

GRAHAM

EMPLOYMENT GROWTH
2001-03

1.8

2001-06

1.5

STANFORD 9

2002

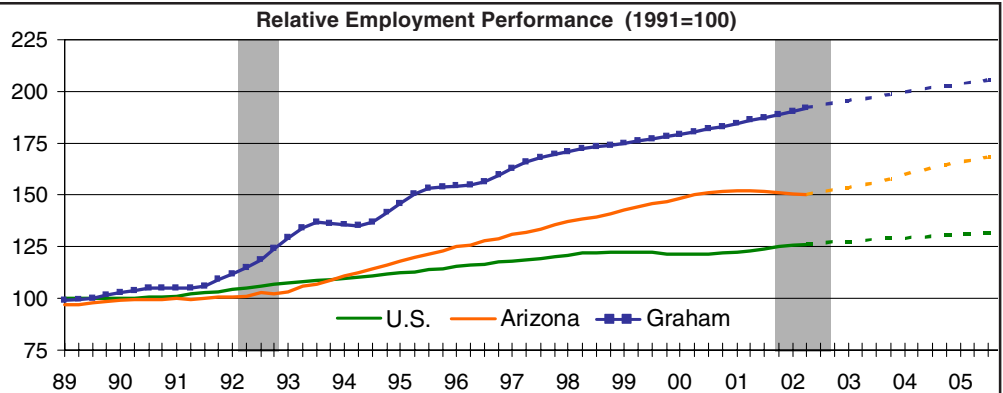
Language **31**
Math **51**
Reading **36**

EDUCATIONAL ATTAINMENT 2000

11.8%

POVERTY RATE

22.9%



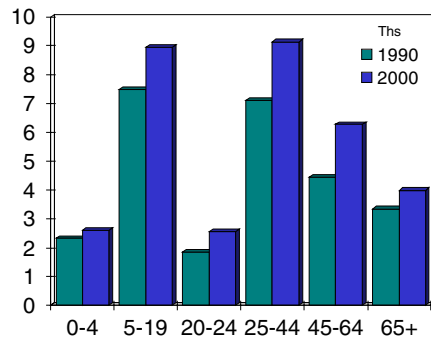
1995	1996	1997	1998	1999	2000	2001	Indicators	2002	2003	2004	2005	2006
0.29	0.31	0.33	0.33	0.36	0.37	0.38	Gross Product, C\$B	0.38	0.38	0.38	0.38	0.38
-2.6	9.4	5.4	0.6	7.4	3.9	0.7	% Change	2.4	-0.1	-0.5	-0.6	0.4
7.7	7.9	8.7	9.0	9.6	10.0	10.2	Total Employment (000)	10.4	10.5	10.7	10.9	10.9
14.2	2.4	10.0	3.4	6.7	3.8	2.2	% Change	2.0	1.8	1.8	1.9	1.8
8.2	10.0	8.9	8.5	8.5	6.6	7.3	Unemployment Rate	5.5	3.7	3.7	3.7	3.7
2.1	10.3	5.9	2.3	2.7	3.2	18.2	Personal Income Growth	2.5	1.6	2.2	2.1	2.4
30.6	31.5	32.2	32.8	33.3	33.5	33.4	Population (000)	32.2	30.9	29.9	29.1	28.5
104	117	127	110	84	70	70	Single-Family Permits	61	54	49	43	40
0	0	3	64	8	0	0	Multifamily Permits	0	0	0	0	0
67.9	70.7	73.8	76.7	79.7	84.3	91.2	Existing Home Price (\$Ths)	95.4	99.6	105.0	108.3	113.2
93	111	119	206	174	148	280	Mortgage Originations (\$Mil)	202	167	178	179	195
1.0	0.6	0.3	0.2	0.0	-0.1	-0.3	Net Migration (000)	-1.6	-1.6	-1.4	-1.1	-0.9
44	63	81	101	108	117	124	Personal Bankruptcies	82.9	50.3	46.4	44.1	41.2

INDUSTRY OPPORTUNITIES

Opportunities for economic development include:

