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How Population Growth Estimates Affect Housing Market Projections

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Will economic growth hold up under the weight of the housing correction?

By Rani Isaac
Economist and Senior Research Specialist

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INTRODUCTION

As foreclosure rates rise, home sales slump, and new building continues to slow, economists are trying to estimate how many potential homebuyers there are in order to estimate the number of years the turnaround in the housing market will take. Their projections vary depending upon the population data they use.

The State of California's Department of Finance (DOF) Demographic Research Unit's (DRU) estimate of California's population in 2005 exceeds that of the Census Bureau (CB) by 828,000 people.[1] The difference in population estimates translates into differences in the number of houses. That difference implies that the CB underestimated the number of households in the state by 200,000, and thereby underestimated the number of potential homebuyers by the same number. Therefore, economists using the DOF/DRU estimates might project a faster recovery in the housing market than those who use the CB estimate. However, making a projection is not that simple. Differing models and assumptions can also have big effects.

The American Community Survey (ACS) is the source of the most current, 2005 household and vacancy data published by Census. The ACS was designed to replace the decennial census long form that was given to about one in six households for Census 2000. ACS was designed to provide detailed socio-economic data on a more frequent basis and make the decennial censuses simpler.

According to the 2005 ACS, California contained 12.098 million households. In contrast, the DOF/DRU estimate was 12.298 million (see Table 1). That difference in households (or occupied housing units) is more than a five-month supply of existing homes for sale [2] or more than a one-year total of new building permits.[3]

Sales of existing homes in California have been declining as a percentage of total occupied units after peaking in 2000 at 6.2 percent (see chart 1). How far will the current correction go? Will it return to the cyclical, 1993 low of 3.6 percent, or fall farther to the low of 2.6 percent that occurred in 1982, following one of the nation's most severe recessions? The forecast highlighted in Table 1, based on the CB population estimate,

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[1] *Which Population Estimates Are Best?* Published by Center for the Continuing Study of the California Economy (CCSCE), *Numbers in the News*, http://www.ccsce.com/Numbers.htm, April 2007, provides background on the two estimates. The 2006 estimates differed by one million residents, up from 828,000 in 2005.

[2] In 2005, total existing home sales of single-family homes, condos and co-ops were 598,600. In 2006, sales dropped to 460,600, according to the National Association of Realtors. The average monthly sales for the two years would be 44,133. For just 2006, sales averaged 38,383 per month, thus a five-month supply at the 2006 pace would be 191,917.

[3] According to the Census Bureau (CB), housing permits peaked in 2004, fell slightly in 2005, then declined more dramatically in 2006. In 2005, housing permits totaled 202,221, but in 2006 issuance dropped 23 percent, to 155,419.

predicts a longer, shallower correction than in previous cycles. The ratio of sales to total households does not drop much below 5.0 percent, as the market corrects gradually.[4]

Table 1. California Forecast Summary

Two Views of Growth in 2005 and 2010 (in thousands)

				Assuming CB Migration		Assuming DOF Migration +	
	1990	1995	2000	2005	2010	2005	2010
LABOR FORCE							
Total BEA Employment	**16,965**	**17,059**	**19,626**	**20,549**	**21,573**	**20,549**	**21,745**
Avg. Annual % Chg. Each 5 years	3.4	0.1	2.8	0.9	1.0	0.9	1.1
Employment as a % of Total Pop.	56.6%	53.8%	57.7%	56.8%	56.8%	55.6%	55.6%
Proprietors, Multiple Jobs, Part Time	2,853	3,362	3,847	4,466	4,688	4,466	4,726
Additional Job Demand Percentage	16.8%	19.7%	19.6%	21.7%	21.7%	21.7%	21.7%
Household (Resident) Employment	**14,294**	**14,062**	**16,024**	**16,782**	**18,080**	**16,782**	**18,176**
Unemployed Persons	874	1,201	833	958	794	958	807
Unemployment Rate	5.8%	7.9%	4.9%	5.4%	4.2%	5.4%	4.2%
Payroll Employment (NonAg)	**12,500**	**12,421**	**14,487**	**14,787**	**15,834**	**14,787**	**16,006**
Average Annual Percent change	3.0	-0.1	3.1	0.4	1.4	0.4	1.6
POPULATION							
Total Population *	**29,960**	**31,697**	**34,009**	**36,154**	**37,957**	**36,982**	**39,136**
Average Annual Percent change	2.5	1.1	1.4	1.2	1.0	1.7	1.1
HOUSEHOLDS							
Population in households	**29,008**	**30,841**	**33,051**	**35,279**	**37,948**	**36,128**	**38,034**
Average Household Size	2.79	2.81	2.87	2.92	2.92	2.94	2.94
Total Number of Households	10,381	10,962	11,503	12,098	13,013	12,298	12,947
Average Annual Percent change	1.9	1.1	1.0	1.0	1.5	1.3	1.0
HOUSING UNITS							
Occupied Housing Units	10,381	10,962	11,503	12,098	13,013	12,298	12,947
Vacant Housing Units	802	768	712	891	834	767	830
For Seasonal Use	195	n.a.	237	247	263	248	262
Total Housing Units	**11,183**	**11,730**	**12,215**	**12,989**	**13,847**	**13,065**	**13,777**
Avg. Annual % Chg. Each 5 years	2.3	1.0	0.8	1.2	1.3	1.4	1.1
Percentage Vacant	7.2%	6.5%	5.8%	6.9%	6.0%	5.9%	6.0%

