

Job-Seeking, Information-Age Style

Where can you find a job when the economic cycle is not in your favor? What are your best employment opportunities if you find yourself out of work in the ordinary course of events?

The number of answers to these questions is as large and unique as the number of workers and number of job opportunities. But with gigabytes of data and the ability to synthesize it and put it under the microscope, a whole new world emerges where solutions for displaced workers are brought into focus. The job-seeker or workforce specialist can then review these solutions and determine what may work best for the specific case at hand.

The Employment Churn

In times of growth as well as recession, the continuous churn of the workforce is in operation. The Bureau of Labor Statistics measured the August 2008 layoffs and discharges rate at 1.6% or approximately 2.1 million workers, a figure that does not include voluntary quits or retirements. In Virginia, this rate is equivalent to over 50,000 workers laid off or discharged per month.

The degree of employee churn varies based on the indus-

try. Four sectors with consistently higher rates of separations as well as hires are construction, retail, professional and business services, and leisure. Over the past year (ending August 2008) in the nation, these four sectors accounted for 39% of total nonfarm employment but 59% of total separations.¹

Job Impact from the Recession

Given the current climate of economic recession, it is essential to consider the performance of sectors in periods of economic downturn. During the 2001 recession — officially lasting from March to November 2001 in the nation — Virginia employment fell 2.2%. Much of the state's job loss, however, occurred after the close of the recession as employment bottomed out over a year after the end of the national recession.

During the current recession, employment in Virginia dipped 0.2% in the first half of the year, but these losses have been recovered already.² Nevertheless, the state is expected to

¹ "Job Openings and Labor Turnover: August 2008," Bureau of Labor Statistics.

² The Virginia Employment Commission revises the previous two years of employment in March of every year based on a benchmark of almost 99% of all employment. During times of recession, the employment estimates are usually revised downward.

Table 1: Virginia Sector Employment in the Last and Current Recession

Sector	2001 Recession*					Current Recession**				
	Peak Emp (000)	Trough Emp (000)	Peak Date	Trough Date	% Change	Peak Emp (000)	Trough Emp (000)	Peak Date	Trough Date	% Change
Construction	219	212	Mar-01	Feb-03	-3.4%	253	233	Mar-06	Aug-08	-7.8%
Finance, Insurance, and Real Estate	183	179	Dec-00	Oct-01	-2.5%	196	191	Mar-07	Sep-08	-2.8%
Leisure	304	298	Jun-01	Jan-02	-1.8%	352	345	Feb-08	Jun-08	-2.2%
Professional and Business Services	580	544	Dec-00	Oct-02	-6.3%	No decline				
Retail	414	399	Dec-00	Jan-03	-3.6%	429	424	Jul-07	Oct-07	-1.2%
Transportation, Warehousing, and Utilities	127	117	Feb-01	Jan-04	-8.0%	122	119	Jan-08	Sep-08	-2.1%
Wholesale	117	113	Dec-00	Jul-02	-3.5%	122	122	Mar-08	Aug-08	-0.7%
Total – All Industry	3,559	3,481	Dec-00	Apr-03	-2.2%	3,779	3,772	Feb-08	May-08	-0.2%
Sectors with no sustained decline in either recession										
	Emp (000) Mar 2001	Emp (000) Nov 2001	% Change	Emp (000) Jan 2008	Emp (000) Sep 2008	% Change				
Education and Health Services	342	352	+2.9%	422	430	+1.9%				
Government	629	630	+0.2%	691	701	+1.5%				
Other Services	166	172	+3.6%	187	188	+0.6%				
Sectors in continuous decline through the interim recession period										
	Emp (000) Mar 2001	Emp (000) Nov 2001	% Change	Emp (000) Jan 2008	Emp (000) Sep 2008	% Change				
Information	124	113	-8.4%	90	90	+0.7%				
Manufacturing	350	330	-5.7%	274	274	-0.1%				

*The national recession began in March 2001 and ended in November 2001.