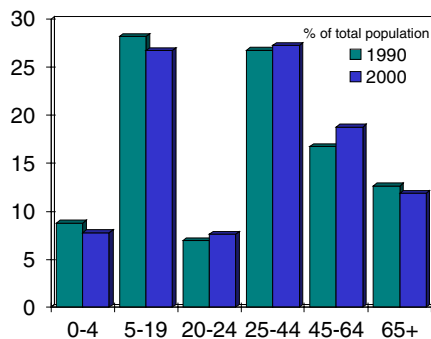
- Industrial machinery
- Agriculture/Food processing/Agriculture technology
- Tourism

POPULATION BY COHORT



Source: Census Bureau

POPULATION DISTRIBUTION



Source: Census Bureau

ANALYSIS

Recent Performance. Graham County's economy has slowed considerably over the past two years due to weak job growth. All of GRH's industries, especially its significant government and service industries, are facing weak prospects, and have been adding jobs at a very modest pace, driving up the unemployment rates. One positive sign, however, is a fall in personal bankruptcy filings during the first half of 2002, a positive contrast to the statewide increase during this same period.

Government. The state and local governments are among GRH's top employers, accounting for nearly 40% of total employment. Correctional institutions such as Arizona State Prison Systems and the Federal Prison Facility, both of which are located in Safford, account for the majority of government jobs. Because government wages are higher than the average incomes in the county, government jobs disproportionately support local retail and service industries. Although revenues from strong consumer spending have helped alleviate some of the county's fiscal pressures, overall decreased revenues, increased unemployment benefits, and higher medical reimbursement costs will hinder any significant expansion in government offices or services in the near term. Jobs at prison facilities, however, are expected to be a stable component of the GRH economy. In the past two years, Arizona's inmate population has grown 10%, leading to an increased need for staff.

Health services. With Mt. Graham Hospital in Safford as a top employer for the county, the challenges facing the healthcare industry could have a significant effect on GRH. Although there have not been any reports of cutbacks in healthcare employment, an estimated state budget shortfall of \$1 billion over the next two fiscal years is expected to affect hospital finances via reduced healthcare reimbursements from the state. In addition to tighter state funding, GRH is unlikely to expand healthcare employment as it already has a higher percentage of healthcare workers than

the state average. In the long run, however, GRH's aging population will help support demand for medical services over the long term. Thus, the demand for doctors, nurses and other healthcare professionals will be strong.

Demographic trends. The poor job market and low per capita income helps explain the weak demographic trends in GRH. Net migration has been negative for the past two years, and for the first time since 1986 the population shrank in 2001. GRH's economy does offer traditionally stable employment within government and healthcare, but these are hardly high-growth industries. Only a minority of such jobs earns high wage rates. This contributes to low per capita income and the outflow of residents to larger metro areas with more diversified economies.

Per capita income in GRH is the second lowest among the state's counties, and income growth is also very weak in the county, offering challenging prospects for narrowing the income gap. Personal bankruptcy filings in the county have grown at a rapid pace over the past five years, pointing to some deterioration in credit quality. Longer term, a workforce with below average educational attainment and few high-income industries will limit GRH's economic growth.

Near-term growth in Graham County will remain subdued, due to its narrow industrial structure and weak population growth. Government and service jobs will be the mainstay of the county, providing a stable base for the economy. Jobs in correctional facilities and health service facilities have the most potential for growth, given the rise in the prison population and the rise in the elderly population. Overall, the principal challenge in GRH is finding ways to boost industrial diversity and generate higher-paying jobs. As such, the county is expected to perform below average over the long term.

Katharine Lievens
December 2002

EMPLOYMENT & INDUSTRY

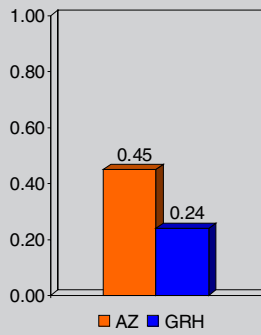
TOP EMPLOYERS

Arizona State Prison Systems
Bonita Nurseries
Eastern Arizona College
Federal Prison Facility
Impressive Labels
Mt. Graham Hospital
Wal-Mart Stores, Inc.

