration (000s), 3-county, females, non-Hispanic, age 0_4

V_NMIGFNH10_14 198101 200601
 Net migration (000s), 3-county, females, non-Hispanic, age 10_14

V_NMIGFNH15_19 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 15_19
V_NMIGFNH20_24 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 20_24
V_NMIGFNH25_29 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 25_29
V_NMIGFNH30_34 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 30_34
V_NMIGFNH35_39 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 35_39
V_NMIGFNH40_44 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 40_44
V_NMIGFNH45_49 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 45_49
V_NMIGFNH50_54 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 50_54
V_NMIGFNH55_59 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 55_59
V_NMIGFNH5_9 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 5_9
V_NMIGFNH60_64 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 60_64
V_NMIGFNH65_69 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 65_69
V_NMIGFNH70_74 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 70_74
V_NMIGFNH75_79 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 75_79
V_NMIGFNH80_84 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 80_84
V_NMIGFNH85& 198101 200601
Net migration (000s), 3-county, females, non-Hispanic, age 85+
V_NMIGH 198101 200601
Net migration (000s), 3-county, Hispanic
V_NMIGM 198101 200601
Net migration (000s), 3-county, males
V_NMIGMH 198101 200601
Net migration (000s), 3-county, males, Hispanic
V_NMIGMH0_4 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 0_4
V_NMIGMH10_14 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 10_14
V_NMIGMH15_19 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 15_19
V_NMIGMH20_24 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 20_24
V_NMIGMH25_29 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 25_29
V_NMIGMH30_34 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 30_34

V_NMIGMH35_39 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 35_39
V_NMIGMH40_44 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 40_44
V_NMIGMH45_49 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 45_49
V_NMIGMH50_54 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 50_54
V_NMIGMH55_59 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 55_59
V_NMIGMH5_9 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 5_9
V_NMIGMH60_64 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 60_64
V_NMIGMH65_69 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 65_69
V_NMIGMH70_74 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 70_74
V_NMIGMH75_79 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 75_79
V_NMIGMH80_84 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 80_84
V_NMIGMH85+ 198101 200601
Net migration (000s), 3-county, males, Hispanic, age 85+
V_NMIGMNH 198101 200601
Net migration (000s), 3-county, males, non-Hispanic
V_NMIGMNH0_4 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 0_4
V_NMIGMNH10_14 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 10_14
V_NMIGMNH15_19 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 15_19
V_NMIGMNH20_24 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 20_24
V_NMIGMNH25_29 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 25_29
V_NMIGMNH30_34 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 30_34
V_NMIGMNH35_39 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 35_39
V_NMIGMNH40_44 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 40_44
V_NMIGMNH45_49 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 45_49
V_NMIGMNH50_54 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 50_54
V_NMIGMNH55_59 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 55_59
V_NMIGMNH5_9 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 5_9
V_NMIGMNH60_64 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 60_64
V_NMIGMNH65_69 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 65_69
V_NMIGMNH70_74 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 70_74

V_NMIGMNH75_79 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 75_79
V_NMIGMNH80_84 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 80_84
V_NMIGMNH85& 198101 200601
Net migration (000s), 3-county, males, non-Hispanic, age 85+
V_NMIGNH 198101 200601
Net migration (000s), 3-county, non-Hispanic
V_POP 195101 200701
Population (000s), 3-county, Total/Source: US Census Bureau
V_POP5_19 198001 200601
Population (000s), 3-county, school age
V_POP65& 198001 200601
Population (000s), 3-county, age 65 and over
V_POPF 198001 200601
Population (000s), 3-county, females
V_POPFH 198001 200601
Population (000s), 3-county, females, Hispanic
V_POPFH0_4 198001 200601
Population (000s), 3-county, females, Hispanic, age 0_4
V_POPFH10_14 198001 200601
Population (000s), 3-county, females, Hispanic, age 10_14
V_POPFH15_19 198001 200601
Population (000s), 3-county, females, Hispanic, age 15_19
V_POPFH20_24 198001 200601
Population (000s), 3-county, females, Hispanic, age 20_24
V_POPFH25_29 198001 200601
Population (000s), 3-county, females, Hispanic, age 25_29
V_POPFH30_34 198001 200601
Population (000s), 3-county, females, Hispanic, age 30_34
V_POPFH35_39 198001 200601
Population (000s), 3-county, females, Hispanic, age 35_39
V_POPFH40_44 198001 200601
Population (000s), 3-county, females, Hispanic, age 40_44
V_POPFH45_49 198001 200601
Population (000s), 3-county, females, Hispanic, age 45_49
V_POPFH50_54 198001 200601
Population (000s), 3-county, females, Hispanic, age 50_54
V_POPFH55_59 198001 200601
Population (000s), 3-county, females, Hispanic, age 55_59
V_POPFH5_9 198001 200601
Population (000s), 3-county, females, Hispanic, age 5_9
V_POPFH60_64 198001 200601
Population (000s), 3-county, females, Hispanic, age 60_64
V_POPFH65_69 198001 200601
Population (000s), 3-county, females, Hispanic, age 65_69
V_POPFH70_74 198001 200601
Population (000s), 3-county, females, Hispanic, age 70_74
V_POPFH75_79 198001 200601
Population (000s), 3-county, females, Hispanic, age 75_79
V_POPFH80_84 198001 200601
Population (000s), 3-county, females, Hispanic, age 80_84
V_POPFH85& 198001 200601
Population (000s), 3-county, females, Hispanic, age 85&
V_POPFNH 198001 200601
Population (000s), 3-county, females, non-Hispanic

V_POPFNH0_4 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 0_4
V_POPFNH10_14 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 10_14
V_POPFNH15_19 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 15_19
V_POPFNH20_24 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 20_24
V_POPFNH25_29 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 25_29
V_POPFNH30_34 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 30_34
V_POPFNH35_39 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 35_39
V_POPFNH40_44 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 40_44
V_POPFNH45_49 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 45_49
V_POPFNH50_54 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 50_54
V_POPFNH55_59 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 55_59
V_POPFNH5_9 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 5_9
V_POPFNH60_64 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 60_64
V_POPFNH65_69 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 65_69
V_POPFNH70_74 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 70_74
V_POPFNH75_79 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 75_79
V_POPFNH80_84 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 80_84
V_POPFNH85& 198001 200601
Population (000s), 3-county, females, non-Hispanic, age 85&
V_POPH 198001 200601
Population (000s), 3-county, Hispanic
V_POPM 198001 200601
Population (000s), 3-county, males
V_POPMH 198001 200601
Population (000s), 3-county, males, Hispanic
V_POPMH0_4 198001 200601
Population (000s), 3-county, males, Hispanic, age 0_4
V_POPMH10_14 198001 200601
Population (000s), 3-county, males, Hispanic, age 10_14
V_POPMH15_19 198001 200601
Population (000s), 3-county, males, Hispanic, age 15_19
V_POPMH20_24 198001 200601
Population (000s), 3-county, males, Hispanic, age 20_24
V_POPMH25_29 198001 200601
Population (000s), 3-county, males, Hispanic, age 25_29
V_POPMH30_34 198001 200601
Population (000s), 3-county, males, Hispanic, age 30_34
V_POPMH35_39 198001 200601
Population (000s), 3-county, males, Hispanic, age 35_39

V_POPMH40_44 198001 200601
Population (000s), 3-county, males, Hispanic, age 40_44
V_POPMH45_49 198001 200601
Population (000s), 3-county, males, Hispanic, age 45_49
V_POPMH50_54 198001 200601
Population (000s), 3-county, males, Hispanic, age 50_54
V_POPMH55_59 198001 200601
Population (000s), 3-county, males, Hispanic, age 55_59
V_POPMH5_9 198001 200601
Population (000s), 3-county, males, Hispanic, age 5_9
V_POPMH60_64 198001 200601
Population (000s), 3-county, males, Hispanic, age 60_64
V_POPMH65_69 198001 200601
Population (000s), 3-county, males, Hispanic, age 65_69
V_POPMH70_74 198001 200601
Population (000s), 3-county, males, Hispanic, age 70_74
V_POPMH75_79 198001 200601
Population (000s), 3-county, males, Hispanic, age 75_79
V_POPMH80_84 198001 200601
Population (000s), 3-county, males, Hispanic, age 80_84
V_POPMH85& 198001 200601
Population (000s), 3-county, males, Hispanic, age 85&
V_POPMNH 198001 200601
Population (000s), 3-county, males, non-Hispanic
V_POPMNH0_4 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 0_4
V_POPMNH10_14 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 10_14
V_POPMNH15_19 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 15_19
V_POPMNH20_24 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 20_24
V_POPMNH25_29 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 25_29
V_POPMNH30_34 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 30_34
V_POPMNH35_39 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 35_39
V_POPMNH40_44 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 40_44
V_POPMNH45_49 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 45_49
V_POPMNH50_54 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 50_54
V_POPMNH55_59 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 55_59
V_POPMNH5_9 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 5_9
V_POPMNH60_64 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 60_64
V_POPMNH65_69 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 65_69
V_POPMNH70_74 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 70_74
V_POPMNH75_79 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 75_79

V_POPMNH80_84 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 80_84

V_POPMNH85& 198001 200601
Population (000s), 3-county, males, non-Hispanic, age 85&

V_POPNH 198001 200601
Population (000s), 3-county, non-Hispanic

V_TXSFOOD 196501 200601
Sun Corridor (3-county megapolitan) - Estimates of food sales (\$ millions) 81-84 Arizona Dept. of Revenue, all other years are EBR estimates

V_TXSRB 196001 200701
Sun Corridor (3-county megapolitan) - Taxable sales: Restaurants and Bars (\$ millions)
ma_txsrp+pn_txsrp

V_TXSRET 196601 200601
Sun Corridor (3-county megapolitan) - Total retail sales (\$ millions) including restaurants and bars, food and gasoline (\$ millions)
V_txsrslf+V_txsfood+V_txsrp+(V_gas*pgas)

V_TXSRSLF 196601 200701
Sun Corridor (3-county megapolitan) - Taxable sales: retail less EBR estimates of food (\$ millions)
V_txsrp - V_txsfood for 65a1 to 84a1, ma_txsrslf + pn_txsrslf for 85a1 to 94a1

V_WRGOVFCIV 196901 200601
Sun Corridor (3-county megapolitan) -Annual Rate of Earnings in Government, Federal Civilian
1000*V_ygovfciv/V_embgovfciv

V_WRGOVMIL 196901 200601
Sun Corridor (3-county megapolitan) -Annual Rate of Earnings in Government, Federal Military
1000*V_ygovmil/V_embgovmil

V_WRGOVSL 196901 200601
Sun Corridor (3-county megapolitan) -Annual Rate of Earnings in Government, State & Local
1000*V_ygovsl/V_embgovsl

V_WRPRIV 196901 200601
Sun Corridor (3-county megapolitan) -Annual Rate of Earnings in Private Industry
1000*V_ygovsl/V_embgovsl

V_WRTLTP 196901 200601
Sun Corridor (3-county megapolitan) -Annual Rate of Earnings, Aggregate
1000*V_ytlp/V_emb

V_YDIVINTRENT 196501 200601
Sun Corridor (3-county megapolitan) - Dividends, Interest and Rent (\$ millions)
U.S. Dept. of Commerce, Bureau of Economic Analysis, Table CA5

V_YDP 196501 200601
Sun Corridor (3-county megapolitan) - Disposable Personal Income (\$ millions)
(V_ytlp+V_ydivintrent+V_ytp+V_yresadj-V_ypsi)*(az_yp-tnt_tot)/az_yp)

V_YGOV 196901 200601
 Sun Corridor (3-county megapolitan) - Earnings by
 Industry:Government &
 Government Enterprises(\$ millions)
 U.S. Dept. of Commerce, Bureau of Economic Analysis, Table CA5

V_YGOVFCIV 196901 200601
 Sun Corridor (3-county megapolitan) - Earnings by industry:
 Federal Civilian Government (\$ millions)
 U.S. Dept. of Commerce, Bureau of Economic Analysis, Table CA5

V_YGOVFMIL 196901 200601
 Sun Corridor (3-county megapolitan) - Earnings by industry:
 Federal Military Government (\$ millions)
 U.S. Dept. of Commerce, Bureau of Economic Analysis, Table CA5

V_YGOVSL 196901 200601
 Sun Corridor (3-county megapolitan) - Earnings by industry: State
 and Local Government (\$ millions)
 U.S. Dept. of Commerce, Bureau of Economic Analysis, Table CA5

V_YP 196501 200601
 Sun Corridor (3-county megapolitan) - Personal Income (\$ millions)
 U.S. Dept. of Commerce, Bureau of Economic Analysis, Table CA5

V_YPCSI 196501 200601
 Sun Corridor (3-county megapolitan) - Personal Contribution for
 Social Insurance(\$ millions)
 U.S. Dept. of Commerce, Bureau of Economic Analysis, Table CA5

V_YPRIV 196901 200601
 Sun Corridor (3-county megapolitan) - Earning by industry: Private
 (\$ millions)
 U.S. Dept. of Commerce, Bureau of Economic Analysis, Table CA5

V_YTLP 196501 200601
 Sun Corridor (3-county megapolitan) - Total Earnings by place of
 work (\$ millions)
 U.S. Dept. of Commerce, Bureau of Economic Analysis, Table CA5

V_YTP 196501 200601
 Sun Corridor (3-county megapolitan) - Transfer Payments (\$
 millions)
 U.S. Dept. of Commerce, Bureau of Economic Analysis, Table CA5

YBASSSP 195001 200701
 INCOME, MAXIMUM TAX BASE, SOCIAL SECURITY
 CURRENT DOLLARS PER YEAR NSA
 SOURCE: BY STATUTE

Appendix B – Exogenous Variable List

EXOGENOUS VARIABLE INDEX, "SUN CORRIDOR" 3-county model

APPLOSANGELES\$ 197601 200701

OFHEO HPI adjusted to NAR median price in 2008q1, 000s dollars, Los Angeles

APPPHX\$ 197801 200701

OFHEO HPI adjusted to NAR median price in 2008q1, 000s dollars, Phoenix

CDMVNA 195901 204001

Consumer spending on new automobiles

Source: BEA

Units: billions of dollars- annual rate

Last updated: 07/02/08 - 09:20

Remarks: Old DRI CDAUTON Old WEFA CEDMNC

CNFFREE 195901 204001

Value of food furnished free and consumed on farms

Source: BEA

Units: billions of dollars- annual rate

Last updated: 07/02/08 - 09:20

Remarks: Old DRI CNFOODFURNAAF Old WEFA CENFOT

CNFHOME 195901 204001

Consumer spending on food for off-premise consumption

Source: BEA

Units: billions of dollars- annual rate

Last updated: 07/02/08 - 09:20

Remarks: Old DRI CNFDOFF Old WEFA CENFOP

CNFOUT 195901 204001

Consumer on-premise spending on meals and beverages

Source: BEA

Units: billions of dollars- annual rate

Last updated: 07/02/08 - 09:20

Remarks: Old DRI CNFOODPRCH Old WEFA CENFMB

CNFOUTR 195901 204001

Real consumer on-premise spending on meals and beverages

Source: BEA

Units: billions of chained 2000 dollars- annual rate

Last updated: 07/02/08 - 09:20

Remarks: Old DRI CNFOODPRCH96C Old WEFA CENFMB96

CONS 195901 204001

Consumer spending on all goods & services

Source: BEA

Units: billions of dollars- annual rate

Last updated: 07/02/08 - 09:20

Remarks: Old DRICONS Old WEFA CE

CPI 195901 204001

Consumer price index, all-urban

Source: BLS

Units: - 1982-84=1.00

Last updated: 07/02/08 - 09:20

Remarks: Old DRI CPI Old WEFA PCIU

CPICXFAE 195901 204001

Consumer price index for commodities other than food & energy

Source: BLS

Units: - 1982-84=1.00

Last updated: 07/02/08 - 09:20

Remarks: Old DRI CPIC_FAE Old WEFA PCIUCXFAE

CP_PRODN 196101 204001
Arizona - Normal Mine Production of Recoverable Copper adjusted for
Strikes(000 Short Tons)
Source: E.B.R. Estimates of CP_PROD adjusted for strikes/Replace
projections with actual annual numbers calculated from monthly totals

CSV 195901 204001
Consumer spending on services
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI CS Old WEFACES

EEA 195901 204001
Employment--Total Nonfarm Payrolls
Source: BLS
Units: millions-
Last updated: 07/02/08 - 09:20
Remarks: Old DRI EE Old WEFA EE

EEAP 195901 204001
Employment--Private Nonfarm
Source: BLS
Units: millions-
Last updated:07/02/08 - 09:20
Remarks: Old DRI EEXG Old WEFA EEXG

EEHS62 199001 204001
Employment--Health Care & Social Assistance
Source: BLS
Units: millions-
Last updated: 07/02/08 - 09:20
Remarks: Old DRI EEE62 Old WEFA EEE62

EG91 195901 204001
Employment--Federal
Source: BLS
Units: - millions
Last updated: 07/02/08 - 09:20
Remarks: Old DRI EEGFED Old WEFA EEGFED