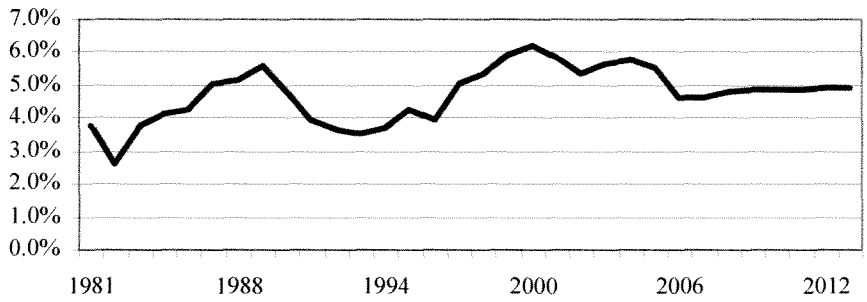
Sources: Dept. of Finance (DOF) Demographic Research Unit (DRU) and Economic Research Unit (ERU); U.S. Census Bureau (CB); U.S. Bureau of Economic Analysis (BEA); California Research Bureau (CRB); Author's calculations from forecasts by Moody's Economy.com and UCLA's Anderson School.

+ DOF/DRU projections are only for total population in 2010. Author produced projections of other variables.
* Based on Census Bureau and Economy.com mid-year estimates, not decennial censuses in order to use consistent growth rates. Year 2005 data under the CB migration scenario is based upon the American Community Survey (ACS). DOF estimates are based on Table 8, E-2 and Table 1, E-5. Projections for 2010 are based upon data from Table 1, P-1 .

[4] Moody's Economy.com is the basis of the CB scenario. The Pennsylvania-based firm forecasts housing permits and starts, home sales and prices, population, households, personal income, employment by sector, interest rates, inflation, and more. The firm is well known for data warehousing and for regional forecasts of states and metropolitan areas. http://www.economy.com/default.asp?src=economy_mainnav

DOF/DRU figures may offer more accurate estimates of hard-to-count people like undocumented residents, immigrants and domestic migrants.[5] The CB estimates may catch up with DOF estimates, but probably not until the 2010 Census is taken. The 100 percent count data it produces will be used to revise data in the years between the two decennial censuses. The 100 percent count data will probably be more accurate than sample data like the ACS. In effect, the 2010 Census will be used as a benchmark for revisions to the data for the intervening years.

Chart 1. Sales of Existing Homes as a Percent of Total Occupied Units in CA



Sources: National Association of Realtors, Moody's Economy.com, Author's calculations.

PER-CAPITA INCOME AND REGIONAL PATTERNS OF GROWTH

Even in the face of a strong rebound in incomes since the 2001 recession, per-capita income (PCI) shows California slipping compared to other states. This is especially evident as neighboring western states such as Arizona and Wyoming have experienced employment and income growth. A lower PCI makes it harder for people to buy homes.

The DOF/DRU population estimate implies that California's decades-old trend of declining relative PCI is continuing at an even faster rate than that implied by the CB estimate.[6] Rather than a PCI of $38,956, the state's 2006 PCI under the DOF/DRU estimate would be $1,027 less or just $37,929.

[5] Using CB or ACS data allows comparison with other states, e.g. comparing population growth rates or per capita income. DOF/DRU produces its own state-based estimate to provide an independent check on CB estimates. The University of California at Los Angeles (UCLA) Anderson School of Business Forecast is the basis for the DOF/DRU scenario. Author's calculations were used when variables were not available from Economy.com, UCLA or DOF/DRU forecasts.

[6] Per capita income (PCI) is simply total personal income (which was $1.42 billion in California in 2006) divided by population. If the denominator - population - increases while total personal income remains unchanged, PCI falls. Table 2 shows PCI "relative" to the nation's 100 percent in select years back to 1950.