Source: Arizona Department of Commerce

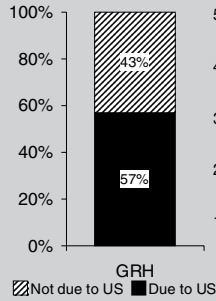
Employment Figures Unavailable

INDUSTRIAL DIVERSITY

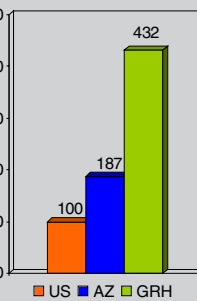


EMPLOYMENT VOLATILITY

DUE TO U.S. FLUCTUATIONS



RELATIVE TO U.S.



Public	
Federal	557
State	1,164
Local	3,668

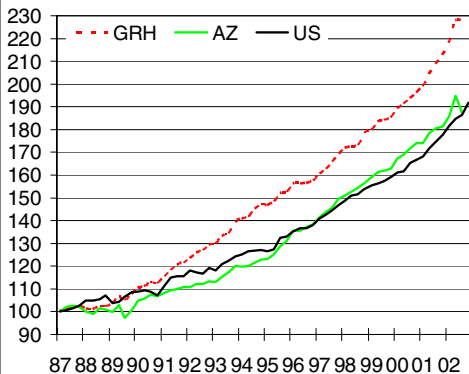
2001

COMPARATIVE EMPLOYMENT AND INCOME

Sector	% of Total Employment			Average Annual Earnings		
	GRH	AZ	US	GRH	AZ	US
Mining	1.6%	0.4%	0.4%	\$17,675	\$42,760	\$64,853
Construction	4.0%	7.3%	5.1%	\$24,178	\$35,534	\$37,846
Manufacturing	2.6%	9.3%	13.4%	\$18,724	\$52,820	\$50,161
Durable	1.2%	77.2%	60.1%	\$50,832	\$56,574	\$52,419
Nondurable	98.8%	22.8%	39.9%	\$18,244	\$40,158	\$46,703
Transport/Utilities	1.9%	4.9%	5.4%	\$49,292	\$42,761	\$50,161
Wholesale Trade	1.5%	4.9%	5.1%	\$23,186	\$47,228	\$49,721
Retail Trade	21.2%	18.6%	17.8%	\$12,863	\$19,835	\$19,357
Finance, Ins., Real Estate	0.7%	6.6%	5.8%	\$28,659	\$31,403	\$42,743
Services	13.5%	31.3%	31.1%	\$30,107	\$30,334	\$33,327
Memo: Health Services	9.3%	6.8%	7.9%	\$19,024	\$41,149	\$40,060
Government	53.0%	16.6%	15.9%	\$14,916	\$38,727	\$41,557

Source: Percent of total employment - BLS, 2001; Avg annual earnings - BEA, 2000; Economy.com

HOUSE PRICES



Source: NAR, Economy.com, 1987Q1 = 100, NSA

LEADING INDUSTRIES

SIC	Industry	Employees (000)
GVSL	Total state and local government	4.7
531	Department stores	0.7
GVF	Total federal government - civilian	0.6
801	Offices & clinics of medical doctors	0.5
541	Grocery stores	0.4
275	Commercial printing	0.2
701	Hotels and motels	0.2
176	Roofing, siding, and sheet metal work	0.2
FR	Farms	0.2
802	Offices and clinics of dentists	0.1
553	Auto and home supply stores	0.1
804	Offices and clinics of other practiti	0.1
521	Lumber and other building materials	0.1
552	Motor vehicle dealers used	0.1
571	Furniture and homefurnishings stores	0.1
Total leading industry employment		8.9
High-tech employment		0.0
As % of total employment, all industries		0.0

Source: BLS, Economy.com, 2001

MIGRATION FLOWS

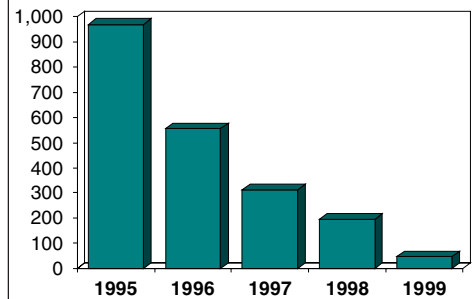
Into Graham County	Number of Migrants	Median Income
Maricopa County	201	16,428
Pima County	164	15,999
Greenlee County	146	36,499
Cochise County	102	19,999
Gila County	74	12,916
Coconino County	41	14,999
Navajo County	35	28,749
ND	ND	ND
ND	ND	ND
ND	ND	ND
Total Inmigration	1,473	20,508