EGSL 195901 204001
Employment--State & Local Government
Source: BLS
Units: - millions
Last updated: 07/02/08 - 09:20
Remarks: Old DRI EEGSAL Old WEFA EEGSAL

EINF 195901 204001
Employment--Information
Source: BLS
Units: - millions
Last updated: 07/02/08 - 09:20
Remarks: Old DRI EEINF Old WEFA EEINF

EMD334 199001 204001
Employment--Computer & Electronic Products
Source: BLS
Units: - millions
Last updated: 07/02/08 - 09:20
Remarks: Old DRI EEM334 Old WEFA EEM334

EMN 195901 204001
Employment--Nondurable Manufacturing
Source: BLS
Units: - millions
Last updated: 07/02/08 - 09:20
Remarks: Old DRI EEMNON Old WEFA EEMNON

ETAW 197201 204001
Employment--Transportation & Warehousing
Source: BLS
Units: - millions
Last updated: 07/02/08 - 09:20
Remarks: Old DRI EETTAW Old WEFA EETTAW

GFMLCO 195901 204001
Federal defense consumption exc. for depreciation & personnel
Source: Global Insight
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI GFMLCO Old WEFA GCEFDXDEP

GFMLPAY 195901 204001
Federal military pay increases
Source: Global Insight
Units: percent- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI PAYGFML OldWEFA RGCEFDPAY

GSLCWSS 195901 204001
State & local personnel outlays
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI GSLWSS_FAC Old WEFA GCENPAY

HUSPS 195901 204001
Housing starts
Source: Census
Units: millions- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI HUSTS Old WEFA UHS

HUSPS1 195901 204001
Single-family housing starts
Source: Census
Units: millions- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI HUSTS1 Old WEFA UHSONE

IPSG335 197201 204001
Industrial production--Electrical equipment, appliances, and components
Source: FRB
Units: - 2002=100
Last updated: 07/02/08 - 09:20
Remarks: Old DRI IPSG335 Old WEFA IPSG335

IPSG3364 197201 204001
Industrial production--Aerospace products and parts
Source: FRB
Units:- 2002=100
Last updated: 07/02/08 - 09:20
Remarks: Old DRI IPSG3364 Old WEFA IPSG3364

JPC 195901 204001
Chained price index--consumer purchases
Source: BEA
Units: index- 2000=100
Last updated: 07/02/08 - 09:20
Remarks: Old DRI PCWC Old WEFA PDCCE

JPCNEGAO 195901 204001
Chained price index--consumer gasoline & oil
Source: BEA
Units: index-2000=100.0
Last updated: 07/02/08 - 09:20
Remarks: Old DRI PCWCNGAS Old WEFA PDCCENGAS

LIFESRE 197001 204001
Average tax lifetime of residential structures
Source: IRS
Units: - years
Last updated: 07/01/08 - 23:20
Remarks: Old DRI LIFEICR Old WEFA TLSRS

M_EMPPV 196401 204001
Maricopa County - Construction Employment of Palo Verde Nuclear Plant
(000)

NP 195901 204001
Total population, including armed forces overseas
Units: millions- end of period
Last updated: 07/01/08 - 23:20
Remarks: Old DRI N_DW Old WEFA NPADJ

NP65A 195901 204001
Population aged 65 and over
Units: millions- end of period
Last updated: 07/01/08 - 23:20
Remarks: Old DRI N65A_DW Old WEFA NP65AADJ

P_FIRM37 197501 204001

RTXSIGF 195901 204001
Effective federal social insurance tax rate on wages & salaries
Source: Global Insight
Units: - decimal fraction

Last updated: 07/01/08 - 23:20
Remarks: Old DRI RTWGF Old WEFA RTXSSP

RUC 195901 204001
Civilian unemployment rate
Source: BLS
Units: - percent
Last updated: 07/02/08 - 09:20
Remarks: Old DRI RUC Old WEFA RUNC

SP500 195901 204001
S&P 500 index of common stocks
Source: S&P
Units: index- not seasonally adjusted
Last updated: 07/02/08 - 09:20
Remarks: Old DRI JSAP500NS Old WEFA SP500

TTREND 196001 204001

UTLB00004 195901 204001
Factory operating rate. Manufacturing-SIC basis
Source: FRB
Units: percent
Last updated: 07/02/08 - 09:20
Remarks: Old DRI UTLB00004 Old WEFAUTLB00005

V_BRH&15 198001 205001
Birth rate, 3-county, Hispanic, age of mother <15

V_BRH15_19 198001 205001
Birth rate, 3-county, Hispanic, age of mother 15_19

V_BRH20_24 198001 205001
Birth rate, 3-county, Hispanic, age of mother 20_24

V_BRH25_29 198001 205001
Birth rate, 3-county, Hispanic, age of mother 25_29

V_BRH30_34 198001 205001
Birth rate, 3-county, Hispanic, age of mother 30_34

V_BRH35_39 198001 205001
Birth rate, 3-county, Hispanic, age of mother 35_39

V_BRH40_44 198001 205001
Birth rate, 3-county, Hispanic, age of mother 40_44

V_BRH45& 198001 205001
Birth rate, 3-county, Hispanic, age of mother 45&over

V_BRNH&15 198001 205001
 Birth rate, 3-county, non-Hispanic, age of mother <15

V_BRNH15_19 198001 205001
 Birth rate, 3-county, non-Hispanic, age of mother 15_19

V_BRNH20_24 198001 205001
 Birth rate, 3-county, non-Hispanic, age of mother 20_24

V_BRNH25_29 198001 205001
 Birth rate, 3-county, non-Hispanic, age of mother 25_29

V_BRNH30_34 198001 205001
 Birth rate, 3-county, non-Hispanic, age of mother 30_34

V_BRNH35_39 198001 205001
 Birth rate, 3-county, non-Hispanic, age of mother 35_39

V_BRNH40_44 198001 205001
 Birth rate, 3-county, non-Hispanic, age of mother 40_44

V_BRNH45& 198001 205001
 Birth rate, 3-county, non-Hispanic, age of mother 45&over

V_EMBGOVFMIL 198001 200701
 Sun Corridor (3-county megapolitan) - B.E.A. Federal Military Employment
 (000)
 U.S. Department of Commerce, Bureau of Economic Analysis, Table CA25

V_ESEDADD 195001 204001

V_SURVRFH0_4 198001 205001
 Survivorship rate, 3-county, females, Hispanic, age 0_4

V_SURVRFH10_14 198001 205001
 Survivorship rate, 3-county, females, Hispanic, age 10_14

V_SURVRFH15_19 198001 205001
 Survivorship rate, 3-county, females, Hispanic, age 15_19

V_SURVRFH20_24 198001 205001
 Survivorship rate, 3-county, females, Hispanic, age 20_24

V_SURVRFH25_29 198001 205001
 Survivorship rate, 3-county, females, Hispanic, age 25_29

V_SURVRFH30_34 198001 205001
 Survivorship rate, 3-county, females, Hispanic, age 30_34

V_SURVRFH35_39 198001 205001
 Survivorship rate, 3-county, females, Hispanic, age 35_39

V_SURVRFH40_44 198001 205001
 Survivorship rate, 3-county, females, Hispanic, age 40_44

V_SURVRFH45_49 198001 205001
 Survivorship rate, 3-county, females, Hispanic, age 45_49

V_SURVRFH50_54 198001 205001
 Survivorship rate, 3-county, females, Hispanic, age 50_54

V_SURVRFH55_59 198001 205001
 Survivorship rate, 3-county, females, Hispanic, age 55_59

V_SURVRFH5_9 198001 205001
Survivorship rate, 3-county, females, Hispanic, age 5_9

V_SURVRFH60_64 198001 205001
Survivorship rate, 3-county, females, Hispanic, age 60_64

V_SURVRFH65_69 198001 205001
Survivorship rate, 3-county, females, Hispanic, age 65_69

V_SURVRFH70_74 198001 205001
Survivorship rate, 3-county, females, Hispanic, age 70_74

V_SURVRFH75_79 198001 205001
Survivorship rate, 3-county, females, Hispanic, age 75_79

V_SURVRFH80_84 198001 205001
Survivorship rate, 3-county, females, Hispanic, age 80_84

V_SURVRFH85& 198001 205001
Survivorship rate, 3-county, females, Hispanic, age 85&

V_SURVRFNH0_4 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 0_4

V_SURVRFNH10_14 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 10_14

V_SURVRFNH15_19 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 15_19

V_SURVRFNH20_24 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 20_24

V_SURVRFNH25_29 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 25_29

V_SURVRFNH30_34 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 30_34

V_SURVRFNH35_39 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 35_39

V_SURVRFNH40_44 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 40_44

V_SURVRFNH45_49 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 45_49

V_SURVRFNH50_54 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 50_54

V_SURVRFNH55_59 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 55_59

V_SURVRFNH5_9 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 5_9

V_SURVRFNH60_64 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 60_64

V_SURVRFNH65_69 198001 205001
Survivorship rate, 3-county, females, non-Hispanic, age 65_69

V_SURVRFNH70_74 198001 205001

Survivorship rate, 3-county, females, non-Hispanic, age 70_74

V_SURVRFNH75_79 198001 205001

Survivorship rate, 3-county, females, non-Hispanic, age 75_79

V_SURVRFNH80_84 198001 205001

Survivorship rate, 3-county, females, non-Hispanic, age 80_84

V_SURVRFNH85& 198001 205001

Survivorship rate, 3-county, females, non-Hispanic, age 85&

V_SURVRMH0_4 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 0_4

V_SURVRMH10_14 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 10_14

V_SURVRMH15_19 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 15_19

V_SURVRMH20_24 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 20_24

V_SURVRMH25_29 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 25_29

V_SURVRMH30_34 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 30_34

V_SURVRMH35_39 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 35_39

V_SURVRMH40_44 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 40_44

V_SURVRMH45_49 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 45_49

V_SURVRMH50_54 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 50_54

V_SURVRMH55_59 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 55_59

V_SURVRMH5_9 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 5_9

V_SURVRMH60_64 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 60_64

V_SURVRMH65_69 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 65_69

V_SURVRMH70_74 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 70_74

V_SURVRMH75_79 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 75_79

V_SURVRMH80_84 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 80_84

V_SURVRMH85& 198001 205001

Survivorship rate, 3-county, males, Hispanic, age 85&

V_SURVRMNH0_4 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 0_4

V_SURVRMNH10_14 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 10_14

V_SURVRMNH15_19 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 15_19

V_SURVRMNH20_24 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 20_24

V_SURVRMNH25_29 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 25_29

V_SURVRMNH30_34 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 30_34

V_SURVRMNH35_39 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 35_39

V_SURVRMNH40_44 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 40_44

V_SURVRMNH45_49 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 45_49

V_SURVRMNH50_54 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 50_54

V_SURVRMNH55_59 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 55_59

V_SURVRMNH5_9 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 5_9

V_SURVRMNH60_64 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 60_64

V_SURVRMNH65_69 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 65_69

V_SURVRMNH70_74 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 70_74

V_SURVRMNH75_79 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 75_79

V_SURVRMNH80_84 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 80_84

V_SURVRMNH85& 198001 205001
Survivorship rate, 3-county, males, non-Hispanic, age 85&

V_YRESADJ 196501 204001
Sun Corridor (3-county megapolitan) - Residence Adjustment (\$ millions)
U.S. Dept. of Commerce, Bureau of Economic Analysis, Table CA5

WPI 195901 204001
Producer price index--all commodities
Source: BLS
Units: index- 1982=1.0
Last updated: 07/02/08 - 09:20

Remarks: Old DRI WPI Old WEFA PPI

YP 195901 204001
Personal income
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI YP Old WEFA YP

YPADIV 195901 204001
Dividend payments to individuals
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI DIV_PER Old WEFA YDVPER

YPAINT 195901 204001
Personal interest income
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI YINTPER Old WEFAYIRPER

YPCOMPSUPPAI 195901 204001
Other labor income (fringe benefits)
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI YOL Old WEFA YOL

YPCOMPWSD 195901 204001
Wage & salary disbursements
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI WSD Old WEFA WD

YPCOMPWSDG 195901 204001
Wage & salary disbursements by government
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI WSDG Old WEFA WDG

YPCOMPWSDP 195901 204001
Wage & salary disbursements by the private sector
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI WSDP Old WEFA WDPRI

YPD 195901 204001
Disposable income
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI YD Old WEFA YDP

YPPROPADJF 195901 204001
Farm proprietors income with inventory & capital cons. adjustments
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI YENTAFADJ Old WEFA YF

YPPROPADJNF 195901 204001
Nonfarm proprietors income with inventory & capital cons. adjustments
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI YENTNFADJ Old WEFA YPR

YPRENTADJ 195901 204001
Personal rental income with capital consumption adjustment
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI YRENTADJ Old WEFA YR

YPTRF 195901 204001
All transfer payments to individuals
Source: BEA
Units: billions of dollars- annual rate
Last updated: 07/02/08 - 09:20
Remarks: Old DRI V Old WEFA TRP

Appendix C - Equation List

EQUATION LISTING "Sun Corridor" 3-county model

V_EQSA:CPIUWEST
Ordinary Least Squares
ANNUAL data for 23 periods from 1985 to 2007
Date: 11 SEP 2008
log(cpiuwest)
= 1.03000 * log(cpi) - 0.00015
(210.251) (0.06775)
Sum Sq 0.0004 Std Err 0.0046 LHS Mean 0.4362
R Sq 0.9995 R Bar Sq 0.9995 F 1, 21 44205.3
D.W.(1) 0.4522 D.W.(2) 1.2074

CPIUWEST=EXP(??)

V_EQSA:DISC
Ordinary Least Squares
ANNUAL data for 47 periods from 1961 to 2007
Date: 11 SEP 2008
disc
= 0.17783 * disc[-1] + 0.74153 * ypd/yp + 0.01234 * spike(75,1)
(2.50205) (10.8491) (3.51840)
+ 0.07975
(1.57908)
Sum Sq 0.0005 Std Err 0.0034 LHS Mean 0.8900
R Sq 0.8823 R Bar Sq 0.8741 F 3, 43 107.424
D.W.(1) 0.9405 D.W.(2) 1.4648
H 4.1134

V_EQSA:PGAS
Cochrane-Orcutt
ANNUAL data for 44 periods from 1964 to 2007
Date: 11 SEP 2008
pgas
= 0.01477 * jpcnegao + 0.02567
(45.8526) (0.94516)
Sum Sq 0.0688 Std Err 0.0410 LHS Mean 1.0267
R Sq 0.9954 R Bar Sq 0.9951 F 2, 41 4394.22
D.W.(1) 1.7744 D.W.(2) 2.0747
AR_0 = + 0.56530 * AR_1
(4.13989)

V_EQSA:V_BIRTHS Births (000s), 3-county, total
(Identity)
v_births
= v_birthsnh+v_birthsh

V_EQSA:V_BIRTHSH Births (000s), 3-county, to Hispanic mothers
(Identity)
v_birthsh=
v_birthsh&15+v_birthsh15_19+v_birthsh20_24+v_birthsh25_29+v_birthsh30_4+
v_birthsh35_39+v_birthsh40_44+v_birthsh45&

V_EQSA:V_BIRTHSH&15 Births (000s), 3-county, to Hispanic mothers, age less than 15
(Identity)
v_birthsh&15
= (v_popfh10_14)*v_brh&15

V_EQSA:V_BIRTHSH15_19 Births (000s), 3-county, to Hispanic mothers, age 15_19
(Identity)
v_birthsh15_19
= v_popfh15_19*v_brh15_19

V_EQSA:V_BIRTHSH20_24 Births (000s), 3-county, to Hispanic mothers, age 20_24
(Identity)
v_birthsh20_24
= v_popfh20_24*v_brh20_24

V_EQSA:V_BIRTHSH25_29 Births (000s), 3-county, to Hispanic mothers, age 25_29
(Identity)
v_birthsh25_29
= v_popfh25_29*v_brh25_29

V_EQSA:V_BIRTHSH30_34 Births (000s), 3-county, to Hispanic mothers, age 30_34
(Identity)
v_birthsh30_34
= v_popfh30_34*v_brh30_34

V_EQSA:V_BIRTHSH35_39 Births (000s), 3-county, to Hispanic mothers, age 35_39
(Identity)
v_birthsh35_39
= v_popfh35_39*v_brh35_39

V_EQSA:V_BIRTHSH40_44 Births (000s), 3-county, to Hispanic mothers, age 40_44
(Identity)
v_birthsh40_44
= v_popfh40_44*v_brh40_44

V_EQSA:V_BIRTHSH45& Births (000s), 3-county, to Hispanic mothers, age 45 and over
(Identity)
v_birthsh45&
= (v_popfh45_49+v_popfh50_54+v_popfh55_59+v_popfh60_64+v_popfh65_69+v_popfh70_74+v_popfh75_79+v_popfh80_84+v_popfh85&)*v_brh45&