**Though the current downturn has yet to be termed a "recession," we assume here a recession began in January 2008.

lose jobs as a result of the economic downturn. Our forecast expects state employment to drop 2.5% (-94,000 jobs) from the first quarter of 2008 to a trough in the fourth quarter of 2010.

Virginia's sectors will be impacted differently as the table here shows. Three of the state's sectors — education and health services, government, and other services — were somewhat insulated from the last recession and did not sustain an employment loss as a result of the downturn. Each of these sectors has continued to grow so far in 2008.

Two sectors — manufacturing and information — have been more or less in continuous decline since the last recession. Manufacturing employed 378,000 in May 1998 and lost 28% of employment (-106,000 jobs) en route to a trough in March 2008. The information sector peaked at 125,000 jobs in January 2001 and also lost 28% of employment (-35,000 jobs), bottoming out in January 2008 and expanding employment just slightly since then. Much of the job loss in information was among wired telecommunications carriers.

Employment in the remaining sectors declined during the 2001 recession and most of these have lost jobs during the current recession as well. Construction shed more jobs in relation to the current recession (-7.8%) compared to the 2001 recession (-3.4%). This is not surprising given the integral role of the declining housing market in precipitating the current downturn. Likewise, the finance, insurance, and real estate sector dropped more during the current recession so far (-2.8%) than during the 2001 recession (-2.5%). Professional and business services employment plummeted 6.3% during

the 2001 recession, a large drop partially due to the tech bust after the turn of the century. In 2008 through September, the professional and business services sector has continued to grow.

Among the other sectors, transportation, warehousing, and utilities dropped the most, 8.0%, during the last recession; but one can argue that more was behind this job loss than the recession because this sector did not recover all of the lost employment, recovering just some and being relatively stable at a new level thereafter.³ Much of the job loss in this sector during the last recession occurred in the transportation component, especially air transportation.

The three remaining sectors — retail, wholesale, and leisure (which includes lodging, restaurants, and entertainment) — are all dependent upon consumer spending. While leisure has already declined in 2008 more than in the prior recession, both retail (-1.2%) and wholesale (-0.7%) shed fewer jobs in 2008 than in the 2001 recession. Retail contracted by 15,000 jobs (-3.6%) during the 2001 recession and wholesale shed about 4,000 jobs (-3.5%).

Occupation Impact in the Retail Sector

Presuming that employment in Virginia's retail sector matches the loss in the previous recession, a 3.6% peak-to-trough decline, retail would shed about 13,000 jobs from its September 2008 level.⁴ If this impact is spread evenly among the existing industries and occupations within the sector, the occupations impacted the most will be those in Table 2. The biggest job loss would be of 3,409 retail salespersons who

would be joining approximately 640 retail salespersons already unemployed in the state. The next-most impacted occupations would be cashiers (-2,467 jobs), first-line retail supervisors (-884), and stock clerks and order fillers (-835).

It is reasonable to guess, however, that some of the more skilled occupations in retail might be somewhat protected from job cuts. For example, 112 pharmacists would lose jobs if the 13,000 cuts were made evenly among occupations within Virginia's retail sector, but the high demand for pharmacists (hinted at by the very low unemployment among pharmacist according to unemployment claims filings), may shield this occupation from that large a number of cuts.