From Graham County

Maricopa County	397	17,211
Pima County	208	17,352
Cochise County	144	23,570
Greenlee County	79	31,666
Navajo County	66	40,832
Gila County	47	9,687
Pinal County	44	30,624
Coconino County	35	15,937
Yavapai County	32	24,999
ND	ND	ND
Total Outmigration	1,676	19,354

Net Migration	-203	1,154
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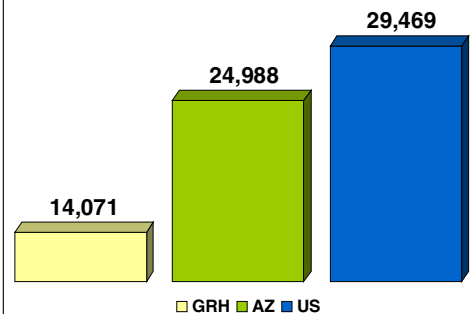
Net Migration, GRH



	Domestic	Foreign	Total
1995	950	21	971
1996	535	21	556
1997	290	22	312
1998	184	12	196
1999	34	14	48

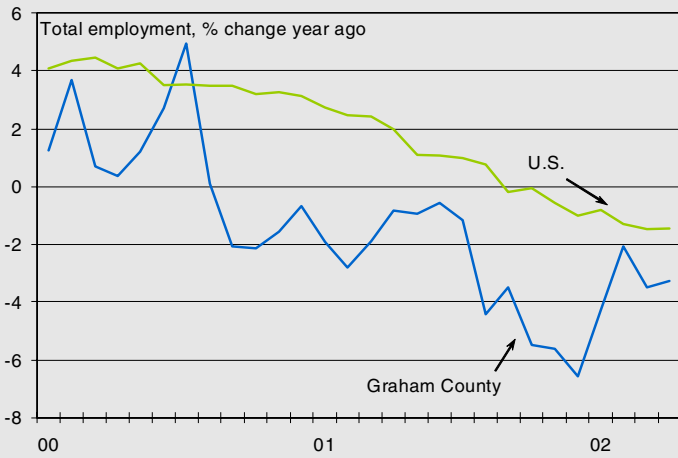
Source: IRS (top), 2001; Census Bureau, 1999

PER CAPITA INCOME

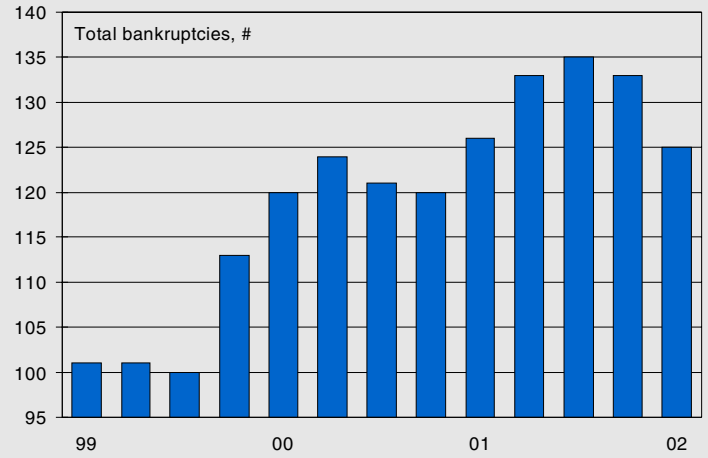


Source: Bureau of Economic Analysis, 2000

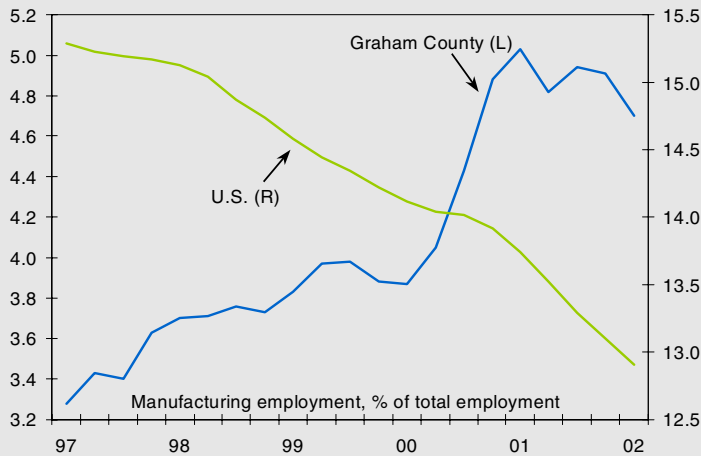
Weak Job Growth Plagues Graham County Labor Markets