V_EQSA:V_BIRTHSNH Births (000s), 3-county, to non-Hispanic mothers
(Identity)
v_birthsnh
= v_birthsnh&15+v_birthsnh15_19+v_birthsnh20_24+v_birthsnh25_29+v_birthsnh30_34+v_birthsnh35_39+v_birthsnh40_44+v_birthsnh45&

V_EQSA:V_BIRTHSNH&15 Births (000s), 3-county, to non-Hispanic mothers,
age less than 15
(Identity)
v_birthsnh&15
= (v_popfnh10_14)*v_brnh&15

V_EQSA:V_BIRTHSNH15_19 Births (000s), 3-county, to non-Hispanic
mothers, age 15_19
(Identity)
v_birthsnh15_19
= v_popfnh15_19*v_brnh15_19

V_EQSA:V_BIRTHSNH20_24 Births (000s), 3-county, to non-Hispanic mothers,
age 20_24
(Identity)
v_birthsnh20_24
= v_popfnh20_24*v_brnh20_24

V_EQSA:V_BIRTHSNH25_29 Births (000s), 3-county, to non-Hispanic mothers,
age 25_29
(Identity)
v_birthsnh25_29
= v_popfnh25_29*v_brnh25_29

V_EQSA:V_BIRTHSNH30_34 Births (000s), 3-county, to non-Hispanic mothers,
age 30_34
(Identity)
v_birthsnh30_34
= v_popfnh30_34*v_brnh30_34

V_EQSA:V_BIRTHSNH35_39 Births (000s), 3-county, to non-Hispanic mothers,
age 35_39
(Identity)
v_birthsnh35_39
= v_popfnh35_39*v_brnh35_39

V_EQSA:V_BIRTHSNH40_44 Births (000s), 3-county, to non-Hispanic mothers,
age 40_44
(Identity)
v_birthsnh40_44
= v_popfnh40_44*v_brnh40_44

V_EQSA:V_BIRTHSNH45& Births (000s), 3-county, to non-Hispanic mothers,
age 45 and over
(Identity)
v_birthsnh45& =
(v_popfnh45_49+v_popfnh50_54+v_popfnh55_59+v_popfnh60_64+v_popfnh65_69+
v_popfnh70_74+v_popfnh75_79+v_popfnh80_84+v_popfnh85&)*v_brnh45&

V_EQSA:V_DEATHFH Deaths (000s), 3-county, females, hispanic
 (Identity)
 $v_deathfh =$
 $v_deathfh0_4+v_deathfh5_9+v_deathfh10_14+v_deathfh15_19+v_deathfh40_44+$
 $v_deathfh45_49+v_deathfh50_54+v_deathfh55_59+v_deathfh60_64+v_deathfh65$
 6
 $v_deathfh45_49+v_deathfh50_54+v_deathfh55_59+v_deathfh60_64+v_deathfh65$
 69
 $+v_deathfh70_74+v_deathfh75_79+v_deathfh80_84+v_deathfh85\&$

V_EQSA:V_DEATHFH0_4 Deaths (000s), 3-county, females, Hispanic, age 0_4
 (Identity)
 $v_deathfh0_4 = (1-v_survrfh0_4)*v_popfh0_4[-1]$

V_EQSA:V_DEATHFH10_14 Deaths (000s), 3-county, females, Hispanic, age
 10_14
 (Identity)
 $v_deathfh10_14 = (1-v_survrfh10_14)*v_popfh10_14[-1]$

V_EQSA:V_DEATHFH15_19 Deaths (000s), 3-county, females, Hispanic, age
 15_19
 (Identity)
 $v_deathfh15_19 = (1-v_survrfh15_19)*v_popfh15_19[-1]$

V_EQSA:V_DEATHFH20_24 Deaths (000s), 3-county, females, Hispanic, age
 20_24
 (Identity)
 $v_deathfh20_24 = (1-v_survrfh20_24)*v_popfh20_24[-1]$

V_EQSA:V_DEATHFH25_29 Deaths (000s), 3-county, females, Hispanic, age
 25_29
 (Identity)
 $v_deathfh25_29 = (1-v_survrfh25_29)*v_popfh25_29[-1]$

V_EQSA:V_DEATHFH30_34 Deaths (000s), 3-county, females, Hispanic, age
 30_34
 (Identity)
 $v_deathfh30_34 = (1-v_survrfh30_34)*v_popfh30_34[-1]$

V_EQSA:V_DEATHFH35_39 Deaths (000s), 3-county, females, Hispanic, age
 35_39
 (Identity)
 $v_deathfh35_39 = (1-v_survrfh35_39)*v_popfh35_39[-1]$

V_EQSA:V_DEATHFH40_44 Deaths (000s), 3-county, females, Hispanic, age
 40_44
 (Identity)
 $v_deathfh40_44 = (1-v_survrfh40_44)*v_popfh40_44[-1]$

V_EQSA:V_DEATHFH45_49 Deaths (000s), 3-county, females, Hispanic, age
 45_49
 (Identity)
 $v_deathfh45_49 = (1-v_survrfh45_49)*v_popfh45_49[-1]$

V_EQSA:V_DEATHFH50_54 Deaths (000s), 3-county, females, Hispanic, age 50_54
 (Identity)
 $v_deathfh50_54 = (1-v_survrfh50_54)*v_popfh50_54[-1]$

V_EQSA:V_DEATHFH55_59 Deaths (000s), 3-county, females, Hispanic, age 55_59
 (Identity)
 $v_deathfh55_59 = (1-v_survrfh55_59)*v_popfh55_59[-1]$

V_EQSA:V_DEATHFH5_9 Deaths (000s), 3-county, females, Hispanic, age 5_9
 (Identity)
 $v_deathfh5_9 = (1-v_survrfh5_9)*v_popfh5_9[-1]$

V_EQSA:V_DEATHFH60_64 Deaths (000s), 3-county, females, Hispanic, age 60_64
 (Identity)
 $v_deathfh60_64 = (1-v_survrfh60_64)*v_popfh60_64[-1]$

V_EQSA:V_DEATHFH65_69 Deaths (000s), 3-county, females, Hispanic, age 65_69
 (Identity)
 $v_deathfh65_69 = (1-v_survrfh65_69)*v_popfh65_69[-1]$

V_EQSA:V_DEATHFH70_74 Deaths (000s), 3-county, females, Hispanic, age 70_74
 (Identity)
 $v_deathfh70_74 = (1-v_survrfh70_74)*v_popfh70_74[-1]$

V_EQSA:V_DEATHFH75_79 Deaths (000s), 3-county, females, Hispanic, age 75_79
 (Identity)
 $v_deathfh75_79 = (1-v_survrfh75_79)*v_popfh75_79[-1]$

V_EQSA:V_DEATHFH80_84 Deaths (000s), 3-county, females, Hispanic, age 80_84
 (Identity)
 $v_deathfh80_84 = (1-v_survrfh80_84)*v_popfh80_84[-1]$

V_EQSA:V_DEATHFH85& Deaths (000s), 3-county, females, Hispanic, age 85&
 (Identity)
 $v_deathfh85\& = (1-v_survrfh85\&)*v_popfh85\&[-1]$

V_EQSA:V_DEATHFNNH Deaths (000s), 3-county, females, non-hispanic
 (Identity)
 $v_deathfnh =$
 $v_deathfnh0_4+v_deathfnh5_9+v_deathfnh10_14+v_deathfnh15_19+$
 $v_deathfnh40_44+v_deathfnh45_49+v_deathfnh50_54+v_deathfnh55_59+$
 $v_deathfnh60_64+v_deathfnh65_69+v_deathfnh70_74+v_deathfnh75_79+$
 $v_deathfnh80_84+v_deathfnh85\&$

V_EQSA:V_DEATHFNNH0_4 Deaths (000s), 3-county, females, non-Hispanic, age 0_4
 (Identity)
 $v_deathfnh0_4 = (1-v_survrfnh0_4)*v_popfnh0_4[-1]$

V_EQSA:V_DEATHFNNH10_14 Deaths (000s), 3-county, females, non-Hispanic, age 10_14
 (Identity)
 $v_deathfnh10_14 = (1-v_survrfnh10_14)*v_popfnh10_14[-1]$

V_EQSA:V_DEATHFNNH15_19 Deaths (000s), 3-county, females, non-Hispanic, age 15_19

(Identity)
 $v_deathfnh15_19 = (1 - v_survrfnh15_19) * v_popfnh15_19[-1]$

V_EQSA:V_DEATHFNH20_24 Deaths (000s), 3-county, females, non-Hispanic, age 20_24
 (Identity)
 $v_deathfnh20_24 = (1 - v_survrfnh20_24) * v_popfnh20_24[-1]$

V_EQSA:V_DEATHFNH25_29 Deaths (000s), 3-county, females, non-Hispanic, age 25_29
 (Identity)
 $v_deathfnh25_29 = (1 - v_survrfnh25_29) * v_popfnh25_29[-1]$

V_EQSA:V_DEATHFNH30_34 Deaths (000s), 3-county, females, non-Hispanic, age 30_34
 (Identity)
 $v_deathfnh30_34 = (1 - v_survrfnh30_34) * v_popfnh30_34[-1]$

V_EQSA:V_DEATHFNH35_39 Deaths (000s), 3-county, females, non-Hispanic, age 35_39
 (Identity)
 $v_deathfnh35_39 = (1 - v_survrfnh35_39) * v_popfnh35_39[-1]$

V_EQSA:V_DEATHFNH40_44 Deaths (000s), 3-county, females, non-Hispanic, age 40_44
 (Identity)
 $v_deathfnh40_44 = (1 - v_survrfnh40_44) * v_popfnh40_44[-1]$

V_EQSA:V_DEATHFNH45_49 Deaths (000s), 3-county, females, non-Hispanic, age 45_49
 (Identity)
 $v_deathfnh45_49 = (1 - v_survrfnh45_49) * v_popfnh45_49[-1]$

V_EQSA:V_DEATHFNH50_54 Deaths (000s), 3-county, females, non-Hispanic, age 50_54
 (Identity)
 $v_deathfnh50_54 = (1 - v_survrfnh50_54) * v_popfnh50_54[-1]$

V_EQSA:V_DEATHFNH55_59 Deaths (000s), 3-county, females, non-Hispanic, age 55_59
 (Identity)
 $v_deathfnh55_59 = (1 - v_survrfnh55_59) * v_popfnh55_59[-1]$

V_EQSA:V_DEATHFNH5_9 Deaths (000s), 3-county, females, non-Hispanic, age 5_9
 (Identity)
 $v_deathfnh5_9 = (1 - v_survrfnh5_9) * v_popfnh5_9[-1]$

V_EQSA:V_DEATHFNH60_64 Deaths (000s), 3-county, females, non-Hispanic, age 60_64
(Identity)
v_deathfnh60_64 = (1-v_survrfnh60_64)*v_popfnh60_64[-1]

V_EQSA:V_DEATHFNH65_69 Deaths (000s), 3-county, females, non-Hispanic, age 65_69
(Identity)
v_deathfnh65_69 = (1-v_survrfnh65_69)*v_popfnh65_69[-1]

V_EQSA:V_DEATHFNH70_74 Deaths (000s), 3-county, females, non-Hispanic, age 70_74
(Identity)
v_deathfnh70_74 = (1-v_survrfnh70_74)*v_popfnh70_74[-1]

V_EQSA:V_DEATHFNH75_79 Deaths (000s), 3-county, females, non-Hispanic, age 75_79
(Identity)
v_deathfnh75_79 = (1-v_survrfnh75_79)*v_popfnh75_79[-1]

V_EQSA:V_DEATHFNH80_84 Deaths (000s), 3-county, females, non-Hispanic, age 80_84
(Identity)
v_deathfnh80_84 = (1-v_survrfnh80_84)*v_popfnh80_84[-1]

V_EQSA:V_DEATHFNH85& Deaths (000s), 3-county, females, non-Hispanic, age 85&
(Identity)
v_deathfnh85& = (1-v_survrfnh85&)*v_popfnh85&[-1]

V_EQSA:V_DEATHMH Deaths (000s)+ 3-county, males, hispanic
(Identity)
v_deathmh =
v_deathmh0_4+v_deathmh5_9+v_deathmh10_14+v_deathmh15_19+v_deathmh40_44+
v_deathmh45_49+v_deathmh50_54+v_deathmh55_59+v_deathmh60_64+v_deathmh65_69+v_deathmh70_74+v_deathmh75_79+v_deathmh80_84+v_deathmh85&

V_EQSA:V_DEATHMH0_4 Deaths (000s), 3-county, males, Hispanic, age 0_4
(Identity)
v_deathmh0_4 = (1-v_survmh0_4)*v_popmh0_4[-1]

V_EQSA:V_DEATHMH10_14 Deaths (000s), 3-county, males, Hispanic, age 10_14
(Identity)
v_deathmh10_14 = (1-v_survmh10_14)*v_popmh10_14[-1]

V_EQSA:V_DEATHMH15_19 Deaths (000s), 3-county, males, Hispanic, age 15_19
(Identity)
v_deathmh15_19 = (1-v_survmh15_19)*v_popmh15_19[-1]

V_EQSA:V_DEATHMH20_24 Deaths (000s), 3-county, males, Hispanic, age 20_24
(Identity)
v_deathmh20_24 = (1-v_survmh20_24)*v_popmh20_24[-1]

V_EQSA:V_DEATHMH25_29 Deaths (000s), 3-county, males, Hispanic, age 25_29
(Identity)
v_deathmh25_29 = (1-v_survmh25_29)*v_popmh25_29[-1]

V_EQSA:V_DEATHMH30_34 Deaths (000s), 3-county, males, Hispanic, age 30_34
 (Identity)
 $v_deathmh30_34 = (1-v_survrhm30_34)*v_popmh30_34[-1]$

V_EQSA:V_DEATHMH35_39 Deaths (000s), 3-county, males, Hispanic, age 35_39
 (Identity)
 $v_deathmh35_39 = (1-v_survrhm35_39)*v_popmh35_39[-1]$

V_EQSA:V_DEATHMH40_44 Deaths (000s), 3-county, males, Hispanic, age 40_44
 (Identity)
 $v_deathmh40_44 = (1-v_survrhm40_44)*v_popmh40_44[-1]$

V_EQSA:V_DEATHMH45_49 Deaths (000s), 3-county, males, Hispanic, age 45_49
 (Identity)
 $v_deathmh45_49 = (1-v_survrhm45_49)*v_popmh45_49[-1]$

V_EQSA:V_DEATHMH50_54 Deaths (000s), 3-county, males, Hispanic, age 50_54
 (Identity)
 $v_deathmh50_54 = (1-v_survrhm50_54)*v_popmh50_54[-1]$

V_EQSA:V_DEATHMH55_59 Deaths (000s), 3-county, males, Hispanic, age 55_59
 (Identity)
 $v_deathmh55_59 = (1-v_survrhm55_59)*v_popmh55_59[-1]$

V_EQSA:V_DEATHMH5_9 Deaths (000s), 3-county, males, Hispanic, age 5_9
 (Identity)
 $v_deathmh5_9 = (1-v_survrhm5_9)*v_popmh5_9[-1]$

V_EQSA:V_DEATHMH60_64 Deaths (000s), 3-county, males, Hispanic, age 60_64
 (Identity)
 $v_deathmh60_64 = (1-v_survrhm60_64)*v_popmh60_64[-1]$

V_EQSA:V_DEATHMH65_69 Deaths (000s), 3-county, males, Hispanic, age 65_69
 (Identity)
 $v_deathmh65_69 = (1-v_survrhm65_69)*v_popmh65_69[-1]$

V_EQSA:V_DEATHMH70_74 Deaths (000s), 3-county, males, Hispanic, age 70_74
 (Identity)
 $v_deathmh70_74 = (1-v_survrhm70_74)*v_popmh70_74[-1]$

V_EQSA:V_DEATHMH75_79 Deaths (000s), 3-county, males, Hispanic, age 75_79
 (Identity)
 $v_deathmh75_79 = (1-v_survrnh75_79)*v_popmh75_79[-1]$

V_EQSA:V_DEATHMH80_84 Deaths (000s), 3-county, males, Hispanic, age 80_84
 (Identity)
 $v_deathmh80_84 = (1-v_survrnh80_84)*v_popmh80_84[-1]$

V_EQSA:V_DEATHMH85& Deaths (000s), 3-county, males, Hispanic, age 85&
 (Identity)
 $v_deathmh85\& = (1-v_survrnh85\&)*v_popmh85\&[-1]$

V_EQSA:V_DEATHMNH Deaths (000s), 3-county, males, non-hispanic
 (Identity)
 $v_deathmnh =$
 $v_deathmnh0_4+v_deathmnh5_9+v_deathmnh10_14+v_deathmnh15_19+$
 $v_deathmnh40_44+v_deathmnh45_49+v_deathmnh50_54+v_deathmnh55_59+$
 $v_deathmnh60_64+v_deathmnh65_69+v_deathmnh70_74+v_deathmnh75_79+$
 $v_deathmnh80_84+v_deathmnh85\&$