Table 2. Relative State Per Capita Income and Growth

State	State Per Capita Income (PCI) as a Percent of the Nation's PCI in Select Years						Relative Change in
	1950	1980	1990	2000	2006	2006	
US Income = 100	$1,510	$10,135	$19,500	$29,843	$36,276	Rank	PCI 2000-06
Alabama	60.2	77.5	80.9	79.6	86.3	41	6.6
Alaska	158.9	145.4	116.0	100.1	102.7	17	2.7
Arizona	90.5	94.2	87.8	86.0	86.7	40	0.7
Arkansas	56.1	74.5	74.1	73.5	77.0	49	3.5
California	124.3	118.1	111.8	108.8	107.4	12	-1.4
Colorado	100.7	106.1	100.6	111.8	108.0	9	-3.8
Connecticut	125.2	122.2	136.5	139.0	137.4	2	-1.6
Delaware	137.4	106.1	110.5	103.4	107.6	11	4.1
DC, Washington	147.5	121.3	135.7	135.6	153.7	1	18.1
Florida	86.4	98.7	101.3	95.5	98.7	21	3.2
Georgia	70.5	83.2	90.5	93.8	87.9	39	-5.9
Hawaii	94.6	113.1	114.3	95.2	100.1	20	4.8
Idaho	88.0	85.8	81.0	80.7	82.6	44	1.9
Illinois	121.3	108.8	106.0	107.8	105.3	14	-2.5
Indiana	100.9	92.8	90.0	90.9	89.7	34	-1.2
Iowa	101.5	95.0	88.8	89.0	91.6	31	2.6
Kansas	96.9	98.6	92.9	92.8	95.8	22	3.0
Kentucky	65.6	80.8	79.1	81.8	80.9	47	-0.9
Louisiana	74.0	86.7	77.7	77.3	85.3	42	8.0
Maine	79.1	82.6	89.3	87.0	89.2	35	2.2
Maryland	108.7	110.3	117.6	114.8	121.5	5	6.7
Massachusetts	109.7	104.8	118.6	126.5	126.5	4	0.0
Michigan	113.8	101.8	97.2	99.0	93.3	28	-5.7
Minnesota	95.2	101.3	102.2	107.3	106.7	13	-0.6
Mississippi	51.0	69.5	67.2	70.4	73.1	51	2.8
Missouri	94.5	92.2	90.7	91.3	90.2	32	-1.1
Montana	109.5	89.8	79.3	76.8	84.6	43	7.8
Nebraska	103.3	91.1	92.4	92.6	94.8	24	2.3
Nevada	131.9	115.7	105.5	102.0	102.2	18	0.3
New Hampshire	89.3	97.4	105.8	111.9	108.4	8	-3.5
New Jersey	119.3	115.7	126.4	128.5	127.8	3	-0.8
New Mexico	79.7	82.5	76.4	74.2	81.8	45	7.6
New York	123.0	109.0	119.0	116.9	116.9	6	-0.1
North Carolina	71.3	81.0	88.6	90.7	88.9	37	-1.8
North Dakota	90.1	79.5	81.1	84.1	89.7	33	5.6
Ohio	106.5	99.2	96.0	94.5	91.9	30	-2.6
Oklahoma	75.8	94.1	82.8	81.8	88.8	38	7.0
Oregon	109.7	100.1	93.2	94.1	92.8	29	-1.3
Pennsylvania	102.8	99.7	101.2	99.5	101.1	19	1.6
Rhode Island	102.8	95.7	103.0	97.9	103.1	16	5.2
South Carolina	61.3	76.5	82.0	81.8	81.4	46	-0.5
South Dakota	85.0	80.0	82.9	86.2	93.5	27	7.4
Tennessee	68.1	81.7	85.9	87.4	89.1	36	1.6
Texas	90.3	97.8	89.1	94.9	94.4	26	-0.4
Utah	89.3	83.1	76.6	80.0	80.2	48	0.2
Vermont	77.4	85.5	92.2	92.7	94.5	25	1.7
Virginia	83.2	99.9	104.9	104.2	108.0	10	3.8
Washington	114.0	107.2	102.3	106.5	103.2	15	-3.3
West Virginia	69.9	80.3	74.5	73.4	76.9	50	3.5
Wisconsin	99.7	99.8	92.7	95.7	95.7	23	-0.1
Wyoming	113.8	115.4	91.9	95.4	112.1	7	16.8

Sources: Author's Calculations, Bureau of Economic Analysis, Regional Economic Information System data for 2000 and 2006, as of March 07, differ slightly from U.S. figures.

Using the DRU estimate causes the 2006 California PCI rank to drop from 12th place to 15th place, behind Illinois and Minnesota (See Table 2, column 7 with each state's 2006 rank). In 1950, California ranked 5th, behind Washington, D.C. and only four other states: Nevada, Alaska, Connecticut, and Delaware.

Nevada has fallen even faster than California - from 3rd place in 1950 to 17th place in 2006. With a higher proportion of tourism jobs than California, Nevada has a less diversified economic base. It also has attracted retirees looking for a less expensive place to retire than California.