Alternative Occupations

The top two occupations impacted by a decline in retail, retail salespersons and cashiers, both generally require short-

Table 2: Top Twenty Occupation Impact of 13,000 Lost Retail Jobs in Virginia

SOC Code	Occupation Title	Number of Jobs Lost	Number Unemployed ⁵
41-2031	Retail Salespersons	3,409	640
41-2011	Cashiers	2,467	629
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	884	220
43-5081	Stock Clerks and Order Fillers	835	210
49-3023	Automotive Service Technicians and Mechanics	317	177
43-4051	Customer Service Representatives	281	724
11-1021	General and Operations Managers	224	289
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	192	172
53-3033	Truck Drivers, Light or Delivery Services	188	227
53-7064	Packers and Packagers, Hand	169	390
43-5071	Shipping, Receiving, and Traffic Clerks	164	153
41-3099	Sales Representatives, Services, All Other	158	1,078
43-9061	Office Clerks, General	157	439
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	156	826
43-3031	Bookkeeping, Accounting, and Auditing Clerks	146	403
41-2022	Parts Salespersons	136	66
43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	127	134
29-1051	Pharmacists	112	1
29-2052	Pharmacy Technicians	110	47
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	100	138

Source: JobsEQ(R). Patent Pending.

³ Bar codes and "just-in-time" inventory provided opportunities for productivity gains.

⁴ Retail employment peaked in July 2007 at 428,900. A 3.6% drop from this level is a decline to 413,500 jobs, approximately 13,000 less than September 2008 employment of 426,400.

⁵ Occupation unemployment is based on an average over the twelve months ending October 2008.

Table 3: Short-Term On-the-Job Training Occupations with Highest Expected Growth in Virginia

SOC Code	Occupation Title	Employment (2008 Q1)	Average Wages (2006)	Expected Annual Growth Rate
31-1011	Home Health Aides	13,915	\$20,111	4.5%
39-9021	Personal and Home Care Aides	11,276	\$18,614	3.9%
31-2022	Physical Therapist Aides	1,167	\$23,583	3.0%
39-2021	Nonfarm Animal Caretakers	2,399	\$19,376	2.9%
31-9093	Medical Equipment Preparers	1,940	\$27,437	2.7%
37-3019	Grounds Maintenance Workers, All Other	815	\$27,399	2.6%
25-9041	Teacher Assistants	35,012	\$21,888	2.6%
39-9011	Child Care Workers	12,924	\$18,700	2.5%
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	1,714	\$20,329	2.5%
31-9099	Healthcare Support Workers, All Other	5,232	\$27,981	2.5%
39-3092	Costume Attendants	53	\$27,303	2.4%
31-2012	Occupational Therapist Aides	131	\$27,651	2.4%
53-3041	Taxi Drivers and Chauffeurs	6,159	\$23,940	2.4%
53-3022	Bus Drivers, School	21,369	\$24,594	2.3%
39-3091	Amusement and Recreation Attendants	7,877	\$17,302	2.3%
43-4111	Interviewers, Except Eligibility and Loan	5,042	\$27,637	2.2%
37-3011	Landscaping and Groundskeeping Workers	25,498	\$22,760	2.2%
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	9,863	\$17,841	2.1%
37-3013	Tree Trimmers and Pruners	1,731	\$28,684	2.1%
39-9099	Personal Care and Service Workers, All Other	1,925	\$21,655	2.1%

Source: JobsEQ(R). Patent Pending.

term on-the-job training.⁶ The skill levels of such individuals, therefore, will likely be relatively low. Other short-term on-the-job training occupations may offer employment opportunities. There are two problems with this line of

reasoning, however: (1) these low-skilled occupations have lower-than-average wages, \$22,849 compared to \$40,780 for all occupations in Virginia, and (2) these occupations have lower forecast growth rates, 1.2% annually compared to 1.5% for all occupations in Virginia—lower forecast growth rates may translate into less demand and therefore fewer job openings and possibly less long-term job stability.