V_EQSA:V_DEATHMNH0_4 Deaths (000s), 3-county, males, non-Hispanic, age 0_4
 (Identity)
 $v_deathmnh0_4 = (1-v_survrnh0_4)*v_popmnh0_4[-1]$

V_EQSA:V_DEATHMNH10_14 Deaths (000s), 3-county, males, non-Hispanic, age 10_14
 (Identity)
 $v_deathmnh10_14 = (1-v_survrnh10_14)*v_popmnh10_14[-1]$

V_EQSA:V_DEATHMNH15_19 Deaths (000s), 3-county, males, non-Hispanic, age 15_19
 (Identity)
 $v_deathmnh15_19 = (1-v_survrnh15_19)*v_popmnh15_19[-1]$

V_EQSA:V_DEATHMNH20_24 Deaths (000s), 3-county, males, non-Hispanic, age 20_24
 (Identity)
 $v_deathmnh20_24 = (1-v_survrnh20_24)*v_popmnh20_24[-1]$

V_EQSA:V_DEATHMNH25_29 Deaths (000s), 3-county, males, non-Hispanic, age 25_29
 (Identity)
 $v_deathmnh25_29 = (1-v_survrnh25_29)*v_popmnh25_29[-1]$

V_EQSA:V_DEATHMNH30_34 Deaths (000s), 3-county, males, non-Hispanic, age 30_34
 (Identity)
 $v_deathmnh30_34 = (1-v_survrnh30_34)*v_popmnh30_34[-1]$

V_EQSA:V_DEATHMNH35_39 Deaths (000s), 3-county, males, non-Hispanic, age 35_39
 (Identity)
 $v_deathmnh35_39 = (1-v_survrnh35_39)*v_popmnh35_39[-1]$

V_EQSA:V_DEATHMNH40_44 Deaths (000s), 3-county, males, non-Hispanic, age 40_44
 (Identity)
 $v_deathmnh40_44 = (1-v_survrnh40_44)*v_popmnh40_44[-1]$

V_EQSA:V_DEATHMNH45_49 Deaths (000s), 3-county, males, non-Hispanic, age 45_49
 (Identity)
 $v_deathmnh45_49 = (1-v_survrmnh45_49)*v_popmnh45_49[-1]$

V_EQSA:V_DEATHMNH50_54 Deaths (000s), 3-county, males, non-Hispanic, age 50_54
 (Identity)
 $v_deathmnh50_54 = (1-v_survrmnh50_54)*v_popmnh50_54[-1]$

V_EQSA:V_DEATHMNH55_59 Deaths (000s), 3-county, males, non-Hispanic, age 55_59
 (Identity)
 $v_deathmnh55_59 = (1-v_survrmnh55_59)*v_popmnh55_59[-1]$

V_EQSA:V_DEATHMNH5_9 Deaths (000s), 3-county, males, non-Hispanic, age 5_9
 (Identity)
 $v_deathmnh5_9 = (1-v_survrmnh5_9)*v_popmnh5_9[-1]$

V_EQSA:V_DEATHMNH60_64 Deaths (000s), 3-county, males, non-Hispanic, age 60_64
 (Identity)
 $v_deathmnh60_64 = (1-v_survrmnh60_64)*v_popmnh60_64[-1]$

V_EQSA:V_DEATHMNH65_69 Deaths (000s), 3-county, males, non-Hispanic, age 65_69
 (Identity)
 $v_deathmnh65_69 = (1-v_survrmnh65_69)*v_popmnh65_69[-1]$

V_EQSA:V_DEATHMNH70_74 Deaths (000s), 3-county, males, non-Hispanic, age 70_74
 (Identity)
 $v_deathmnh70_74 = (1-v_survrmnh70_74)*v_popmnh70_74[-1]$

V_EQSA:V_DEATHMNH75_79 Deaths (000s), 3-county, males, non-Hispanic, age 75_79
 (Identity)
 $v_deathmnh75_79 = (1-v_survrmnh75_79)*v_popmnh75_79[-1]$

V_EQSA:V_DEATHMNH80_84 Deaths (000s), 3-county, males, non-Hispanic, age 80_84
 (Identity)
 $v_deathmnh80_84 = (1-v_survrmnh80_84)*v_popmnh80_84[-1]$

V_EQSA:V_DEATHMNH85& Deaths (000s), 3-county, males, non-Hispanic, age 85&
 (Identity)
 $v_deathmnh85\& = (1-v_survrmnh85\&)*v_popmnh85\&[-1]$

V_EQSA:V_DEATHS Deaths (000s), 3-county, total
(Identity)
v_deaths = v_deathfh+v_deathfnh+v_deathmh+v_deathmnh

V_EQSA:V_ECON
Ordinary Least Squares
ANNUAL data for 37 periods from 1970 to 2006
Date: 11 SEP 2008
v_econ-m_emppv =
0.00094 * v_hutot + 0.00006 * v_hutot[-1] + 0.00126 * v_hutot[-2]
(4.04782) (0.18259) (5.19784)
+ 54.6890 * step(89,1) - 29.8586
(14.5671) (4.85248)
Polynomial lags:
v_hutot
from 0 to 2 degree 2 none
Sum Sq 4004.96 Std Err 11.1873 LHS Mean 90.7193
R Sq 0.9498 R Bar Sq 0.9436 F 4, 32 151.505
D.W.(1) 1.0606 D.W.(2) 1.8622

V_ECON=??+m_emppv

V_EQSA:V_EFI
Cochrane-Orcutt
ANNUAL data for 24 periods from 1983 to 2006
Date: 11 SEP 2008
log(v_efi/v_pop)
= - 0.00218 * ruc + 0.31903 * log(v_ydp/jpc/v_pop)
(0.16550) (0.95795)
+ 0.02612 * log(sp500) + 5.99622 * (v_econ.1/v_pop.1) - 3.65124
(0.55715) (2.15447) (4.36918)
Sum Sq 0.0207 Std Err 0.0339 LHS Mean -3.7983
R Sq 0.8734 R Bar Sq 0.8382 F 5, 18 24.8354
D.W.(1) 1.6722 D.W.(2) 2.4561
AR_0 = + 0.53813 * AR_1
16
(2.34156)
V_EFI=exp(??)*v_POP

V_EQSA:V_EFINANCIAL
(Identity)
v_efinancial = v_efi+v_efinre

V_EQSA:V_EFINRE
Cochrane-Orcutt
ANNUAL data for 16 periods from 1991 to 2006
Date: 11 SEP 2008
log(v_efinre)
= 0.93123 * log(v_pop) - 0.02769 * ruc - 3.97917
(11.3222) (2.53373) (5.69305)
Sum Sq 0.0045 Std Err 0.0193 LHS Mean 3.5782
R Sq 0.9885 R Bar Sq 0.9857 F 3, 12 345.234
D.W.(1) 2.0920 D.W.(2) 2.5118
AR_0 = + 0.52249 * AR_1
(2.23815)

V_EFINRE=exp(??)

V_EQSA:V_EGOODSPROD
(Identity)
v_egoodsprod = v_emin+v_econ+v_eman

V_EQSA:V_EGOV

```

(Identity)
v_egov = v_egovf+v_egovsl
V_EQSA:V_EGOVF
Cochrane-Orcutt
ANNUAL data for 30 periods from 1977 to 2006
Date: 11 SEP 2008
v_egovf =
20.2993 * log(eg91/np*v_pop) - 0.01595 * spike(80,1)
(11.4256) (0.04671)
+ 0.61965 * spike(90,1) + 0.24167 * spike(100,1) - 45.9532
(1.82711) (0.70045) (7.12014)
Sum Sq 4.2301 Std Err 0.4198 LHS Mean 26.4901
R Sq 0.9889 R Bar Sq 0.9866 F 5, 24 426.702
D.W.( 1) 1.4550 D.W.( 2) 1.8217
AR_0 = + 0.74413 * AR_1
(5.80220)

V_EQSA:V_EGOVSL
(Identity)
v_egovsl = v_egovsled+v_egovslxed

V_EQSA:V_EGOVSLED
(Identity)
v_egovsled = v_ek_12-v_esed

V_EQSA:V_EGOVSLXED
Ordinary Least Squares
ANNUAL data for 31 periods from 1976 to 2006
Date: 11 SEP 2008
log(v_egovslxed)
= 0.93703 * log(egsl/np*v_pop) - 0.04126 * step(95,1)
(29.6032) (1.93456)
- 0.01577 * movavg(3,ruc) - 0.40366
(2.31558) (2.21943)
Sum Sq 0.0235 Std Err 0.0295 LHS Mean 4.3639
R Sq 0.9928 R Bar Sq 0.9920 F 3, 27 1236.45
D.W.( 1) 1.2078 D.W.( 2) 2.1620
V_EGOVSLXED=exp(??)

```

V_EQSA:V_EINFO
 Cochrane-Orcutt
 ANNUAL data for 31 periods from 1976 to 2006
 Date: 11 SEP 2008
 $\log(v_einfo/v_pop) =$
 $1.22134 * \log(einf/np) - 0.00837 * utlb00004 + 1.53980$
 (5.10325) (3.04798) (1.32822)
 Sum Sq 0.0433 Std Err 0.0400 LHS Mean -4.6605
 R Sq 0.8855 R Bar Sq 0.8728 F 3, 27 69.6265
 D.W.(1) 1.4778 D.W.(2) 1.8637
 $AR_0 = + 0.89969 * AR_1$
 (9.13895)

V_EINFO=exp(??)*v_pop

V_EQSA:V_EK_12
 Ordinary Least Squares
 ANNUAL data for 16 periods from 1991 to 2006
 Date: 15 SEP 2008
 $\log(v_ek_12) =$
 $1.13680 * \log(v_pop5_19) + 0.03106 * ruc - 2.85282$
 (27.9492) (4.72707) (9.5086)
 Sum Sq 0.0044 Std Err 0.0183 LHS Mean 4.9644
 R Sq 0.9894 R Bar Sq 0.9878 F 2, 13 609.307
 18
 equations.TXT 9/16/2008
 D.W.(1) 1.6086 D.W.(2) 2.7769

V_EK_12=exp(??)

V_EQSA:V_EL&HACCOMO
 Ordinary Least Squares
 ANNUAL data for 16 periods from 1991 to 2006
 Date: 11 SEP 2008
 $\log(v_el\&haccomo) =$
 $0.40586 * \log(v_pop) - 0.01977 * ruc - 0.06727 * step(102,1)$
 (3.65516) (1.77615) (2.29941)
 + 0.28716
 (0.29679)
 Sum Sq 0.0024 Std Err 0.0142 LHS Mean 3.5149
 R Sq 0.9618 R Bar Sq 0.9523 F 3, 12 100.779
 D.W.(1) 1.7012 D.W.(2) 2.6052

V_EL&HACCOMO=exp(??)

V_EQSA:V_EL&HARTS
 Cochrane-Orcutt
 ANNUAL data for 31 periods from 1976 to 2006
 Date: 11 SEP 2008
 $\log(v_el\&harts) =$
 $0.53666 * \log(m2(v_ydp/jpc)) - 0.62896 * (v_enf.1/v_pop.1)$
 (4.55545) (1.09981)
 $- 0.00933 * ruc - 0.12930$
 (1.27815) (0.17033)
 Sum Sq 0.0229 Std Err 0.0297 LHS Mean 2.9468
 R Sq 0.9896 R Bar Sq 0.9880 F 4, 26 617.258
 D.W.(1) 1.4785 D.W.(2) 2.1078
 $AR_0 = + 0.87680 * AR_1$
 (10.8238)

V_EL&HARTS=exp(??)

V_EQSA:V_EL&HF&DRINK
 Ordinary Least Squares
 ANNUAL data for 28 periods from 1979 to 2006
 Date: 11 SEP 2008
 $\log(v_el\&hf\&drink/v_pop) =$
 $0.00336 * ruc + 0.75815 * \log(cnfoutr/np)$
 (0.39682) (5.47522)
 $+ 2.49805 * v_enf.1/v_pop.1 - 0.07538 * step(101,1) - 4.74650$
 (4.74421) (3.11225) (19.4317)
 Sum Sq 0.0342 Std Err 0.0386 LHS Mean -3.5859
 R Sq 0.9138 R Bar Sq 0.8988 F 4, 23 60.9560
 D.W.(1) 0.7947 D.W.(2) 1.5124

V_EL&HF&DRINK=exp(??)*v_pop

V_EQSA:V_ELEIS&HOSP
 (Identity)
 $v_eleis\&hosp = v_el\&harts + v_el\&hacomo + v_el\&hf\&drink$

V_EQSA:V_EMAN
 (Identity)
 $v_eman = v_emand + v_emandd$

V_EQSA:V_EMAND
 (Identity)
 $v_emand = v_emandaero + v_emandcompu + v_emandoth$

V_EQSA:V_EMANDAERO
 Cochrane-Orcutt
 ANNUAL data for 29 periods from 1978 to 2006
 Date: 11 SEP 2008
 $\log(v_emandaero) =$
 $- 0.39130 * \log(v_wrtlp/(ypcompwsdp/eeap))$
 (0.27327)
 $+ 0.08929 * \log(gfmlco) + 0.34552 * \log(ipsg3364)$
 (0.49728) (1.84306)
 $+ 0.05373 * spike(2000,1) + 0.03768 * p_firm37 + 3.45655$
 (0.83551) (2.03730) (0.34314)
 Sum Sq 0.1217 Std Err 0.0744 LHS Mean 3.0803
 R Sq 0.9419 R Bar Sq 0.9260 F 6, 22 59.4316
 D.W.(1) 1.7215 D.W.(2) 1.8848
 $AR_0 = + 0.83461 * AR_1$
 (8.21629)

V_EMANDAERO=EXP(??)

V_EQSA:V_EMANDCOMPU
 Cochrane-Orcutt
 ANNUAL data for 16 periods from 1991 to 2006
 Date: 11 SEP 2008
 $\log(v_emandcompu) =$
 $1.01009 * \log(emd334) + 0.00027 * v_wrtlp/(ypcompwsdp/eeap)$
 (11.6289) (0.47990)
 $+ 0.02920 * v_enf.1/eea.1 + 2.77431$
 (2.66607) (5.15707)
 Sum Sq 0.0027 Std Err 0.0156 LHS Mean 3.9316
 R Sq 0.9832 R Bar Sq 0.9771 F 4, 11 160.656
 D.W.(1) 1.5113 D.W.(2) 2.1326
 $AR_0 = + 0.65525 * AR_1$
 (2.29257)

V_EMANDCOMPU=exp(??)

V_EQSA:V_EMANDOTH
 Cochrane-Orcutt
 20
 equations.TXT 9/16/2008
 ANNUAL data for 14 periods from 1993 to 2006
 Date: 11 SEP 2008
 $\log(v_emandoth)$
 $= 0.69532 * \log(ipsg335) + 0.65935 * \log(v_econ) - 2.79146$
 (4.72636) (5.04771) (4.03306)
 Sum Sq 0.0032 Std Err 0.0178 LHS Mean 4.1713
 R Sq 0.9730 R Bar Sq 0.9649 F 3, 10 120.244
 D.W.(1) 1.3440 D.W.(2) 1.7421
 $AR_0 = + 0.93121 * AR_1$
 (22.8181)

V_EMANDOTH=exp(??)

V_EQSA:V_EMANNND
 Cochrane-Orcutt
 ANNUAL data for 31 periods from 1976 to 2006
 Date: 11 SEP 2008
 $\log(v_emannd) =$
 $0.91307 * \log(emn) + 0.37126 * \log(v_pop) - 1.24198$
 (3.65565) (1.48339) (0.51461)
 Sum Sq 0.0169 Std Err 0.0250 LHS Mean 3.3994
 R Sq 0.9751 R Bar Sq 0.9724 F 3, 27 353.165
 D.W.(1) 1.8745 D.W.(2) 1.8063
 $AR_0 = + 0.89199 * AR_1$
 (11.6599)

V_EMANNND=exp(??)

V_EQSA:V_EMB
 Ordinary Least Squares
 ANNUAL data for 33 periods from 1974 to 2006
 Date: 11 SEP 2008
 $\log(v_emb) =$
 $0.99245 * \log(v_enf) + 0.00096 * ruc + 0.27723$
 (234.709) (0.80248) (7.79345)
 Sum Sq 0.0015 Std Err 0.0072 LHS Mean 7.3439
 R Sq 0.9997 R Bar Sq 0.9997 F 2, 30 49402.1
 D.W.(1) 0.7127 D.W.(2) 1.6035

V_EMB=exp(??)

V_EQSA:V_EMIN
 Cochrane-Orcutt
 ANNUAL data for 20 periods from 1987 to 2006
 Date: 11 SEP 2008
 $\log(v_emin) =$
 $0.60033 * \log(cp_prodn) - 0.00004 * m2(v_wrpriv/wpi)$
 (2.33511) (2.28864)
 $- 0.13331 * step(100,1) - 1.32509$
 (1.05209) (0.68393)
 Sum Sq 0.1239 Std Err 0.0909 LHS Mean 1.7107
 R Sq 0.9342 R Bar Sq 0.9167 F 4, 15 53.2768
 D.W.(1) 1.4892 D.W.(2) 1.9289
 $AR_0 = + 0.48464 * AR_1$
 (1.76199)

V_EMIN=exp(??)