CONNECTING EMPLOYMENT AND HOUSING THROUGH POPULATION

A forecasting framework that connects employment and housing can highlight the way population links those two variables. Faster population growth generally supports faster employment growth, which in turn can foster lower vacancy rates and stronger housing demand.[7]

The full-page data summary in Table 1 summarizes two versions of the housing outlook for 2010. Since the differences in the estimates result mainly from differences in the amount of in-migration, one is called the DOF migration scenario and the other the CB migration scenario. For the purposes of this analysis, net migration includes both foreign and domestic components. The scenarios assume balanced growth or growth across employment and income sectors, not just growth at low income levels. Furthermore, they assume growth and net in-migration in the prime working age populations (see chart 2).

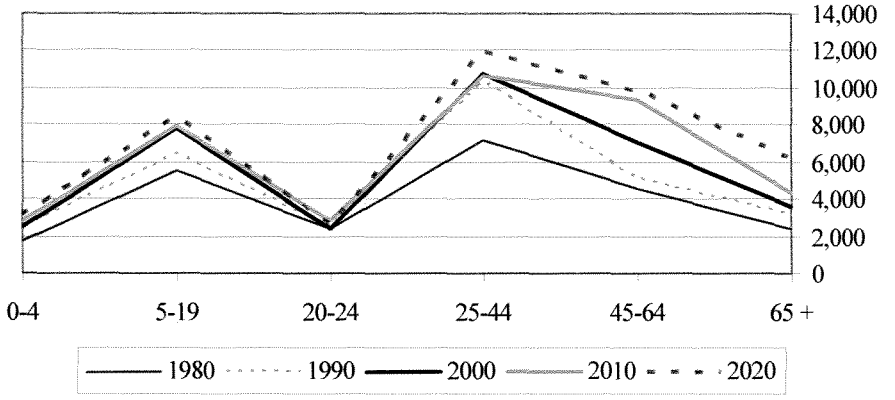
The Moody's Economy.com age projections show strong growth in the age 25-44 cohort in California. For example, between 1990 and 2020, the age 25-44 cohort grows rather than just aging to the right, into the next cohort, the 45-64 cohort, as one might expect. The most fortunate begin retiring in their mid-50s. Retiring in place is not expected to be as prevalent in California as in other states due to California's higher housing costs, but that phenomenon only partially explains the relatively slower growth forecast in California's over-65 cohort. In 2020, those born at the midpoint of the baby boom will turn 65. Once they retire and are not tied to urban employment centers, many will try to unlock the accumulated wealth in their homes, trade down in home size and/or move to less costly states. Many could not hope to retire at age 65 without resorting to these measures. However, other factors are at play. Below are a few.

- California attracts many students to its first-rate universities. They may stay for awhile after graduating, but then return to their home states to raise families.
- With high proportions of foreign born and immigrants who tend to be working age, they too, may decide to return to their home countries to retire and/or once they have accumulated savings.

[7] This framework was developed to assist in updating ten-year master plans for federal lands and forests by the State of Colorado Demography Office and the Center for Business and Economic Forecasting (CBEF).

- Younger retirees may choose to live in foreign countries or other states, temporarily, to travel and explore while they are still healthy. They then plan to return to live with adult children when they are older or in declining health.

Chart 2. California Age Distribution



Sources: Census Bureau decennial censuses, Moody's Economy.com

Inter-census estimates of population require good estimates of new jobs and housing. Between censuses, estimates of those variables help economists understand the population data (middle of Table 1). The most complete employment data comes from the federal Bureau of Economic Analysis (BEA),[8] which is also the source of the PCI data (see Appendix A).

Monthly employment growth measurements offer some of the timeliest data that economists can use to estimate population growth. An expanding economy generates jobs, and employment usually drives population, acting as a powerful magnet for newcomers to a state like California that is a major gateway for foreigners.

[8] BEA employment and associated personal income data result from calculations discussed in Appendix A. BEA is best known for producing U.S. gross domestic product (GDP) and similar state measures (GSP).

FIVE-YEAR PROJECTIONS

The data in Table 1 include approximate five-year projections for California in both scenarios in forecasts that extrapolate current trends. Moody's Economy.com 2010 projections for household and payroll employment, unemployment, population, and numbers of households form the basis for the CB scenario. Payroll employment is expected to grow at 1.4 percent per year to 2010, up from 0.4 percent annually during the prior five years, according to the CB migration scenario.

Larger population growth under the DOF migration scenario allows for stronger job growth of 1.6 percent per year to 2010. The UCLA Anderson School forecasts relied upon DOF population projections for 2010.[9] Top line employment data in Table 1 are BEA estimates of employment through 2005. They are the most complete employment data, but lag significantly since tax records are needed to develop the proprietor data.[10]

The estimates apply model-driven unemployment rates from Economy.com to the estimate of the number of people in the civilian labor force, which depends upon population and labor force participation rates. The published DOF projections for employment and unemployment only extended to 2009, so for consistency and greater ease of comparison, we kept assumptions for both scenarios the same where possible.[11] For example, unemployment is assumed to fall to 4.2 percent in 2010 under both scenarios. Likewise, vacant units were assumed to be 6.0 percent in 2010 for both scenarios. Under the DOF scenario, those assumptions produce a slight increase in the number of vacant units. In the CB scenario, vacancy rates fall in 2010 compared to 2005.