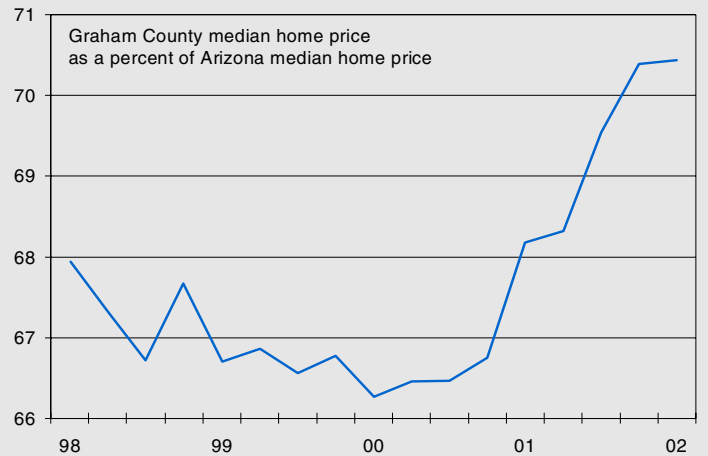
Weaker Economic Conditions Trigger Rising Bankruptcies



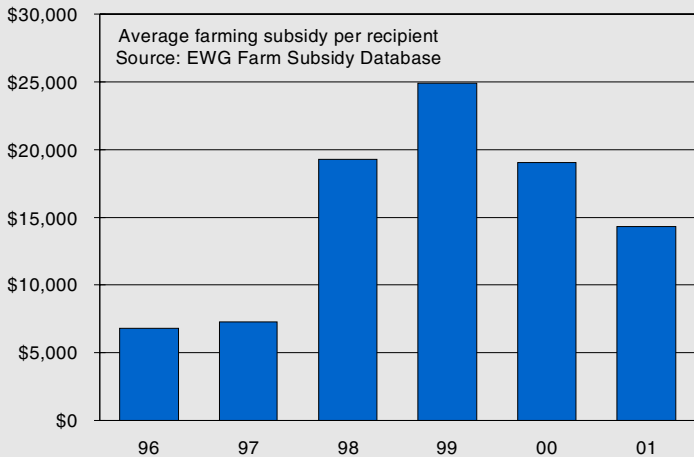
Manufacturing Employment Defies National Trend



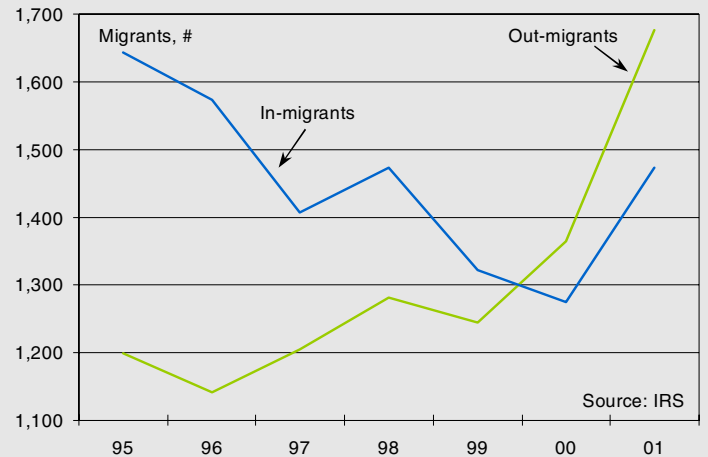
Home Prices, While Improving, Are Still Well Below Average