V_EQSA:V_ENF
 (Identity)
 $v_enf = v_epriv + v_egov$

V_EQSA:V_EPRIV
 (Identity)
 $v_epriv =$
 $v_emin + v_eman + v_econ + v_ettu + v_einfo + v_efinancial + v_esp\&b + v_esed\&health +$
 $v_eleis\&hosp + v_esoth$

V_EQSA:V_ERT
(Identity)
v_ert = v_ertbldgmat+v_ertclo+v_ertf&b+v_ertmv&p+v_ertoth

V_EQSA:V_ERTBLDGMAT
Ordinary Least Squares
ANNUAL data for 24 periods from 1983 to 2006
Date: 11 SEP 2008
log(v_ertbldgmat)=
0.72946 * log(m2(v_ydp/jpc)) + 0.25638 * log(m2(v_hutot))
(15.1354) (7.01904)
- 5.08135
(13.3374)
Sum Sq 0.1029 Std Err 0.0700 LHS Mean 2.4513
R Sq 0.9561 R Bar Sq 0.9519 F 2, 21 228.669
D.W.(1) 0.4633 D.W.(2) 0.9409

V_ERTBLDGMAT=exp(??)

V_EQSA:V_ERTCLO
Cochrane-Orcutt
ANNUAL data for 17 periods from 1990 to 2006
Date: 11 SEP 2008
log(v_ertclo)=
- 1.61811 * v_enf.1/v_pop.1 + 0.76165 * log(m2(v_ydp/jpc))
(2.10338) (9.48977)
- 0.50269
(0.80411)
Sum Sq 0.0063 Std Err 0.0220 LHS Mean 3.9157
R Sq 0.9875 R Bar Sq 0.9846 F 3, 13 341.169
D.W.(1) 1.7477 D.W.(2) 2.2562
AR_0 = + 0.64346 * AR_1
(2.62564)

V_ERTCLO=exp(??)

V_EQSA:V_ERTF&B
Cochrane-Orcutt
ANNUAL data for 31 periods from 1976 to 2006
Date: 11 SEP 2008
log(v_ertf&b)
= 0.61126 * log((v_pop)) + 0.96004 * v_enf.1/v_pop.1 - 1.79900
(4.46977) (1.45351) (1.61534)
Sum Sq 0.0324 Std Err 0.0346 LHS Mean 3.4478
R Sq 0.9865 R Bar Sq 0.9850 F 3, 27 658.754
D.W.(1) 1.3047 D.W.(2) 1.6165
AR_0 = + 0.81825 * AR_1
(11.5033)

V_ERTF&B=exp(??)

V_EQSA:V_ERTMV&P
 Cochrane-Orcutt
 ANNUAL data for 31 periods from 1976 to 2006
 Date: 11 SEP 2008
 $\log(v_ertmv\&p) =$
 $0.62728 * \log(m2(v_ydp/jpc)) - 0.03018 * ruc$
 (5.82343) (5.02825)
 $- 0.46943 * v_enf.1/v_pop.1 - 0.43335$
 (1.01325) (0.60718)
 Sum Sq 0.0153 Std Err 0.0242 LHS Mean 3.1887
 R Sq 0.9953 R Bar Sq 0.9946 F 4, 26 1382.03
 D.W.(1) 1.4006 D.W.(2) 2.2839
 $AR_0 = + 0.83526 * AR_1$
 (4.94675)

V_ERTMV&P=exp(??)

V_EQSA:V_ERTOTH
 Ordinary Least Squares
 ANNUAL data for 16 periods from 1991 to 2006
 Date: 11 SEP 2008
 $\log(v_ertoth) =$
 $0.03268 * \log(m2(v_hutot)) - 0.34101 * v_enf.1/v_pop.1$
 (1.23799) (0.86433)
 $+ 0.47498 * \log(m2(v_ydp/jpc)) - 0.04630 * ruc + 1.21548$
 (13.2768) (5.86743) (4.45603)
 Sum Sq 0.0019 Std Err 0.0132 LHS Mean 4.3679
 R Sq 0.9954 R Bar Sq 0.9937 F 4, 11 591.086
 D.W.(1) 1.9025 D.W.(2) 2.4824

V_ERTOTH=exp(??)

V_EQSA:V_ESED
 (Identity)
 $v_esed = v_ek_12 * v_esed\%ek_12 + v_esedadd$

V_EQSA:V_ESED%EK_12
 Ordinary Least Squares
 ANNUAL data for 18 periods from 1977 to 1994
 Date: 11 SEP 2008
 $v_esed\%ek_12 =$
 $0.00063 * ttrend - 0.01161$
 (7.33788) (0.87398)
 Sum Sq 0.0009 Std Err 0.0076 LHS Mean 0.0850
 R Sq 0.7709 R Bar Sq 0.7566 F 1, 16 53.8445
 D.W.(1) 0.6359 D.W.(2) 1.3460

V_EQSA:V_ESED&HEALTH
 (Identity)
 $v_esed\&health = v_eshc\&sa + v_esed$

V_EQSA:V_ESERVPROV
 (Identity)
 $v_eservprov =$
 $v_ettu + v_einfo + v_efinancial + v_esp\&b + v_esed\&health + v_eleis\&hosp + v_esoth +$
 v_egov

V_EQSA:V_ESHC&SA
 Cochrane-Orcutt
 ANNUAL data for 16 periods from 1991 to 2006
 Date: 15 SEP 2008
 $\log(v_eshc\&sa/v_pop65\&) =$
 $1.16777 * \log(ehs62/np65a)$

(3.40847)
- 0.01130 * spike(2000,1)+spike(2001,1) + 0.02657
(1.33659) (0.08329)
Sum Sq 0.0013 Std Err 0.0103 LHS Mean -1.1569
R Sq 0.9799 R Bar Sq 0.9749 F 3, 12 194.842
D.W.(1) 1.6663 D.W.(2) 1.9059
AR_0 = + 0.76261 * AR_1
(7.15289)

V_ESHC&SA=exp(??)*v_POP65&

V_EQSA:V_ESOTH
Cochrane-Orcutt
ANNUAL data for 31 periods from 1976 to 2006
Date: 11 SEP 2008
log(v_esoth)=
1.16950 * log(v_pop) - 5.51722
(17.2422) (9.9563)
Sum Sq 0.0182 Std Err 0.0255 LHS Mean 3.8544
R Sq 0.9956 R Bar Sq 0.9953 F 2, 28 3202.82
D.W.(1) 1.6806 D.W.(2) 1.9237
AR_0 = + 0.75537 * AR_1
(6.55722)

V_ESOTH=exp(??)

V_EQSA:V_ESP&B
Ordinary Least Squares
ANNUAL data for 29 periods from 1978 to 2006
Date: 11 SEP 2008
log(v_esp&b)=
1.44943 * log((v_enf.1-v_esp&b.1)) + 0.23208 * step(93,1)
(23.5603) (6.17118)
- 5.23247
(12.5111)
Sum Sq 0.0845 Std Err 0.0570 LHS Mean 5.0805
R Sq 0.9902 R Bar Sq 0.9894 F 2, 26 1313.87
D.W.(1) 1.0155 D.W.(2) 2.0346

V_ESP&B=exp(??)

V_EQSA:V_ETRANS&WARE
 Cochrane-Orcutt
 ANNUAL data for 17 periods from 1990 to 2006
 Date: 11 SEP 2008
 $\log(v_etrans\&ware/v_pop) =$
 $0.78880 * \log(etaw/np) - 0.23048 * \log(v_wrpriv/wpi) + 1.34741$
 (3.00113) (1.47996) (0.62990)
 Sum Sq 0.0063 Std Err 0.0220 LHS Mean -4.3323
 R Sq 0.7982 R Bar Sq 0.7516 F 3, 13 17.1365
 D.W.(1) 1.3368 D.W.(2) 1.1939
 $AR_0 = + 0.54163 * AR_1$
 (3.02129)

V_ETRANS&WARE=exp(??)*v_POP

V_EQSA:V_ETRANSWU
 (Identity)
 $v_etranswu = v_eutil+v_etrans\&ware$

V_EQSA:V_ETTU
 (Identity)
 $v_ettu = v_ewt+v_ert+v_etranswu$

V_EQSA:V_EUTIL
 Ordinary Least Squares
 ANNUAL data for 8 periods from 1999 to 2006
 Date: 11 SEP 2008
 $\log(v_eutil) =$
 $0.96428 * \log(v_pop) - 5.84704$
 (13.7250) (9.9001)
 Sum Sq 0.0014 Std Err 0.0152 LHS Mean 2.2587
 R Sq 0.9691 R Bar Sq 0.9640 F 1, 6 188.377
 D.W.(1) 1.3764 D.W.(2) 2.1200

V_EUTIL=exp(??)

V_EQSA:V_EWT
 Ordinary Least Squares
 ANNUAL data for 17 periods from 1990 to 2006
 Date: 11 SEP 2008
 $\log(v_ewt) =$
 $1.00255 * \log(v_ert.1) - 0.05628 * ruc - 0.68744$
 (14.4474) (4.85510) (1.67695)
 Sum Sq 0.0173 Std Err 0.0351 LHS Mean 4.2993
 R Sq 0.9746 R Bar Sq 0.9709 F 2, 14 268.355
 D.W.(1) 0.7202 D.W.(2) 1.3948

V_EWT=exp(??)

V_EQSA:V_GAS
 Ordinary Least Squares
 ANNUAL data for 28 periods from 1980 to 2007
 Date: 11 SEP 2008
 $\log(v_gas) =$
 $0.95445 * \log(v_pop) - 0.06522 * \log(pgas)$
 (36.9844) (2.70308)
 $- 0.12418 * spike(95,1) - 0.42670$
 (4.67804) (2.08401)
 Sum Sq 0.0160 Std Err 0.0258 LHS Mean 7.2888
 R Sq 0.9907 R Bar Sq 0.9895 F 3, 24 847.927
 D.W.(1) 1.3983 D.W.(2) 1.8163

V_GAS=exp(??)

V_EQSA:V_HU1
 Cochrane-Orcutt
 ANNUAL data for 37 periods from 1971 to 2007
 Date: 11 SEP 2008
 $\log(v_hu1/v_hutot) =$
 $1.39885 * \log(husps1/husps) + 0.00964 * v_enf.1/eea.1$
 (5.01677) (0.65356)
 $+ 0.00965 * lifesre - 0.30984$
 (2.24586) (1.04203)
 Sum Sq 0.2420 Std Err 0.0870 LHS Mean -0.3531
 R Sq 0.8770 R Bar Sq 0.8616 F 4, 32 57.0194
 D.W.(1) 1.9475 D.W.(2) 2.1826
 AR_0 = + 0.56911 * AR_1
 (3.84103)

V_HU1=exp(??)*v_hutot

V_EQSA:V_HU2&
 (Identity)
 $v_hu2\& = v_humf$

V_EQSA:V_HUMF
 (Identity)
 $v_humf = v_hutot - v_hu1$

V_EQSA:V_HUTOT
 Ordinary Least Squares
 ANNUAL data for 21 periods from 1987 to 2007
 Date: 11 SEP 2008
 $v_hutot =$
 $349.662 * diffya(v_pop)$
 (17.0646)
 Sum Sq 3E+09 Std Err 12350.3 LHS Mean 44466.4 Res Mean 575.559
 R Sq 0.4949 R Bar Sq 0.4949 F 1, 20 19.5955 %RMSE 28.5266
 D.W.(1) 0.8837 D.W.(2) 1.1900

V_EQSA:V_NETMIG
 (Identity)
 $v_netmig = v_nmig0_64 + v_nmig65\&$

V_EQSA:V_NMIG Net migration (000s), 3-county, total
(Identity)
v_nmig = v_nmigm+v_nmigf

V_EQSA:V_NMIG0_64
Ordinary Least Squares
ANNUAL data for 26 periods from 1981 to 2006
Date: 11 SEP 2008
v_nmig0_64 =
0.46565 * diff(v_enf+v_embgovfmil) + 520.425 * v_enf.1/v_pop.1
(4.64592) (3.12975)
+ 19.7158 * applosangeles\$.3/appphx\$.3 - 210.246
(2.16055) (2.89750)
Sum Sq 6349.16 Std Err 16.9882 LHS Mean 75.0979
R Sq 0.6929 R Bar Sq 0.6511 F 3, 22 16.5486
D.W.(1) 0.9612 D.W.(2) 1.4857

V_EQSA:V_NMIG65&
Ordinary Least Squares
ANNUAL data for 26 periods from 1981 to 2006
Date: 11 SEP 2008
v_nmig65&/v_pop.1 =
0.23013 * np65a.1/np.1 + 0.00165 * applosangeles\$.3/appphx\$.3
(3.83250) (2.46158)
+ 0.03861 * (v_enf.1/v_pop.1)/(eea.1/np.1)
(5.19587)
- 0.00600 * spike(100,1) - 0.06805
(7.05568) (6.35566)
Sum Sq 0.0000 Std Err 0.0008 LHS Mean 0.0017
R Sq 0.8332 R Bar Sq 0.8014 F 4, 21 26.2201
D.W.(1) 1.5605 D.W.(2) 2.0841

V_NMIG65&=(??)*v_pop.1

V_EQSA:V_NMIGF Net migration (000s), 3-county, females
(Identity)
v_nmigf = v_nmigfnh+v_nmigfh

V_EQSA:V_NMIGFH Net migration (000s), 3-county, females, Hispanic
(Identity)
v_nmigfh =
v_nmigfh0_4+v_nmigfh5_9+v_nmigfh10_14+v_nmigfh15_19+v_nmigfh20_24+
v_nmigfh25_29+v_nmigfh30_34+v_nmigfh35_39+v_nmigfh40_44+v_nmigfh45_49+
v_survrnmh50_54+v_nmigfh55_59+v_nmigfh60_64+v_nmigfh65_69+v_nmigfh70_74+
v_nmigfh75_79+v_nmigfh80_84+v_nmigfh85&

V_EQSA:V_NMIGFH0_4 Net migration (000s), 3-county, females, Hispanic,
age 0_4
(Identity)
v_nmigfh0_4 = v_nmig0_64.a*(v_nmigfh0_4[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFH10_14 Net migration (000s), 3-county, females, Hispanic,
age 10_14
(Identity)
v_nmigfh10_14 = v_nmig0_64.a*(v_nmigfh10_14[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFH15_19 Net migration (000s), 3-county, females, Hispanic,
age 15_19
(Identity)
v_nmigfh15_19 = v_nmig0_64.a*(v_nmigfh15_19[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFH20_24 Net migration (000s), 3-county, females, Hispanic,
age 20_24

(Identity)
 $v_nmigfh20_24 = v_nmig0_64.a*(v_nmigfh20_24[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFH25_29 Net migration (000s), 3-county, females, Hispanic, age 25_29
 (Identity)
 $v_nmigfh25_29 = v_nmig0_64.a*(v_nmigfh25_29[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFH30_34 Net migration (000s), 3-county, females, Hispanic, age 30_34
 (Identity)
 $v_nmigfh30_34 = v_nmig0_64.a*(v_nmigfh30_34[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFH35_39 Net migration (000s), 3-county, females, Hispanic, age 35_39
 (Identity)
 $v_nmigfh35_39 = v_nmig0_64.a*(v_nmigfh35_39[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFH40_44 Net migration (000s), 3-county, females, Hispanic, age 40_44
 (Identity)
 $v_nmigfh40_44 = v_nmig0_64.a*(v_nmigfh40_44[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFH45_49 Net migration (000s), 3-county, females, Hispanic, age 45_49
 (Identity)
 $v_nmigfh45_49 = v_nmig0_64.a*(v_nmigfh45_49[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFH50_54 Net migration (000s), 3-county, females, Hispanic, age 50_54
 (Identity)
 $v_nmigfh50_54 = v_nmig0_64.a*(v_nmigfh50_54[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFH55_59 Net migration (000s), 3-county, females, Hispanic, age 55_59
 (Identity)
 $v_nmigfh55_59 = v_nmig0_64.a*(v_nmigfh55_59[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFH5_9 Net migration (000s), 3-county, females, Hispanic, age 5_9
 (Identity)
 $v_nmigfh5_9 = v_nmig0_64.a*(v_nmigfh5_9[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFH60_64 Net migration (000s), 3-county, females, Hispanic, age 60_64
 (Identity)
 $v_nmigfh60_64 = v_nmig0_64.a*(v_nmigfh60_64[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFH65_69 Net migration (000s), 3-county, females, Hispanic, age 65_69
 (Identity)
 $v_nmigfh65_69 = v_nmig65\&.a*(v_nmigfh65_69[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGFH70_74 Net migration (000s), 3-county, females, Hispanic, age 70_74
 (Identity)
 $v_nmigfh70_74 = v_nmig65\&.a*(v_nmigfh70_74[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGFH75_79 Net migration (000s), 3-county, females, Hispanic, age 75_79
 (Identity)
 $v_nmigfh75_79 = v_nmig65\&.a*(v_nmigfh75_79[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGFH80_84 Net migration (000s), 3-county, females, Hispanic,
age 80_84
(Identity)
 $v_nmigfh80_84 = v_nmig65\&.a*(v_nmigfh80_84[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGFH85& Net migration (000s), 3-county, females, Hispanic,
age 85+
(Identity)
 $v_nmigfh85\& = v_nmig65\&.a*(v_nmigfh85\&[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGFNH Net migration (000s), 3-county, females, non-Hispanic
(Identity)
 $v_nmigfnh =$
 $v_nmigfnh0_4+v_nmigfnh5_9+v_nmigfnh10_14+v_nmigfnh15_19+v_nmigfnh20_24+$
 $v_nmigfnh25_29+v_nmigfnh30_34+v_nmigfnh35_39+v_nmigfnh40_44+v_nmigfnh45_$
 $49 +v_survrnmh50_54+v_nmigfnh55_59+v_nmigfnh60_64+v_nmigfnh65_69+$
 $v_nmigfnh70_74+v_nmigfnh75_79+v_nmigfnh80_84+v_nmigfnh85\&$