Average household size was 2.92 according to 2005 ACS data for California, while DOF estimated 2.94 people per household.[12] Rather than continuing the upward trend, average household size was kept constant at those respective 2005 levels for both scenarios. California had higher average household sizes than the nation as a whole, but national trends are towards smaller households.

The two scenarios contain slight differences as discussed above. Consequently, the DOF population in 2010 yields a lower number of households or occupied units than the CB scenario. This means that there may be more people here in 2010 under the DOF scenario, but greater numbers of people are not producing demand for more homes. Total housing stock reaches 13,777,000 in 2010, less than under the CB scenario.

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[9] The UCLA Anderson School forecast released June 20, 2007, was based upon the higher DOF/DRU population projections and estimates.

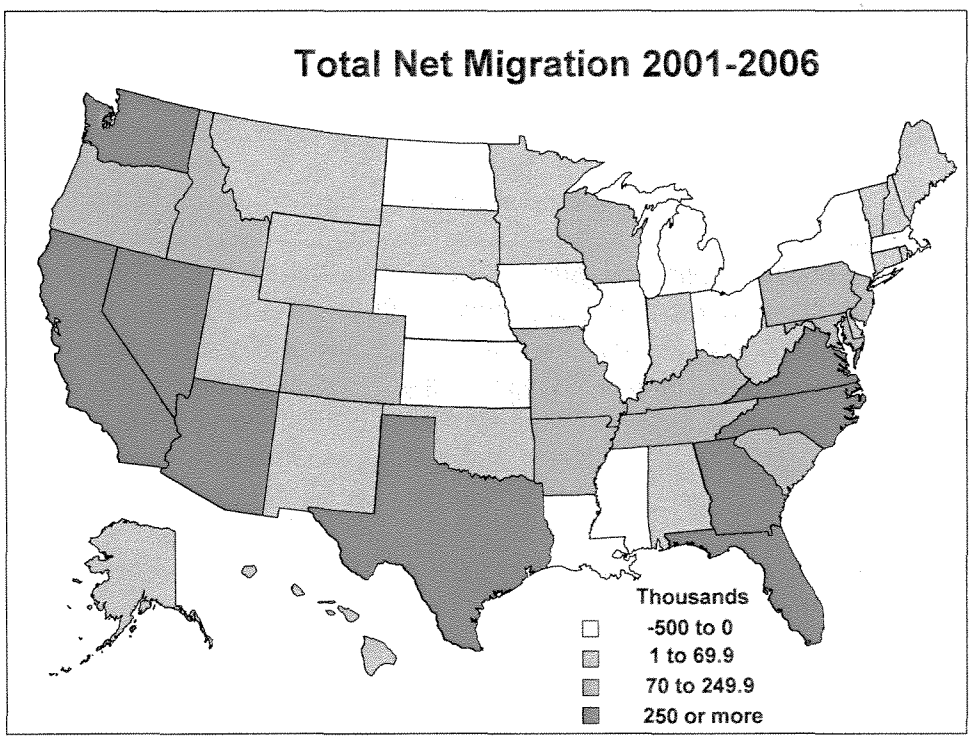
[10] BEA Employment in 2010 was produced by the Author for both scenarios. BEA Employment as a percentage of total population remains at the 2005 level, assuming that most of the baby boom generation will still be in the workforce.

[11] The DOF Economic Research Unit (ERU) produces employment forecasts with a state model for California. It was used in conjunction with the UCLA Anderson School forecast in developing projections for many variables in the DOF migration scenario. The ERU estimates were published in April 2007, so the UCLA June forecast was more current.

[12] The DOF migration scenario is based on DOF/DRU data from estimates in Report E-2, Table 8 and Report E-5 Table 1. Population projections in 2010 came from Report P-1, Table 1.