Farmers Manage with Declining Subsidies



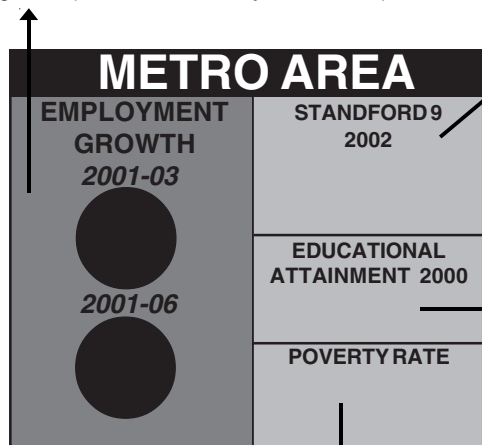
Economic Conditions Lead to Weaker Migration Trends



USER'S GUIDE

Educational Growth

These numbers represent the county's annualized employment growth rate in its short-term (over the next two years, top) and its long-term growth (over the next five years, bottom).



Poverty Rate

This data point reflects the share of total population in the county that lives below the Federal Poverty Line. This is 1999 data, released by the Census bureau based on the Decennial Census 2000 surveys. The Census Bureau uses a set of money income thresholds that vary by family size and composition to detect who is poor. If the total income for a family or unrelated individual falls below the relevant poverty threshold, then the family or unrelated individual is classified as being "below the poverty level."

Standford 9

The data represent percentile ranks for the county's 9th grade students, released in Spring 2002. Stanford 9 tests are a commonly used measure of educational attainment for K-12 students. The test is a standardized one that compares individual students' performance in each of the subject areas with a representative sample of national public school students.

Educational Attainment

This value represents the share of the county's residents aged 25 and over who have attained a bachelor's degree or higher. This is taken from data released by the Census Bureau based on the Decennial Census 2000 surveys.

Industry Opportunities

Future opportunities for economic development include a mix of those industries that already drive the state's economy, and others in which their roles may be enhanced. A three-step process led to the creation of priority economic opportunities. First, Economy.com's forecasts of industry employment over the coming ten years was used to provide a rank of growth rates across all two-digit industries as defined by SIC codes.

Second, Economy.com conducted econometric analysis of the comparative advantages that contribute to the determination of industry location, using this to calculate the estimated growth potential by industry in Arizona. This was then compared with actual industry performance over the past ten years, and the difference provided a ranking of industries in which full potential is not yet realized given current measures of comparative advantage.

The rankings emerging from this analysis were then combined with the ranking of industries according to the national outlook by industry, weighting these two factors equally. Finally, from the ranking of industries that emerged from these criteria, industries were selected that had qualities fundamental to the assumptions of the changing macro and international economic environment.

Population by cohort and population distribution

These two charts use population data for 1990 and 2000 released by the Census Bureau as part of its Decennial Census surveys. The first chart contrasts the actual number, in thousands, of residents in the county by age cohort, while the second chart details the share of residents in each age cohort.

Indicator	Units	Source	Note
Gross Product	Chain-weighted dollars	Economy.com	GCP is the sum of all income produced in a county, including corporate profits. Thus, it does not necessarily track employment growth.
Total Employment	Thousands	BLS 790 employment series; for NECMAs series estimated by Economy.com	Defined as sum of mining, construction, manufacturing, transportation/public utilities, wholesale/retail trade, finance/real estate, services, and government.
Unemployment Rate	Percent	Household employment series	
Personal Income Growth	% change previous year	Bureau of Economic Analysis	Measures income received by households from employment (including self), investments, and transfer payments.
Population	Thousands	Bureau of Census	
Single-Family Permits	Number of units	Bureau of Census	
Multifamily Permits	Number of units	Bureau of Census	
Existing Home Price	Thousands dollars	Nat'l Assoc Realtors	Index is affected by mix of homes sold.
Mortgage Originations	Millions dollars	Federal Financial Institutions Council	
Net Migration	Thousands	Bureau of Census	Calculated as number of domestic and international people moving into a state minus those leaving.
Personal Bankruptcies	Number of household filings	Admin. Office U.S. Courts	

USER'S GUIDE

EMPLOYMENT AND INDUSTRY STRUCTURE

INDUSTRIAL DIVERSITY

Industrial diversity is defined as the extent to which a county's industrial structure approximates the U.S. industrial structure.