V_EQSA:V_NMIGFNH0_4 Net migration (000s), 3-county, females, non-
Hispanic,
age 0_4
(Identity)
 $v_nmigfnh0_4 = v_nmig0_64.a*(v_nmigfnh0_4[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFNH10_14 Net migration (000s), 3-county, females, non-
Hispanic, age 10_14
(Identity)
 $v_nmigfnh10_14 = v_nmig0_64.a*(v_nmigfnh10_14[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFNH15_19 Net migration (000s), 3-county, females, non-
Hispanic, age 15_19
(Identity)
 $v_nmigfnh15_19 = v_nmig0_64.a*(v_nmigfnh15_19[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFNH20_24 Net migration (000s), 3-county, females, non-
Hispanic,
age 20_24
(Identity)
 $v_nmigfnh20_24 = v_nmig0_64.a*(v_nmigfnh20_24[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGFNH25_29 Net migration (000s), 3-county, females, non-Hispanic, age 25_29
(Identity)
v_nmigfnh25_29 = v_nmig0_64.a*(v_nmigfnh25_29[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFNH30_34 Net migration (000s), 3-county, females, non-Hispanic, age 30_34
(Identity)
v_nmigfnh30_34 = v_nmig0_64.a*(v_nmigfnh30_34[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFNH35_39 Net migration (000s), 3-county, females, non-Hispanic, age 35_39
(Identity)
v_nmigfnh35_39 = v_nmig0_64.a*(v_nmigfnh35_39[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFNH40_44 Net migration (000s), 3-county, females, non-Hispanic, age 40_44
(Identity)
v_nmigfnh40_44 = v_nmig0_64.a*(v_nmigfnh40_44[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFNH45_49 Net migration (000s), 3-county, females, non-Hispanic, age 45_49
(Identity)
v_nmigfnh45_49 = v_nmig0_64.a*(v_nmigfnh45_49[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFNH50_54 Net migration (000s), 3-county, females, non-Hispanic, age 50_54
(Identity)
v_nmigfnh50_54 = v_nmig0_64.a*(v_nmigfnh50_54[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFNH55_59 Net migration (000s), 3-county, females, non-Hispanic, age 55_59
(Identity)
v_nmigfnh55_59 = v_nmig0_64.a*(v_nmigfnh55_59[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFNH5_9 Net migration (000s), 3-county, females, non-Hispanic, age 5_9
(Identity)
v_nmigfnh5_9 = v_nmig0_64.a*(v_nmigfnh5_9[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFNH60_64 Net migration (000s), 3-county, females, non-Hispanic, age 60_64
(Identity)
v_nmigfnh60_64 = v_nmig0_64.a*(v_nmigfnh60_64[106a1]/v_nmig0_64[106a1])

V_EQSA:V_NMIGFNH65_69 Net migration (000s), 3-county, females, non-Hispanic, age 65_69
(Identity)
v_nmigfnh65_69 = v_nmig65&.a*(v_nmigfnh65_69[106a1]/v_nmig65&[106a1])

V_EQSA:V_NMIGFNH70_74 Net migration (000s), 3-county, females, non-Hispanic, age 70_74
(Identity)
v_nmigfnh70_74 = v_nmig65&.a*(v_nmigfnh70_74[106a1]/v_nmig65&[106a1])

V_EQSA:V_NMIGFNH75_79 Net migration (000s), 3-county, females, non-Hispanic, age 75_79
(Identity)
 $v_nmigfnh75_79 = v_nmig65\&.a*(v_nmigfnh75_79[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGFNH80_84 Net migration (000s), 3-county, females, non-Hispanic, age 80_84
(Identity)
 $v_nmigfnh80_84 = v_nmig65\&.a*(v_nmigfnh80_84[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGFNH85& Net migration (000s), 3-county, females, non-Hispanic, age 85+
(Identity)
 $v_nmigfnh85\& = v_nmig65\&.a*(v_nmigfnh85\&[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGH Net migration (000s), 3-county, Hispanic
(Identity)
 $v_nmigh = v_nmigmh+v_nmigfh$

V_EQSA:V_NMIGM Net migration (000s), 3-county, males
(Identity)

$v_nmigm = v_nmigmnh+v_nmigmh$

V_EQSA:V_NMIGMH Net migration (000s), 3-county, males, Hispanic
(Identity)

$v_nmigmh =$
 $v_nmigmh0_4+v_nmigmh5_9+v_nmigmh10_14+v_nmigmh15_19+v_nmigmh20_24+$
 $v_nmigmh25_29+v_nmigmh30_34+v_nmigmh35_39+v_nmigmh40_44+v_nmigmh45_49+$
 $v_survrnmh50_54+v_nmigmh55_59+v_nmigmh60_64+v_nmigmh65_69+v_nmigmh70_74+$
 $v_nmigmh75_79+v_nmigmh80_84+v_nmigmh85\&$

V_EQSA:V_NMIGMH0_4 Net migration (000s), 3-county, males, Hispanic, age 0_4
(Identity)
 $v_nmigmh0_4 = v_nmig0_64.a*(v_nmigmh0_4[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH10_14 Net migration (000s), 3-county, males, Hispanic, age 10_14
(Identity)
 $v_nmigmh10_14 = v_nmig0_64.a*(v_nmigmh10_14[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH15_19 Net migration (000s), 3-county, males, Hispanic, age 15_19
(Identity)
 $v_nmigmh15_19 = v_nmig0_64.a*(v_nmigmh15_19[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH20_24 Net migration (000s), 3-county, males, Hispanic, age 20_24
(Identity)
 $v_nmigmh20_24 = v_nmig0_64.a*(v_nmigmh20_24[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH25_29 Net migration (000s), 3-county, males, Hispanic, age 25_29
(Identity)
 $v_nmigmh25_29 = v_nmig0_64.a*(v_nmigmh25_29[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH30_34 Net migration (000s), 3-county, males, Hispanic,
age 30_34
(Identity)
 $v_nmigmh30_34 = v_nmig0_64.a*(v_nmigmh30_34[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH35_39 Net migration (000s), 3-county, males, Hispanic,
age 35_39
(Identity)
 $v_nmigmh35_39 = v_nmig0_64.a*(v_nmigmh35_39[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH40_44 Net migration (000s), 3-county, males, Hispanic,
age 40_44
(Identity)
 $v_nmigmh40_44 = v_nmig0_64.a*(v_nmigmh40_44[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH45_49 Net migration (000s), 3-county, males, Hispanic,
age 45_49
(Identity)
 $v_nmigmh45_49 = v_nmig0_64.a*(v_nmigmh45_49[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH50_54 Net migration (000s), 3-county, males, Hispanic,
age 50_54
(Identity)
 $v_nmigmh50_54 == v_nmig0_64.a*(v_nmigmh50_54[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH55_59 Net migration (000s), 3-county, males, Hispanic,
age 55_59
(Identity)
 $v_nmigmh55_59 = v_nmig0_64.a*(v_nmigmh55_59[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH5_9 Net migration (000s), 3-county, males, Hispanic, age
5_9
(Identity)
 $v_nmigmh5_9 = v_nmig0_64.a*(v_nmigmh5_9[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH60_64 Net migration (000s), 3-county, males, Hispanic,
age 55_59
(Identity)
 $v_nmigmh60_64 = v_nmig0_64.a*(v_nmigmh60_64[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMH65_69 Net migration (000s), 3-county, males, Hispanic,
age 65_69
(Identity)
 $v_nmigmh65_69 = v_nmig65\&.a*(v_nmigmh65_69[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGMH70_74 Net migration (000s), 3-county, males, Hispanic,
age 70_74
(Identity)
 $v_nmigmh70_74 = v_nmig65\&.a*(v_nmigmh70_74[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGMH75_79 Net migration (000s), 3-county, males, Hispanic,
age 75_79
(Identity)
 $v_nmigmh75_79 = v_nmig65\&.a*(v_nmigmh75_79[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGMH80_84 Net migration (000s), 3-county, males, Hispanic, age 80_84
 (Identity)
 $v_nmigmh80_84 = v_nmig65\&.a*(v_nmigmh80_84[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGMH85& Net migration (000s), 3-county, males, Hispanic, age 85+
 (Identity)
 $v_nmigmh85\& = v_nmig65\&.a*(v_nmigmh85\&[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGMNH Net migration (000s), 3-county, males, non-Hispanic
 (Identity)
 $v_nmigmnh = v_nmigmnh0_4+v_nmigmnh5_9+v_nmigmnh10_14+v_nmigmnh15_19+v_nmigmnh20_24+v_nmigmnh25_29+v_nmigmnh30_34+v_nmigmnh35_39+v_nmigmnh40_44+v_nmigmnh45_49+v_survrmnh50_54+v_nmigmnh55_59+v_nmigmnh60_64+v_nmigmnh65_69+v_nmigmnh70_74+v_nmigmnh75_79+v_nmigmnh80_84+v_nmigmnh85\&$

V_EQSA:V_NMIGMNH0_4 Net migration (000s), 3-county, males, non-Hispanic, age 0_4
 (Identity)
 $v_nmigmnh0_4 = v_nmig0_64.a*(v_nmigmnh0_4[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH10_14 Net migration (000s), 3-county, males, non-Hispanic, age 10_14
 (Identity)
 $v_nmigmnh10_14 = v_nmig0_64.a*(v_nmigmnh10_14[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH15_19 Net migration (000s), 3-county, males, non-Hispanic, age 15_19
 (Identity)
 $v_nmigmnh15_19 = v_nmig0_64.a*(v_nmigmnh15_19[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH20_24 Net migration (000s), 3-county, males, non-Hispanic, age 20_24
 (Identity)
 $v_nmigmnh20_24 = v_nmig0_64.a*(v_nmigmnh20_24[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH25_29 Net migration (000s), 3-county, males, non-Hispanic, age 25_29
 (Identity)
 $v_nmigmnh25_29 = v_nmig0_64.a*(v_nmigmnh25_29[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH30_34 Net migration (000s), 3-county, males, non-Hispanic, age 30_34
 (Identity)
 $v_nmigmnh30_34 = v_nmig0_64.a*(v_nmigmnh30_34[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH35_39 Net migration (000s), 3-county, males, non-Hispanic, age 35_39
 (Identity)
 $v_nmigmnh35_39 = v_nmig0_64.a*(v_nmigmnh35_39[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH40_44 Net migration (000s), 3-county, males, non-Hispanic, age 40_44
 (Identity)
 $v_nmigmnh40_44 = v_nmig0_64.a*(v_nmigmnh40_44[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH45_49 Net migration (000s), 3-county, males, non-Hispanic, age 45_49
 (Identity)
 $v_nmigmnh45_49 = v_nmig0_64.a*(v_nmigmnh45_49[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH50_54 Net migration (000s), 3-county, males, non-Hispanic, age 50_54
 (Identity)
 $v_nmigmnh50_54 = v_nmig0_64.a*(v_nmigmnh50_54[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH55_59 Net migration (000s), 3-county, males, non-Hispanic, age 55_59
 (Identity)
 $v_nmigmnh55_59 = v_nmig0_64.a*(v_nmigmnh55_59[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH5_9 Net migration (000s), 3-county, males, non-Hispanic, age 5_9
 (Identity)
 $v_nmigmnh5_9 = v_nmig0_64.a*(v_nmigmnh5_9[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH60_64 Net migration (000s), 3-county, males, non-Hispanic, age 60_64
 (Identity)
 $v_nmigmnh60_64 = v_nmig0_64.a*(v_nmigmnh60_64[106a1]/v_nmig0_64[106a1])$

V_EQSA:V_NMIGMNH65_69 Net migration (000s), 3-county, males, non-Hispanic, age 65_69
 (Identity)
 $v_nmigmnh65_69 = v_nmig65\&.a*(v_nmigmnh65_69[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGMNH70_74 Net migration (000s), 3-county, males, non-Hispanic, age 70_74
 (Identity)
 $v_nmigmnh70_74 = v_nmig65\&.a*(v_nmigmnh70_74[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGMNH75_79 Net migration (000s), 3-county, males, non-Hispanic, age 75_79
 (Identity)
 $v_nmigmnh75_79 = v_nmig65\&.a*(v_nmigmnh75_79[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGMNH80_84 Net migration (000s), 3-county, males, non-Hispanic, age 80_84
 (Identity)
 $v_nmigmnh80_84 = v_nmig65\&.a*(v_nmigmnh80_84[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGMNH85& Net migration (000s), 3-county, males, non-Hispanic, age 85+
 (Identity)
 $v_nmigmnh85\& = v_nmig65\&.a*(v_nmigmnh85\&[106a1]/v_nmig65\&[106a1])$

V_EQSA:V_NMIGNH Net migration (000s), 3-county, non-Hispanic
 (Identity)
 $v_nmignh = v_nmigmnh+v_nmigfnh$

V_EQSA:V_POP Population (000s), 3-county, total/Source: US Census Bureau
(Identity)
 $v_pop = v_popm + v_popf$

V_EQSA:V_POP5_19 Population (000s), 3-county, school age
(Identity)
 $v_pop5_19 =$
 $v_popmnh5_9 + v_popmh5_9 + v_popfnh5_9 + v_popfh5_9 + v_popmnh10_14 + v_popmh10_14 + v_popfnh10_14 + v_popfh10_14 + v_popmnh15_19 + v_popmh15_19 + v_popfnh15_19 + v_popfh15_19$

V_EQSA:V_POP65& Population (000s), 3-county, age 65 and over
(Identity)
 $v_pop65\& =$
 $v_popmnh65_69 + v_popmh65_69 + v_popfnh65_69 + v_popfh65_69 + v_popmnh70_74 + v_popmh70_74 + v_popfnh70_74 + v_popfh70_74 + v_popmnh75_79 + v_popmh75_79 + v_popfnh75_79 + v_popfh75_79 + v_popmnh80_84 + v_popmh80_84 + v_popfnh80_84 + v_popfh80_84 + v_popmnh85\& + v_popmh85\& + v_popfnh85\& + v_popfh85\&$

V_EQSA:V_POPF Population (000s), 3-county, females
(Identity)
 $v_popf = v_popfnh + v_popfh$

V_EQSA:V_POPFH
(Identity)
 $v_popfh =$
 $v_popfh0_4 + v_popfh5_9 + v_popfh10_14 + v_popfh15_19 + v_popfh20_24 + v_popfh25_29 + v_popfh30_34 + v_popfh35_39 + v_popfh40_44 + v_popfh45_49 + v_survmnh50_54 + v_popfh55_59 + v_popfh60_64 + v_popfh65_69 + v_popfh70_74 + v_popfh75_79 + v_popfh80_84 + v_popfh85\&$

V_EQSA:V_POPFH0_4
(Identity)
 $v_popfh0_4 = 0.8 * (v_popfh0_4[-1] * v_survrfh0_4[-1]) + 0.488 * (v_birthsh) + v_nmigfh0_4$

V_EQSA:V_POPFH10_14
(Identity)
 $v_popfh10_14 = 0.8 * (v_popfh10_14[-1] * v_survrfh10_14[-1]) + 0.2 * (v_popfh5_9[-1] * v_survrfh5_9[-1]) + v_nmigfh10_14$

V_EQSA:V_POPFH15_19
(Identity)
 $v_popfh15_19 = 0.8 * (v_popfh15_19[-1] * v_survrfh15_19[-1]) + 0.2 * (v_popfh10_14[-1] * v_survrfh10_14[-1]) + v_nmigfh15_19$

V_EQSA:V_POPFH20_24
(Identity)
 $v_popfh20_24 = 0.8 * (v_popfh20_24[-1] * v_survrfh20_24[-1]) + 0.2 * (v_popfh15_19[-1] * v_survrfh15_19[-1]) + v_nmigfh20_24$

V_EQSA:V_POPFH25_29
(Identity)
 $v_popfh25_29 = 0.8 * (v_popfh25_29[-1] * v_survrfh25_29[-1]) + 0.2 * (v_popfh20_24[-1] * v_survrfh20_24[-1]) + v_nmigfh25_29$