POPULATION AND HOUSING MODELS

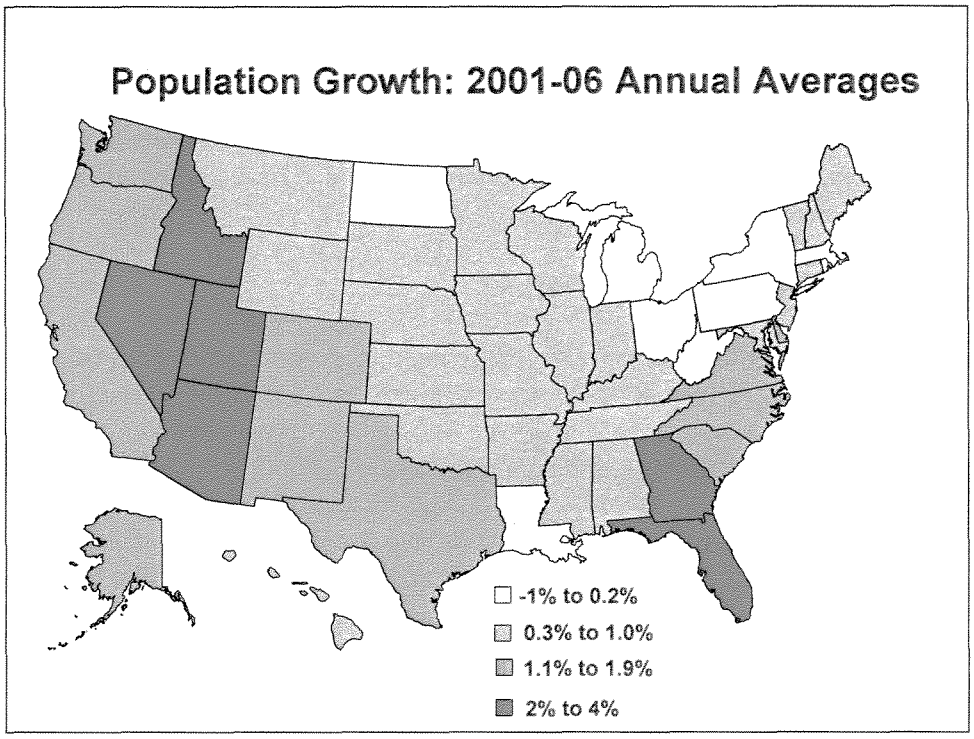
California's population growth from 2001 to 2006 was slightly above the nation's average annual pace of 1.0 percent (see both maps).[13] The DOF scenario assumes that net migration to California was positive in the five years from 2000 to 2005, and will remain positive through 2010, but at lower levels. [14] From April of 2000 through 2010, the DOF population projections have 2.24 million migrants (1.5 million in the five years from 2000 to 2006 and 729,120 between the beginning of 2006 and the end of 2010). Natural increases in births over deaths account for the remaining increases in population in the projections.



The CB scenario is predicated upon net out-migration that began in 2006 and continues in the next four years to 2010. More people are forecast to leave the state than move in. In effect, net migration is assumed to reverse course because of a drop in domestic migration, although foreign migration will remain strong. People have begun moving out in response to high home prices and the trend will continue. As a result, in the next five years, overall population growth is expected to slow to just under the nation's 0.9 percent pace.

[13] Maps of the U.S. are based on Census Bureau (CB) data.

[14] Migration is part of a "components of change" population model where births minus deaths plus net migration (foreign and domestic, legal and illegal) add to the existing population. Negative net migration means that more people leave than move to the state and is often called out-migration.



HOUSING SUPPLY AND DEMAND

Housing data provide additional tools for checking migration estimates and assumptions. Very simply, new units started are aged one year and then added to the existing housing stock. When supply and demand are equal, the markets are assumed to be in equilibrium. Supply and demand are affected by the price of housing, and expected inflation or appreciation. Prices of other assets or investments like stocks, population growth and interest rates also affect supply and demand.[15]

On the demand side, affordability and proximity to key employment centers or other location-specific amenities such as ports, rivers, lakes, airports and parks play major roles. Many issues can complicate the demand side formula and make it difficult to determine whether new housing construction combined with purchases of existing units can accommodate population growth. For example, high prices dampen demand and therefore projections for new units. The hesitancy of home owners to adjust prices downward with reduced demand, coupled with slowing income growth, may forestall a smooth recovery in home building.[16]

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[15] *In Short supply? Cycles and Trends in California Housing,* Public Policy Institute of California, San Francisco, CA, pp. 89-93.

[16] Prices that do not easily adjust down, like wages and home prices, are often said to be "sticky." Home owners may simply take their homes off the market and wait a few years to sell rather than take a price reduction.

On the supply side, construction costs and policy considerations can tip the balance. For instance, federal tax policy is highly supportive of housing ownership through the mortgage interest deduction. But high construction costs in complex urban areas can depress supply. High permit fees, impact fees and the costs of compliance with regulatory policies like higher energy conservation standards can also slow response to new demand. Other factors also influence supply and demand. These can be difficult to model, but are discussed below.

VACANT UNITS AND SECOND HOMES

The number of vacant units strongly affects the need to expand the overall housing stock. Low vacancy rates generally encourage new building, and according to the 2005 ACS, that has been the case in California. California has had relatively low vacancy rates compared to the nation throughout this economic cycle.