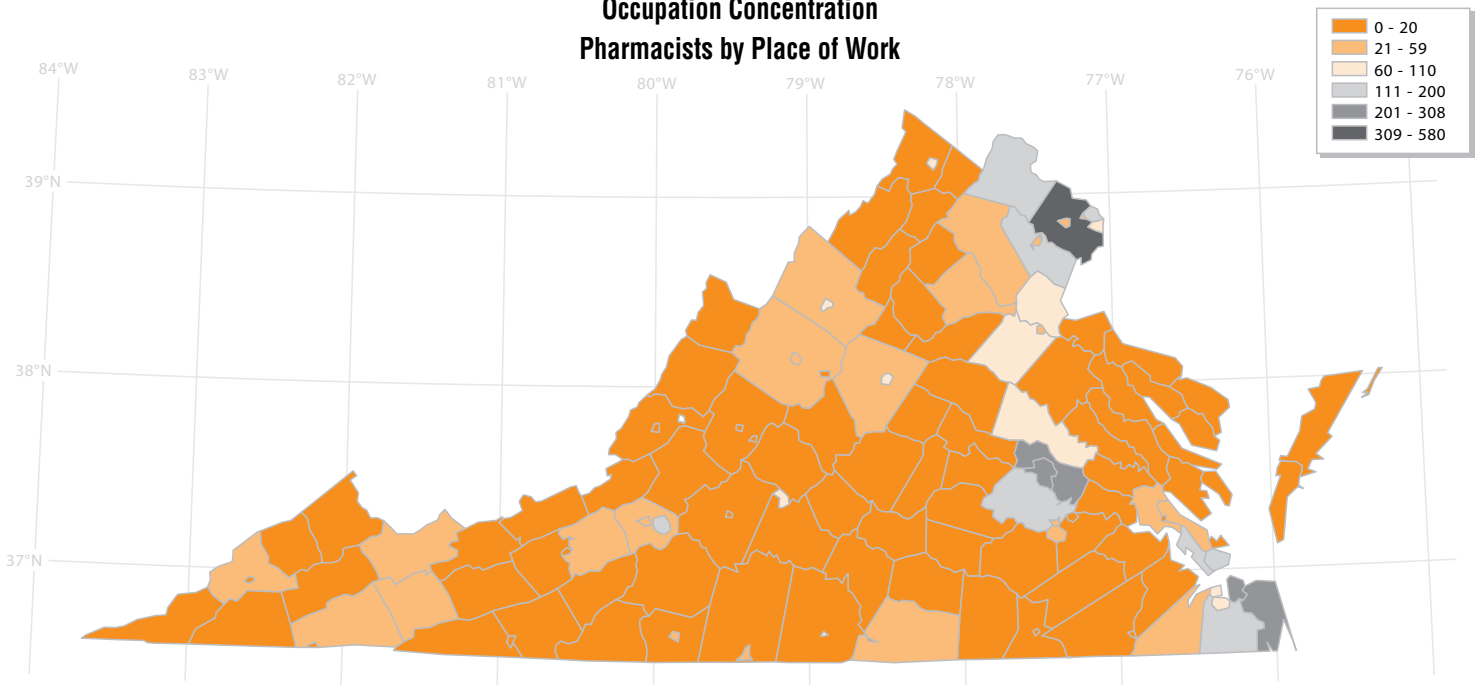
But with great data comes better decisions. Table 3 shows the twenty short-term on-the-job training occupations with the highest expected growth rates. Cashiers in Virginia average \$17,901 annual wages and all but two occupations in the table have higher wages. Retail salespersons average \$23,519 annual wages in the state and half of the occupations in Table 3 have higher wages.

Further details on these occupations can be probed to see how they may fare during the recession. Over 85% of home health aides in Virginia, for example, are employed in the health care sector — one of the sectors, as we noted earlier, that may not decline in employment during the coming recession. Likewise, teacher assistants and school bus drivers are predominantly employed in a sector — education — which also has a history in

Virginia of not shedding jobs during a recession.

⁶ Assignment of occupations to the “short-term on-the-job training” classification is based upon “Occupational Projections and Training Data” from the Bureau of Labor Statistics, <http://www.bls.gov/emp/optd/>.