V_EQSA:V_POPFH30_34
(Identity)
 $v_popfh30_34 =$
 $0.8 * (v_popfh30_34[-1] * v_survrfh30_34[-1]) + 0.2 * (v_popfh25_29[-1] * v_survrfh25_29[-1]) + v_nmigfh30_34$

V_EQSA:V_POPFH35_39

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(Identity)
v_popfh35_39 =
0.8*(v_popfh35_39[-1]*v_survrfh35_39[-1])+0.2*(v_popfh30_34[-1]*
v_survrfh30_34[-1])+v_nmigfh35_39

V_EQSA:V_POPFH40_44
(Identity)
v_popfh40_44 =
0.8*(v_popfh40_44[-1]*v_survrfh40_44[-1])+0.2*(v_popfh35_39[-1]*
v_survrfh35_39[-1])+v_nmigfh40_44

V_EQSA:V_POPFH45_49
(Identity)
v_popfh45_49 =
0.8*(v_popfh45_49[-1]*v_survrfh45_49[-1])+0.2*(v_popfh40_44[-1]*
v_survrfh40_44[-1])+v_nmigfh45_49

V_EQSA:V_POPFH50_54
(Identity)
v_popfh50_54 =
0.8*(v_popfh50_54[-1]*v_survrfh50_54[-1])+0.2*(v_popfh45_49[-1]*
v_survrfh45_49[-1])+v_nmigfh50_54

V_EQSA:V_POPFH55_59
(Identity)
v_popfh55_59 =
0.8*(v_popfh55_59[-1]*v_survrfh55_59[-1])+0.2*(v_popfh50_54[-1]*
v_survrfh50_54[-1])+v_nmigfh55_59

V_EQSA:V_POPFH5_9
(Identity)
v_popfh5_9 =
0.8*(v_popfh5_9[-1]*v_survrfh5_9[-1])+0.2*(v_popfh0_4[-1]*
v_survrfh0_4[-1])+v_nmigfh5_9

V_EQSA:V_POPFH60_64
(Identity)
v_popfh60_64 =
0.8*(v_popfh60_64[-1]*v_survrfh60_64[-1])+0.2*(v_popfh55_59[-1]*
v_survrfh55_59[-1])+v_nmigfh60_64

V_EQSA:V_POPFH65_69
(Identity)
v_popfh65_69 =
0.8*(v_popfh65_69[-1]*v_survrfh65_69[-1])+0.2*(v_popfh60_64[-1]*
v_survrfh60_64[-1])+v_nmigfh65_69

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V_EQSA:V_POPFH70_74
(Identity)
v_popfh70_74 =
0.8*(v_popfh70_74[-1]*v_survrfh70_74[-1])+0.2*(v_popfh65_69[-1]*
v_survrfh65_69[-1])+v_nmigfh70_74

V_EQSA:V_POPFH75_79
(Identity)
v_popfh75_79 =
0.8*(v_popfh75_79[-1]*v_survrfh75_79[-1])+0.2*(v_popfh70_74[-1]*
v_survrfh70_74[-1])+v_nmigfh75_79

V_EQSA:V_POPFH80_84
(Identity)
v_popfh80_84 =
0.8*(v_popfh80_84[-1]*v_survrfh80_84[-1])+0.2*(v_popfh75_79[-1]*
v_survrfh75_79[-1])+v_nmigfh80_84

V_EQSA:V_POPFH85&
(Identity)
v_popfh85& =
v_popfh85&[-1]*v_survrfh85&[-1]+0.2*(v_popfh80_84[-1]*v_survrfh80_84[-
1])+ v_nmigfh85&

V_EQSA:V_POPFNH
(Identity)
v_popfnh =
v_popfnh0_4+v_popfnh5_9+v_popfnh10_14+v_popfnh15_19+v_popfnh20_24+
v_popfnh25_29+v_popfnh30_34+v_popfnh35_39+v_popfnh40_44+v_popfnh45_49+
v_survrnmh50_54+v_popfnh55_59+v_popfnh60_64+v_popfnh65_69+v_popfnh70_74+
v_popfnh75_79+v_popfnh80_84+v_popfnh85&

V_EQSA:V_POPFNH0_4
(Identity)
v_popfnh0_4 = 0.8*(v_popfnh0_4[-1]*v_survrfnh0_4[-
1])+0.488*(v_birthsnh)+v_nmigfnh0_4

V_EQSA:V_POPFNH10_14
(Identity)
v_popfnh10_14 =
0.8*(v_popfnh10_14[-1]*v_survrfnh10_14[-1])+0.2*(v_popfnh5_9[-1]*
v_survrfnh5_9[-1])+v_nmigfnh10_14
V_EQSA:V_POPFNH15_19
(Identity)
v_popfnh15_19 =
0.8*(v_popfnh15_19[-1]*v_survrfnh15_19[-1])+0.2*(v_popfnh10_14[-1]*
v_survrfnh10_14[-1])+v_nmigfnh15_19

V_EQSA:V_POPFNH20_24
(Identity)
v_popfnh20_24 =
0.8*(v_popfnh20_24[-1]*v_survrfnh20_24[-1])+0.2*(v_popfnh15_19[-1]*
v_survrfnh15_19[-1])+v_nmigfnh20_24

```

V_EQSA:V_POPFNH25_29
(Identity)
v_popfnh25_29 =
0.8*(v_popfnh25_29[-1]*v_survrfnh25_29[-1])+0.2*(v_popfnh20_24[-1]*
v_survrfnh20_24[-1])+v_nmigfnh25_29

V_EQSA:V_POPFNH30_34
(Identity)
v_popfnh30_34 =
0.8*(v_popfnh30_34[-1]*v_survrfnh30_34[-1])+0.2*(v_popfnh25_29[-1]*
v_survrfnh25_29[-1])+v_nmigfnh30_34

V_EQSA:V_POPFNH35_39
(Identity)
v_popfnh35_39 =
0.8*(v_popfnh35_39[-1]*v_survrfnh35_39[-1])+0.2*(v_popfnh30_34[-1]*
v_survrfnh30_34[-1])+v_nmigfnh35_39

V_EQSA:V_POPFNH40_44
(Identity)
v_popfnh40_44 =
0.8*(v_popfnh40_44[-1]*v_survrfnh40_44[-1])+0.2*(v_popfnh35_39[-1]*
v_survrfnh35_39[-1])+v_nmigfnh40_44

V_EQSA:V_POPFNH45_49
(Identity)
v_popfnh45_49 =
0.8*(v_popfnh45_49[-1]*v_survrfnh45_49[-1])+0.2*(v_popfnh40_44[-1]*
v_survrfnh40_44[-1])+v_nmigfnh45_49

V_EQSA:V_POPFNH50_54
(Identity)
v_popfnh50_54 =
0.8*(v_popfnh50_54[-1]*v_survrfnh50_54[-1])+0.2*(v_popfnh45_49[-1]*
v_survrfnh45_49[-1])+v_nmigfnh50_54

V_EQSA:V_POPFNH55_59
(Identity)
v_popfnh55_59 =
0.8*(v_popfnh55_59[-1]*v_survrfnh55_59[-1])+0.2*(v_popfnh50_54[-1]*
v_survrfnh50_54[-1])+v_nmigfnh55_59

V_EQSA:V_POPFNH5_9
(Identity)
v_popfnh5_9 =
0.8*(v_popfnh5_9[-1]*v_survrfnh5_9[-1])+0.2*(v_popfnh0_4[-1]*
v_survrfnh0_4[-1])+v_nmigfnh5_9

V_EQSA:V_POPFNH60_64
(Identity)
v_popfnh60_64 =
0.8*(v_popfnh60_64[-1]*v_survrfnh60_64[-1])+0.2*(v_popfnh55_59[-1]*
v_survrfnh55_59[-1])+v_nmigfnh60_64

V_EQSA:V_POPFNH65_69
 (Identity)
 $v_{popfnh65_69} = 0.8 * (v_{popfnh65_69[-1]} * v_{survrfnh65_69[-1]}) + 0.2 * (v_{popfnh60_64[-1]} * v_{survrfnh60_64[-1]}) + v_{nmigfnh65_69}$

V_EQSA:V_POPFNH70_74
 (Identity)
 $v_{popfnh70_74} = 0.8 * (v_{popfnh70_74[-1]} * v_{survrfnh70_74[-1]}) + 0.2 * (v_{popfnh65_69[-1]} * v_{survrfnh65_69[-1]}) + v_{nmigfnh70_74}$

V_EQSA:V_POPFNH75_79
 (Identity)
 $v_{popfnh75_79} = 0.8 * (v_{popfnh75_79[-1]} * v_{survrfnh75_79[-1]}) + 0.2 * (v_{popfnh70_74[-1]} * v_{survrfnh70_74[-1]}) + v_{nmigfnh75_79}$

V_EQSA:V_POPFNH80_84
 (Identity)
 $v_{popfnh80_84} = 0.8 * (v_{popfnh80_84[-1]} * v_{survrfnh80_84[-1]}) + 0.2 * (v_{popfnh75_79[-1]} * v_{survrfnh75_79[-1]}) + v_{nmigfnh80_84}$

V_EQSA:V_POPFNH85&
 (Identity)
 $v_{popfnh85\&} = v_{popfnh85\&[-1]} * v_{survrfnh85\&[-1]} + 0.2 * (v_{popfnh80_84[-1]} * v_{survrfnh80_84[-1]}) + v_{nmigfnh85\&}$

V_EQSA:V_POPH Population (000s), 3-county, Hispanic
 (Identity)
 $v_{poph} = v_{popmh} + v_{popfh}$

V_EQSA:V_POPM Population (000s), 3-county, males
 (Identity)
 $v_{popm} = v_{popmnh} + v_{popmh}$

V_EQSA:V_POPMH
 (Identity)
 $v_{popmh} = v_{popmh0_4} + v_{popmh5_9} + v_{popmh10_14} + v_{popmh15_19} + v_{popmh20_24} + v_{popmh25_29} + v_{popmh30_34} + v_{popmh35_39} + v_{popmh40_44} + v_{popmh45_49} + v_{survrmnh50_54} + v_{popmh55_59} + v_{popmh60_64} + v_{popmh65_69} + v_{popmh70_74} + v_{popmh75_79} + v_{popmh80_84} + v_{popmh85\&}$

V_EQSA:V_POPMH0_4
 (Identity)
 $v_{popmh0_4} = 0.8 * (v_{popmh0_4[-1]} * v_{survrmh0_4[-1]}) + 0.512 * (v_{birthsh}) + v_{nmigmh0_4}$

V_EQSA:V_POPMH10_14
 (Identity)
 $v_{popmh10_14} = 0.8 * (v_{popmh10_14[-1]} * v_{survrmh10_14[-1]}) + 0.2 * (v_{popmh5_9[-1]} * v_{survrmh5_9[-1]}) + v_{nmigmh10_14}$

V_EQSA:V_POPMH15_19
 (Identity)
 $v_{popmh15_19} = 0.8 * (v_{popmh15_19[-1]} * v_{survrmh15_19[-1]}) + 0.2 * (v_{popmh10_14[-1]} * v_{survrmh10_14[-1]}) + v_{nmigmh15_19}$

V_EQSA:V_POPMH20_24

```

(Identity)
v_popmh20_24 =
0.8*(v_popmh20_24[-1]*v_survrh20_24[-1])+0.2*(v_popmh15_19[-1]*
v_survrh15_19[-1])+v_nmigmh20_24

V_EQSA:V_POPMH25_29
(Identity)
v_popmh25_29 =
0.8*(v_popmh25_29[-1]*v_survrh25_29[-1])+0.2*(v_popmh20_24[-1]*
v_survrh20_24[-1])+v_nmigmh25_29

V_EQSA:V_POPMH30_34
(Identity)
v_popmh30_34 =
0.8*(v_popmh30_34[-1]*v_survrh30_34[-1])+0.2*(v_popmh25_29[-1]*
v_survrh25_29[-1])+v_nmigmh30_34

V_EQSA:V_POPMH35_39
(Identity)
v_popmh35_39 =
0.8*(v_popmh35_39[-1]*v_survrh35_39[-1])+0.2*(v_popmh30_34[-1]*
v_survrh30_34[-1])+v_nmigmh35_39

V_EQSA:V_POPMH40_44
(Identity)
v_popmh40_44 =
0.8*(v_popmh40_44[-1]*v_survrh40_44[-1])+0.2*(v_popmh35_39[-1]*
v_survrh35_39[-1])+v_nmigmh40_44

V_EQSA:V_POPMH45_49
(Identity)
v_popmh45_49 =
0.8*(v_popmh45_49[-1]*v_survrh45_49[-1])+0.2*(v_popmh40_44[-1]*
v_survrh40_44[-1])+v_nmigmh45_49

V_EQSA:V_POPMH50_54
(Identity)
v_popmh50_54
= 0.8*(v_popmh50_54[-1]*v_survrh50_54[-1])+0.2*(v_popmh45_49[-1]*
v_survrh45_49[-1])+v_nmigmh50_54

V_EQSA:V_POPMH55_59
(Identity)
v_popmh55_59
= 0.8*(v_popmh55_59[-1]*v_survrh55_59[-1])+0.2*(v_popmh50_54[-1]*
v_survrh50_54[-1])+v_nmigmh55_59

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```

V_EQSA:V_POPMH5_9
(Identity)
v_popmh5_9
= 0.8*(v_popmh5_9[-1]*v_survrnh5_9[-1])+0.2*(v_popmh0_4[-1]*
v_survrnh0_4[-1])+v_nmigh5_9

V_EQSA:V_POPMH60_64
(Identity)
v_popmh60_64
= 0.8*(v_popmh60_64[-1]*v_survrnh60_64[-1])+0.2*(v_popmh55_59[-1]*
v_survrnh55_59[-1])+v_nmigh60_64

V_EQSA:V_POPMH65_69
(Identity)
v_popmh65_69
= 0.8*(v_popmh65_69[-1]*v_survrnh65_69[-1])+0.2*(v_popmh60_64[-1]*
v_survrnh60_64[-1])+v_nmigh65_69

V_EQSA:V_POPMH70_74
(Identity)
v_popmh70_74
= 0.8*(v_popmh70_74[-1]*v_survrnh70_74[-1])+0.2*(v_popmh65_69[-1]*
v_survrnh65_69[-1])+v_nmigh70_74

V_EQSA:V_POPMH75_79
(Identity)
v_popmh75_79
= 0.8*(v_popmh75_79[-1]*v_survrnh75_79[-1])+0.2*(v_popmh70_74[-1]*
v_survrnh70_74[-1])+v_nmigh75_79

V_EQSA:V_POPMH80_84
(Identity)
v_popmh80_84
= 0.8*(v_popmh80_84[-1]*v_survrnh80_84[-1])+0.2*(v_popmh75_79[-1]*
v_survrnh75_79[-1])+v_nmigh80_84

V_EQSA:V_POPMH85&
(Identity)
v_popmh85&
= v_popmh85&[-1]*v_survrnh85&[-1]+0.2*(v_popmh80_84[-1]*v_survrnh80_84[-
1])+ v_nmigh85&

V_EQSA:V_POPMNH
(Identity)
v_popmnh
= v_popmnh0_4+v_popmnh5_9+v_popmnh10_14+v_popmnh15_19+v_popmnh20_24+
v_popmnh25_29+v_popmnh30_34+v_popmnh35_39+v_popmnh40_44+v_popmnh45_49+
v_survrnh50_54+v_popmnh55_59+v_popmnh60_64+v_popmnh65_69+v_popmnh70_74+
v_popmnh75_79+v_popmnh80_84+v_popmnh85&

V_EQSA:V_POPMNH0_4
(Identity)
v_popmnh0_4
= 0.8*(v_popmnh0_4[-1]*v_survrnh0_4[-
1])+0.512*(v_birthsnh)+v_nmigh0_4

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```

V_EQSA:V_POPMNH10_14
(Identity)
v_popmnh10_14
= 0.8*(v_popmnh10_14[-1]*v_survmnh10_14[-1])+0.2*(v_popmnh5_9[-1]*
v_survmnh5_9[-1])+v_nmigmnh10_14

V_EQSA:V_POPMNH15_19
(Identity)
v_popmnh15_19
= 0.8*(v_popmnh15_19[-1]*v_survmnh15_19[-1])+0.2*(v_popmnh10_14[-1]*
v_survmnh10_14[-1])+v_nmigmnh15_19

V_EQSA:V_POPMNH20_24
(Identity)
v_popmnh20_24
= 0.8*(v_popmnh20_24[-1]*v_survmnh20_24[-1])+0.2*(v_popmnh15_19[-1]*
v_survmnh15_19[-1])+v_nmigmnh20_24

V_EQSA:V_POPMNH25_29
(Identity)
v_popmnh25_29
= 0.8*(v_popmnh25_29[-1]*v_survmnh25_29[-1])+0.2*(v_popmnh20_24[-1]*
v_survmnh20_24[-1])+v_nmigmnh25_29