The proportion of vacant units in California rose to 6.9 percent in 2005 from 5.8 percent in 2000 (see the bottom line of Table 1) as new housing became available. Unfortunately, rapid changes in home prices, while encouraging new home building, also discourage new home ownership. That phenomenon may partially explain the rise in the number of vacant units. This rise in the percentage of vacant units indicated in CB's ACS data contrasts with the scenario implied by the 2005 DOF estimates, which depicts a fall in the percentage of vacant units to 5.9 percent.

Vacation, "seasonal use" or "second" homes are a subset of vacant units and have become more popular as more baby boomers reach ages when they achieve their peak earnings. Also, when they reach their 50s, they are more likely to acquire second homes. Owners of second homes can use them as rental or investment properties or keep them vacant for their exclusive use.

The housing boom that helped the U.S. weather the last recession tilted toward speculation and investment as the economy strengthened in the middle years of the expansion.[17] Many inland metropolitan areas in California were affected by this surge. In some of those markets, the investor share of new mortgages more than doubled from 2000 to 2005.

Replacement and demolition of existing housing can also complicate estimates of total housing stock. At least some of the new units that California added in the housing boom (774,000 between 2000 and 2005, according to ACS data) are likely to be replacements for units that were demolished. According to Census 2000, the median age of California's housing stock was slightly greater than that of the rest of the nation.[18] The latest ACS data show that California still has a greater proportion of older units than the rest of the

[17] *The State of the Nation's Housing 2006*, published by the Joint Center for Housing Studies of Harvard University, p. 7, reports that the investor share of loans was up sharply in the 9-10 percent range in both 2004 and 2005 from 6-7 percent in 1999-2003.

[18] Census 2000 Summary File 3 data reported in Tables H34 and H35 had the median year a structure was built for the U.S. as 1971 and for California, 1970.

nation (65.7 percent of its units were built in 1970 or earlier, compared to just 62.1 percent, nationally).

Sometimes it is hard to distinguish new units from replacements in the building permit data -it can be years before a new unit replaces one that has been torn down. That can cause estimates of total stock to be too high. Also, condemned units may be removed from the count of existing stock, rather than being counted as vacant. Some units can be reclassified from hotels to rental units or second homes, especially in resort towns. Older apartments or homes may turn into group or institutional quarters, such as nursing homes or halfway houses. The 2005 ACS did not include group home population or units such as college dorms, military barracks or prisons. For now, demographers and economists must make their own estimates of these populations, but future ACS data will include group quarters.

HOME OWNERSHIP IN URBAN AREAS

Home ownership rates, the availability of land, and zoning regulations also affect the housing supply. According to ACS data, California's home ownership rate of 58.4 percent was among the lowest in the nation in 2005. In comparison, the national average was 66.9 percent in 2005.

Home ownership tends to be higher in states like South Carolina or Minnesota, where higher proportions of the population live in rural areas, and in states like Arizona, Colorado and Oregon, which have more affordable home prices. Nevada is also highly urbanized like California,[19] but homeownership was slightly better at 60.7 percent and median home values much more affordable ($283,400 versus $477,700 in California according to the ACS.)

HOUSING AFFORDABILITY AND FUTURE DEMAND

Borrowing costs are a very important factor. Interest rates are expected to remain reasonable, but increase slightly through 2010. The ten-year Treasury bond rate is assumed to average 5.6 percent in 2010, up from 4.3 percent in 2005, but remain lower than the 6.0 percent recorded in 2000. The interest rate projections influence fixed 15- and 30-year mortgage rates, projected home prices and the projected number of mortgage

[19] Generally, a territory where population density exceeds 1,000 persons per square mile (1.6 people per acre) is considered urban. Surrounding census blocks that have an overall density of at least 500 people per square mile are also included. Blocks are generally small in area, but can be many square miles of territory in sparsely settled areas. A block group is a cluster of census blocks, grouped within census tracts. Block groups generally contain between 600 to 3,000 people and census tracts have between 1,500 to 8,000 people. The optimum size for a tract is 4,000 people and for a block group, 1,500. There were 8,205,582 blocks, 208,790 block groups and 65,443 census tracts defined for the 2000 Census. Urbanized areas contain at least 50,000 people, but urban clusters can be as small as 2,500 or as large as 49,999 people. The "rural" designation comprises all territory, population, and housing units located outside urban areas and urban clusters.

originations. In 2007, ten-year Treasury bond rates are forecast to be just slightly higher than in 2006, at 4.9 percent.[20]

Mortgage originations will continue to slow through 2008. However, neither California nor the U.S. will revisit their cyclical 2003 peaks in mortgage originations by 2011. Prices are projected to fall throughout 2008 in California, then slowly recover, starting in 2009.

The Office of Federal Housing Enterprise Oversight (OFHEO) produces one of the best price appreciation measures. OFHEO says that home prices have finally begun to moderate.[21] The rate of home price appreciation in the U.S. was slow but positive in the first quarter of 2007 at 4.3 percent for the year. However declines are occurring in some states and metropolitan areas.