**Occupation Concentration
Pharmacists by Place of Work**



Source: JobsEQ® Patent Pending. Data as of 2008Q1

Table 4: U.S. Metro Area Profile for the Pharmacists Occupation (SOC 29-1051)

Metropolitan Area	Pharmacists		Cost of Living (US=100)	Unempl Rate	Population	Mean Commute Time (Minutes)	Natural Amenities	Jul Avg Temp	Jan Avg Temp
	Employment	Annual Job Openings							
New York-Northern New Jersey-Long Island, NY-NJ-PA	14,920	536	159	5.5%	18,300,000	36	3.6	75	31
Los Angeles-Long Beach-Santa Ana, CA	8,522	306	127	7.3%	12,400,000	29	7.0	69	54
Chicago-Naperville-Joliet, IL-IN-WI	8,280	297	94	6.3%	9,100,000	31	2.8	74	24
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5,209	187	101	5.5%	5,700,000	28	3.0	76	32
Miami-Fort Lauderdale-Miami Beach, FL	4,738	170	107	6.3%	2,800,000	27	6.0	82	66
Boston-Cambridge-Quincy, MA-NH	4,442	159	111	5.0%	4,400,000	28	3.5	72	27
Dallas-Fort Worth-Arlington, TX	4,000	144	86	5.3%	5,100,000	27	4.0	85	45
Houston-Baytown-Sugar Land, TX	3,707	133	85	5.1%	4,700,000	29	3.2	83	52
Atlanta-Sandy Springs-Marietta, GA	3,666	132	99	6.4%	4,200,000	31	3.1	78	43
Detroit-Warren-Livonia, MI	3,577	128	90	8.3%	4,500,000	27	3.0	72	24
Washington-Arlington-Alexandria, DC-VA-MD-WV	3,514	126	120	4.0%	4,800,000	33	3.0	77	35
San Francisco-Oakland-Fremont, CA	3,165	114	159	6.1%	4,100,000	31	6.6	65	48
Phoenix-Mesa-Scottsdale, AZ	2,989	107	108	5.4%	3,300,000	26	5.9	91	51
Minneapolis-St. Paul-Bloomington, MN-WI	2,573	92	110	5.7%	3,000,000	24	2.6	72	12
Baltimore-Towson, MD	2,413	87	115	4.7%	2,600,000	30	3.2	78	35

Note: Employment and wages are as of the fourth quarter of 2007 and unemployment rates are as of September 2008 (source: BLS and JobsEQ). Population and commute data are from the 2000 Census. The Natural Amenities rank is on a scale of 1 to 7 (7 being the best) measuring the physical characteristics of an area that enhance the location as a place to live (source: USDA). Annual job openings include occupation growth and turnover demand (source: BLS and JobsEQ).

The High-Skilled Job Search

Shifting occupations among highly-skilled laborers is sometimes not as easy as for lower-skilled workers. High-skilled individuals will certainly have more options overall than a low-skilled individual, but if the high-skilled worker has skills specific to a single occupation and wishes to maintain a high wage level associated with that occupation, changing career paths may not be an option. For example, suppose a number of pharmacists lose jobs in retail during the current recession. What job options do they have if they wish to continue to work as pharmacists?

Highly skilled workers may expand their search geographically out of desire or necessity. County-level analyses of occupation concentration can be performed for job-seekers looking to relocate within a specific state. The map of Virginia shown here illustrates where pharmacists are employed in the state. The number of pharmacists does not always vary in strict proportion to population or even employment, so

an occupational analysis such as illustrated in this map can provide insights for the job-seeker.

Such occupation concentration analyses can even be performed on a national level. Table 4 displays the 15 U.S. metro areas with the most pharmacists by place of work with a sampling of other data that may be pertinent to job-seekers such as climate, natural amenities, commuting time, the unemployment rate, and cost of living.

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Occupation data for this article was provided by JobsEQ®, sponsor of the *Virginia Economic Trends* for the fourth quarter. This online information tool has been in use in Virginia for more than four years by Virginia localities and state agencies.