V_EQSA:V_POPMNH30_34
(Identity)
v_popmnh30_34
= 0.8*(v_popmnh30_34[-1]*v_survmnh30_34[-1])+0.2*(v_popmnh25_29[-1]*
v_survmnh25_29[-1])+v_nmigmnh30_34

V_EQSA:V_POPMNH35_39
(Identity)
v_popmnh35_39
= 0.8*(v_popmnh35_39[-1]*v_survmnh35_39[-1])+0.2*(v_popmnh30_34[-1]*
v_survmnh30_34[-1])+v_nmigmnh35_39

V_EQSA:V_POPMNH40_44
(Identity)
v_popmnh40_44
= 0.8*(v_popmnh40_44[-1]*v_survmnh40_44[-1])+0.2*(v_popmnh35_39[-1]*
v_survmnh35_39[-1])+v_nmigmnh40_44

V_EQSA:V_POPMNH45_49
(Identity)
v_popmnh45_49
= 0.8*(v_popmnh45_49[-1]*v_survmnh45_49[-1])+0.2*(v_popmnh40_44[-1]*
v_survmnh40_44[-1])+v_nmigmnh45_49

V_EQSA:V_POPMNH50_54
(Identity)
v_popmnh50_54
= 0.8*(v_popmnh50_54[-1]*v_survmnh50_54[-1])+0.2*(v_popmnh45_49[-1]*
v_survmnh45_49[-1])+v_nmigmnh50_54

```

V_EQSA:V_POPMNH55_59
(Identity)
v_popmnh55_59
= 0.8*(v_popmnh55_59[-1]*v_survrnmnh55_59[-1])+0.2*(v_popmnh50_54[-1]*
v_survrnmnh50_54[-1])+v_nmigmnh55_59

V_EQSA:V_POPMNH5_9
(Identity)
v_popmnh5_9
= 0.8*(v_popmnh5_9[-1]*v_survrnmnh5_9[-1])+0.2*(v_popmnh0_4[-1]*
v_survrnmnh0_4[-1])+v_nmigmnh5_9

V_EQSA:V_POPMNH60_64
(Identity)
v_popmnh60_64
= 0.8*(v_popmnh60_64[-1]*v_survrnmnh60_64[-1])+0.2*(v_popmnh55_59[-1]*
v_survrnmnh55_59[-1])+v_nmigmnh60_64

V_EQSA:V_POPMNH65_69
(Identity)
v_popmnh65_69
= 0.8*(v_popmnh65_69[-1]*v_survrnmnh65_69[-1])+0.2*(v_popmnh60_64[-1]*
v_survrnmnh60_64[-1])+v_nmigmnh65_69

V_EQSA:V_POPMNH70_74
(Identity)
v_popmnh70_74
= 0.8*(v_popmnh70_74[-1]*v_survrnmnh70_74[-1])+0.2*(v_popmnh65_69[-1]*
v_survrnmnh65_69[-1])+v_nmigmnh70_74

V_EQSA:V_POPMNH75_79
(Identity)
v_popmnh75_79
= 0.8*(v_popmnh75_79[-1]*v_survrnmnh75_79[-1])+0.2*(v_popmnh70_74[-1]*
v_survrnmnh70_74[-1])+v_nmigmnh75_79

V_EQSA:V_POPMNH80_84
(Identity)
v_popmnh80_84
= 0.8*(v_popmnh80_84[-1]*v_survrnmnh80_84[-1])+0.2*(v_popmnh75_79[-1]*
v_survrnmnh75_79[-1])+v_nmigmnh80_84

V_EQSA:V_POPMNH85&
(Identity)
v_popmnh85&
= v_popmnh85&[-1]*v_survrnmnh85&[-1]+0.2*(v_popmnh80_84[-1]*
v_survrnmnh80_84[-1])+v_nmigmnh85&

V_EQSA:V_POPNH Population (000s), 3-county, females, non-Hispanic
(Identity)
v_popnh = v_popmnh+v_popfnh

V_EQSA:V_TXSFOOD
(Identity)
v_txsfood = 0.71348*(cnfhome+cnffree)/ypd*v_ydp

V_EQSA:V_TXSRB
 Cochrane-Orcutt
 ANNUAL data for 41 periods from 1966 to 2006
 Date: 11 SEP 2008
 $\log(v_txsrb) =$
 $0.97616 * \log(v_yp/yp*cnfout)$
 (81.7016)
 $+ 0.32333 * (v_enf.1/v_pop.1)/(eea.1/np.1) - 0.05118$
 (1.38790) (0.25147)
 Sum Sq 0.0288 Std Err 0.0279 LHS Mean 7.3156
 R Sq 0.9995 R Bar Sq 0.9994 F 3, 37 22631.0
 D.W.(1) 1.7659 D.W.(2) 1.6409
 $AR_0 = + 0.63048 * AR_1$
 (4.88929)

V_TXSRB=exp(??)

V_EQSA:V_TXSRET
 (Identity)
 $v_txsret = v_txsrb+v_txsrslf+v_txsfood+(v_gas*pgas)$

V_EQSA:V_TXSRSLF
 Cochrane-Orcutt
 ANNUAL data for 40 periods from 1967 to 2006
 Date: 11 SEP 2008
 $\log(v_txsrslf/cpi)$
 $= 1.13038 * \log(v_ydp/cpi) - 1.42365 * \log(csv/cons)$
 (13.7931) (3.63389)
 $+ 0.02390 * \log(cdmvna/cons) + 0.35071 * \log(cpicxfae.1/cpi.1)$
 (0.46389) (1.37420)
 $+ 0.06124 * \log(v_hutot) - 3.84410$
 (3.79354) (3.78342)
 Sum Sq 0.0161 Std Err 0.0221 LHS Mean 9.3040
 R Sq 0.9975 R Bar Sq 0.9971 F 6, 33 2225.17
 D.W.(1) 1.7949 D.W.(2) 1.5939
 $AR_0 = + 0.81129 * AR_1$
 (8.48883)

V_TXSRSLF=exp(??)*cpi

V_EQSA:V_WRGOVFCIV
 Ordinary Least Squares
 ANNUAL data for 24 periods from 1983 to 2006
 Date: 11 SEP 2008
 $\log(v_wrgovfciv)$
 $= 0.83518 * \log(ypcompwsdg/(eg91+egs1))$
 (8.41101)
 $- 5.53929 * eg91/(eg91+egs1) + 8.86233$
 (5.08193) (17.4615)
 Sum Sq 0.0166 Std Err 0.0281 LHS Mean 10.8912
 R Sq 0.9929 R Bar Sq 0.9922 F 2, 21 1464.33
 D.W.(1) 0.8695 D.W.(2) 1.7781

V_WRGOVFCIV=EXP(??)

V_EQSA:V_WRGOVMIL
(Identity)
 $v_wrgovfmil = v_wrgovfmil[-1]*(1+(gfmlpay/100))$

V_EQSA:V_WRGOVSL
Cochrane-Orcutt
ANNUAL data for 29 periods from 1978 to 2006
Date: 11 SEP 2008
 $\log(v_wrgovsl) =$
0.97160 * $\log(gslcwss/egsl) - 0.95484 * v_egovsl.1/v_enf.1$
(9.8404) (0.97463)
+ 7.17671
(19.4129)
Sum Sq 0.0106 Std Err 0.0206 LHS Mean 10.2496
R Sq 0.9972 R Bar Sq 0.9968 F 3, 25 2944.66
D.W.(1) 2.0576 D.W.(2) 1.6904
 $AR_0 = + 0.86102 * AR_1$
(7.34680)

V_WRGOVSL=exp(??)

V_EQSA:V_WRPRIV
Ordinary Least Squares
ANNUAL data for 25 periods from 1982 to 2006
Date: 11 SEP 2008
 $\log(v_wrpriv) =$
1.03372 * $\log(ypcompwsdp/eeap)$
(40.6811)
+ 0.01828 * $(v_enf.1/v_pop.1)/(eea.1/np.1)$
(0.10758)
+ 0.03689 * $step(100,1) + 6.74582$
(2.84546) (29.5475)
Sum Sq 0.0067 Std Err 0.0178 LHS Mean 10.2229
R Sq 0.9969 R Bar Sq 0.9965 F 3, 21 2266.35
D.W.(1) 0.4152 D.W.(2) 1.0458

V_WRPRIV=EXP(??)

V_EQSA:V_WRTLTP
(Identity)
 $v_wrtlp = v_ytlp/v_emb*1000$

V_EQSA:V_YDIVINTRENT
Cochrane-Orcutt
ANNUAL data for 32 periods from 1975 to 2006
Date: 11 SEP 2008
 $\log(v_ydivintrent/v_ytlp) =$
 $+ 0.86323 * \log((yprentadj+ypadiv+ypaint)/(ypcompwsd+yppropadjf+$
 $yppropadjnf+ypcompuppai))$
(13.5514)
 $- 0.03850 * v_pop.1/np.1 + 0.36271$
(10.3062) (3.48854)
Sum Sq 0.0157 Std Err 0.0237 LHS Mean -1.3285
R Sq 0.9738 R Bar Sq 0.9710 F 3, 28 346.890
D.W.(1) 1.4979 D.W.(2) 1.8097
AR_0 = + 0.53970 * AR_1
(3.62864)

V_YDIVINTRENT=exp(??)*v_ytlp

V_EQSA:V_YDP
(Identity)
 $v_ydp = v_yp*disc$

V_EQSA:V_YGOV
(Identity)
 $v_ygov = v_ygovfmil+v_ygovfciv+v_ygovsl$

V_EQSA:V_YGOVFCIV
Ordinary Least Squares
ANNUAL data for 29 periods from 1978 to 2006
Date: 11 SEP 2008
 $\log(v_ygovfciv) =$
 $0.99691 * \log(v_egovf*v_wrgovfciv) - 6.87194$
(177.498) (87.0845)
Sum Sq 0.0069 Std Err 0.0160 LHS Mean 7.1247
R Sq 0.9991 R Bar Sq 0.9991 F 1, 27 31505.6
D.W.(1) 1.0928 D.W.(2) 1.4451

V_YGOVFCIV=EXP(??)

V_EQSA:V_YGOVFMIL
(Identity)
 $v_ygovfmil = v_embgovfmil*v_wrgovfmil/1000$

V_EQSA:V_YGOVSL
Ordinary Least Squares
ANNUAL data for 29 periods from 1978 to 2006
Date: 11 SEP 2008
 $\log(v_ygovsl)$
 $= 0.97796 * \log(v_egovsl*v_wrgovsl) - 6.55808$
(165.998) (71.9766)
Sum Sq 0.0109 Std Err 0.0201 LHS Mean 8.5540
R Sq 0.9990 R Bar Sq 0.9990 F 1, 27 27555.4
D.W.(1) 0.7282 D.W.(2) 1.7691

V_YGOVSL=EXP(??)

V_EQSA:V_YP
 (Identity)
 $v_{yp} = v_{ytlp} + v_{ydivintrent} + v_{ytp} + v_{yresadj} - v_{ypcsi}$
 V_EQSA:V_YPCSI
 Cochrane-Orcutt
 ANNUAL data for 18 periods from 1989 to 2006
 $\log(v_{ypcsi}) =$
 $0.94443 * \log(v_{ytlp}) + 0.46410 * \log(rtxsigf) - 0.66412$
 (111.558) (2.42686) (1.77355)
 Sum Sq 0.0018 Std Err 0.0114 LHS Mean 8.9583
 R Sq 0.9993 R Bar Sq 0.9992 F 3, 14 6847.33
 D.W.(1) 2.2904 D.W.(2) 1.9651
 $AR_0 = + 0.19982 * AR_1$
 (0.93786)

V_YPCSI=exp(??)

V_EQSA:V_YPRIV
 Ordinary Least Squares
 ANNUAL data for 32 periods from 1975 to 2006
 Date: 11 SEP 2008
 $v_{ypriv} =$
 $1.27813 * v_{epriv} * v_{wrpriv} / 1000 - 176.323$
 (441.255) (1.49891)
 Sum Sq 4480374 Std Err 386.453 LHS Mean 42080.1
 R Sq 0.9998 R Bar Sq 0.9998 F 1, 30 194706
 D.W.(1) 0.5890 D.W.(2) 1.4165

V_EQSA:V_YTLP
 (Identity)
 $v_{ytlp} = v_{ypriv} + v_{ygov}$

V_EQSA:V_YTP
 Cochrane-Orcutt
 ANNUAL data for 26 periods from 1981 to 2006
 Date: 15 SEP 2008
 $\log(v_{ytp}/v_{pop65\&}) =$
 $1.04502 * \log(yptrf/np65a) - 0.29322$
 (15.5654) (1.24461)
 Sum Sq 0.0071 Std Err 0.0175 LHS Mean 2.9927
 R Sq 0.9982 R Bar Sq 0.9980 F 2, 23 6345.61
 D.W.(1) 0.9940 D.W.(2) 1.5133
 $AR_0 = + 0.86358 * AR_1$
 (8.48941)

V_YTP=exp(??)*v_pop65&

V_EQSA:YBASSSP
 (Identity)
 $Ybasssp = ybasssp.1 * (cpi/cpi.1)$

Appendix D – Global Insight Forecast Assumptions by Scenario

Global Insight Long-term Forecast Scenario Assumptions (10-2008)

	Trend	Optimistic	Pessimistic
General Outlook	The economy exhibits mild variations in growth and approaches its balanced-growth path. CPI inflation rises slowly, averaging 2.0%.	High growth.	Low growth.
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.	Projections above the trend are a result of higher net immigration.	Projections below the trend due to lower net immigration.
Energy imports	Real oil prices fall, but remain high by current historical standards. No embargoes are assumed.	Real oil prices rise slower than in the trend.	Real oil prices increase more than in the trend forecast.
Food prices	Wholesale farm prices average 1.2% annual increases.	Wholesale farm prices rise 0.7% annually.	Wholesale farm prices average 2.4% annual increases.
Principal Policy Dimensions			
Tax changes	Marginal personal tax rates inch up. Corporate tax stays at 35.0%.	Lower tax rates.	Higher tax rates.
Growth of federal spending	Real, +3.0% per year.	Real, +2.9% per year.	Real, +3.4% per year.
Federal Transfers	Real growth of 3.7% per year.	Real growth of 3.1% per year.	Real growth of 3.9% per year.
Budget deficit	Deficit averages 4.4% of GDP.	Deficits throughout.	Deficits throughout.
Average federal government share of GDP	23.5%	21.5%	26.6%

GILT Forecast (Cont.)

	Trend	Optimistic	Pessimistic
Monetary policy	Sufficient funds made available to promote stable credit growth. Money (M2) growth averages 4.6%.	Stable and predictable.	Tight policies required to contain rising inflationary pressures.
Federal funds rate	Rises gradually, eventually settling at 4.75%.	Settles at 4.00%.	Rises to 8.25%.
Nonborrowed reserves	Steadily rises over forecast period.	4.0% average growth.	3.5% average growth.
Behavior of Economic Agents			
Consumers Consumer confidence relatively constant.	Consumer confidence relatively constant.	Consumer confidence upbeat.	Lower real incomes depress consumer expenditures.
Average annual real consumption growth	2.10%	3.0%	1.4%
Business	Decisions made in relatively stable environment.	High demand expectations plus low inflation and interest rates enhance the business environment.	Higher inflation, higher interest rates, and weaker demand make investors more
Average fixed investment share in GDP Average share of corporate cash flow in GNP	0.108 0.096	11.0% 8.1%	10.2% 11.1%
State and local government	Real expenditures dictated by demographics and ability to raise taxes. Average real growth in purchases of 0.9% per year.	Average real growth in purchases of 1.9% per year.	Average real growth in purchases of 0.3% per year.
Federal budget position (Fiscal years)	Deficits.	Deficits throughout.	Deficits throughout.
International Average annual wholesale price inflation for major trading partners	1.6% (OECD countries) 3.6% (Developing countries)	1.7% (OECD countries) 3.6% (Developing countries)	1.6% (OECD countries) 3.6% (Developing countries)
Real U.S. exchange rate	Declines over forecast period.	Real exchange rate declines.	Real exchange rate rises.

GILT Forecast (Cont.)

	Trend	Optimistic	Pessimistic
Other Parameters			
Average annual productivity growth	2.0%	2.1%	1.6%
Average annual potential output growth	2.4%	2.9%	1.8%
Consumer price inflation	Eventually stabilized at 2.0%	Converges to about 1.7%.	Inflation approaches 3.5%
Consumer price index Average annual increase Peak annual	2.0% 4.8% (2008)	1.6% 4.5% (2008)	3.1% 5.0% (2008)
Hourly earnings Average annual rise Peak annual	3.5% 4.2% (2008)	3.0% 3.6% (2008)	5.0% 5.9% (2035)
Housing market	Demographics dictate slower growth of the housing stock.	The higher population projections push the housing stock above the trend.	Lower real incomes and high cost of funds depress housing starts.
Median new home price in 2038 Average annual rise	\$554,800 2.7%	\$495,100 2.3%	\$729,800 3.6%
Unemployment	Settles at about 4.6%.	Remains below trend throughout forecast period.	Remains above trend throughout forecast period.