Diversity is derived using the following formula:
 $Diversity = 1/\sqrt{\sum (EMP_{ij}/EMP_{USj}) * EMP_{ij}}$

Where EMP = share of employment in three-digit SIC industry j during period 2000-01; i = COUNTY; US = U.S. The Diversity measure is bounded between 0 and 1. 1 means the county has the same industrial structure as the U.S.; 0 means it has a totally different industrial structure than the U.S.

Formula derived from Hachman index, Bureau of Business and Economic Research, Univ. of Utah, December 1994.

EMPLOYMENT VOLATILITY

Employment volatility is defined as the standard deviation in a county's monthly year-over-year percentage nonagricultural employment growth relative to the standard deviation in U.S. year-over-year percentage nonagricultural employment growth over the 1992 to 2001 period. Volatility of 100 means that employment volatility in a county is equal to employment volatility in the nation. Counties tend to be inherently more volatile than states.

EMPLOYMENT VOLATILITY DUE TO U.S. FLUCTUATIONS

Volatility due to U.S. fluctuations (also known as "systematic volatility") is defined as:
 $SYSVOL = (Ri2)/1/2$

where SYSVOL = systematic volatility; R2 = is the proportion of total variance in county i's growth rate that is associated with contemporaneous fluctuations in national growth.

Volatility not due to U.S. fluctuations (also known as "nonsystematic volatility") is defined as:
 $NONSYS = 1 - (Ri2)/1/2$

where NONSYS = nonsystematic volatility in county i; R2 is the proportion of total variance in county i's growth rate that is associated with contemporaneous fluctuations in national growth.

Formulas modified from "Assessing Regional Economic Stability: A Portfolio Approach," Economic Review (Federal Reserve Bank of San Francisco), Winter 1990.

MIGRATION FLOWS

IRS data. When a taxpayer notifies the IRS of a change in address, the IRS records the household's current county of residence, the county to which the household is moving, the number of household members, and household income. Economy.com aggregates this data by metro area into gross migration. The data are then sorted to show the ten counties providing the largest number of new residents and the ten counties to where the largest number of current residents move. Subtracting the gross out-migration flows from the gross in-migration flows gives net out-migration.

The IRS migration data have several advantages. One advantage of the IRS data is that it is the only migration data set to show where out-migrants are moving to and where in-migrants are coming from. Another advantage is that the average income levels can be associated with both in-migrants and out-migrants. The disadvantages of the IRS migration data are that it only covers households that have filed income-tax returns and thus is not a complete record of all migration; and that it lags by two to two-and-one half years.

Census data. The Census measure of net migration attempts to capture all migration to and from counties. Economy.com aggregates this data to metro areas and to states. The Census measure of net migration differs from the IRS measure in several ways. First, Census measures only net migration; gross in and out flows are not available. Second, Census data cover all migrants, including international migrants, not just those who file income tax returns. Census data lack accompanying income data. Numbers differ from migration series data in indicator tables, which are estimated on Census 2000 data. New migration data from the Census will be available in 2002.

HOUSE PRICES

The house price index presents relative growth in the median price for existing single family homes, indexed to the first quarter of 1987. The median home price data comes from the National Association of Realtors, and is estimated at the county level by Economy.com. Each month the NAR Research Division receives data on existing single-family home sales from over 650 Boards/Associations of Realtors and multiple listing systems across the country. In 1994, data on over 1,500,000 existing single-family homes were received and processed.

LEADING INDUSTRIES

Leading industries are defined as the largest industries with location quotients greater than 1.1. A location quotient greater than 1 indicates an industry that serves more than the local market. Location quotients are calculated according to the formula: $LC_{im} = (E_{im}/E_{tm}) / (E_{iUS}/E_{tUS})$ where LC = location quotient in county m for industry i; E = employment in industry i for county m or the U.S.; and t = total employment for county m or the U.S.

Economy.com defines high-tech employment as the sum of employment in the following industries:

SIC	Industry
283	Pharmaceuticals
357	Computer & Office Equipment
366	Communications Equipment
367	Electronic Components & Accessories
381	Search & Navigation Equipment
382	Measuring & Controlling Devices
384	Medical Instruments & Supplies
385	Ophthalmic Goods
489	Communications Services, NEC
737	Computer & Data Processing Services
873	Research & Testing Services

Prepared for the Arizona Department of Commerce
Office of Economic Information and Research
December 2002