Twenty-two of the 26 California cities on OFHEO's "ranked" list experienced price declines between the fourth quarter of 2006 and the first quarter of 2007, but the state's overall four-quarter appreciation was a still-positive 1.2 percent. The forecasts assume a slow, orderly U.S. correction that includes California. Slower population growth in California will slow prices and help to mitigate some of the affordability issues.

Moody's Economy.com projects the number of single and multifamily permits. The forecasts assume that construction of higher proportions of multifamily housing and condominiums in California will improve affordability to some extent. However, solving affordability problems may require housing policy changes and/or the passage of considerable time.

Lower building costs, technology improvements, greater availability of labor, and fewer regulatory restrictions can improve housing affordability. Higher energy efficiency can lower the monthly cost of ownership, but can also require higher initial investment.

HOUSING'S RETURN TO BALANCE

The faster population growth under the DOF scenario may hasten the recovery, but population growth alone may not be enough to get the housing market back into balance. Innovations in financial markets, like securitization, that allowed more money to flow into housing created some excesses evidenced in the sub-prime mortgage market mess. It may take several months or quarters to restore a sense of normalcy as new caution on the part of lenders unfolds and as they struggle to help borrowers avoid default and foreclosure.

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[20] The UCLA Anderson Forecast, June 2007, published only long-term, five year averages for the ten-year bond rate, but they are in the same direction as these quoted interest rates, which are from Economy.com's April 2007 forecast for California and other Western States.

[21] The Office of Federal Housing Enterprise Oversight (OFHEO) publishes quarterly price indexes based on constant or "repeat" addresses at www.ofheo.gov/HPI.asp.

Speculators and investors were attracted to the rapidly rising assets and their demand added to higher-than-expected home price appreciation. The numbers of investors have dwindled as home prices stagnate. Under these new conditions, investors can not expect to flip a home in one or two years and make a profit. They may have to wait for many years for appreciation to recover.

Many marginal buyers bought homes earlier than they would have for several reasons. Lending standards were loosened to allow marginal buyers to avoid down payments. Prospective buyers worried that if they waited, they would be priced out of the market, so they stretched to get into homes before they were financially ready. These marginal borrowers would have been part of future demand under more normal conditions.

We may not know how extensively the state and nation have borrowed from future demand until the next census results become available.

APPENDIX A: CALCULATIONS OF THE EMPLOYMENT ESTIMATES

The BEA employment estimate (top line of Table 1) and the associated personal income and Per Capita Income (PCI) data result from three different calculations.

1. All employers "with one or more employees" report the numbers and total earnings of hourly and salaried employees to the state departments of labor covered under the Unemployment Insurance Program. The data that they supply are known as "ES-202" data. They report earnings on a quarterly basis and employment on a monthly basis. Each firm is assigned a classification code based on its predominant activity. The Standard Industrial Classification (SIC) was used to classify employers until about ten years ago, when the North American Industry Classification System (NAICS) code replaced it. These data become available approximately seven months after the end of each quarter. State departments of labor supplement these data with data or estimates on the wage and salary employment and earnings of firms not covered under unemployment insurance, e.g., railroad workers, non-office insurance sales workers, and those of religious organizations. After removing all agricultural workers, because most employees in that sector do not have to be reported, the U. S. Bureau of Labor Statistics (BLS) releases those data as nonagricultural wage and salary employment. The BLS publishes those data for metropolitan areas as well as the state as a whole (see the line in Table 1 right above population called "Payroll" or "Establishment Employment").
2. The state labor departments send the payroll data to the BEA. The BEA supplies a wide range of data and information series including the national income and product accounts, such as gross domestic product and personal income. That responsibility requires BEA to maintain a complete and comprehensive view of the national economy. Thus, part of its work is to integrate aspects of state-reported data with information gathered at the national level. The BEA supplements or edits the state-produced non-agricultural wage and salary data, develops data for agricultural and military sectors, and produces a complete BEA wage and salary employment series that is useful for forecasting state income tax revenues, especially withholding tax receipts.
3. Finally, the BEA estimates the employment and earnings of proprietors and self-employed individuals, primarily on the basis of income tax records (Schedule C). While accounting for the activity and earnings of proprietors (such as store owners, consultants, doctors, and dentists) is extremely important, the implied number of "workers" reported here can be significantly overstated. The overstatement results primarily by counting workers as full- or nearly-full-time workers in the sectors where a significant number of the persons reported spend only a small amount of their time in self-employed activity. These proprietors may hold more than one job because they hold part-time jobs in order to fund startup businesses of which they are proprietors. Due to the time it takes to process income tax records, BEA estimates of employment lag significantly and are only available for 2005 (see Table SA04 at http://www.bea.gov/index.htm).

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