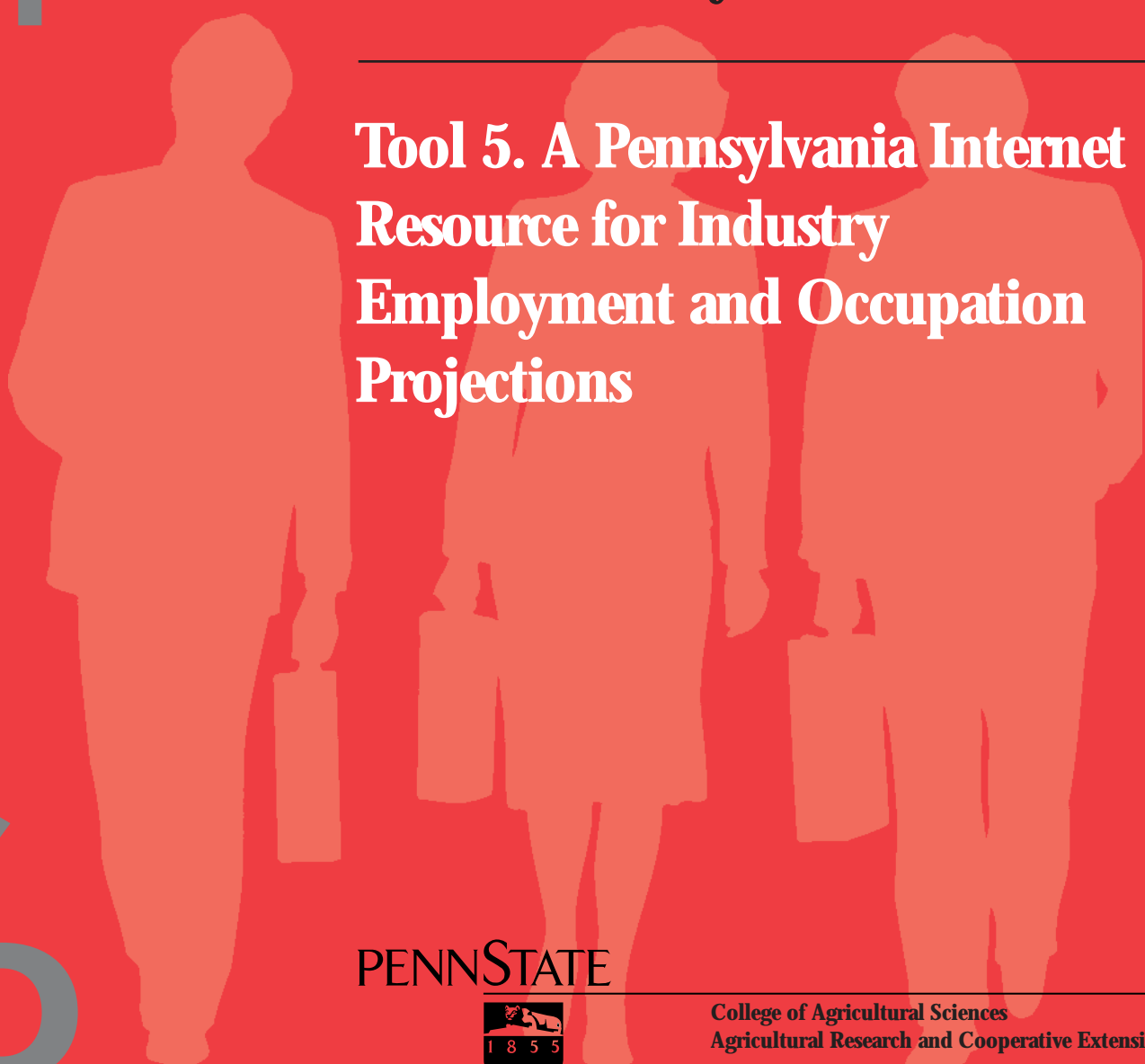




Using Employment Data to Better Understand Your Local Economy

Tool 5. A Pennsylvania Internet Resource for Industry Employment and Occupation Projections



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College of Agricultural Sciences
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Summary

The Center for Workforce Information and Analysis (CWIA) in the Pennsylvania Department of Labor and Industry provides employment projections at both the industry and the occupation levels. Short-term and long-term on-line industry projections and demand occupations are provided for each of the state's 22 Workforce Investment Areas (WIAs),¹ which include all 67 counties in the Commonwealth. Short-term and long-term occupational projections can be obtained by contacting the center at 1-877-493-3282.

Overview: Employment and Occupation Projections Can Help Identify Workforce Needs

Other tools in this series have focused on answering questions such as “What jobs are the basis of our economy?” and “How has our economy changed over time?” While this information is important for understanding *current* local economic conditions, it provides somewhat limited insights into the question “What are the expected growth industries and occupations in our local economy?” Answering these questions using an on-line tool available from the state is now possible.

CWIA (www.dli.state.pa.us/workforceinfo) has developed extensive capabilities in addressing questions about future employment growth. Working in conjunction with a national consortium sponsored by the Employment and Training Administration at the U.S. Department of Labor (www.doleta.gov), CWIA provides industry employment and occupation projections for both the short- and long-term. The overarching goal of the initiative is to present key labor market facts so that all job seekers looking for quick entry into the labor market can make informed job choices.

1. In 1998, Pennsylvania implemented federal legislation known as the Workforce Investment Act of 1998. This legislation was adopted to coordinate and improve employment, training, and education systems. The legislation also mandated the creation of local workforce investment boards as the vehicle to develop and ensure the implementation of a unified and effective strategy for addressing workforce development issues and meeting service delivery needs.

Some Key Definitions

This tool introduces resources for analyzing employment growth at both the industry and occupation level. An *industry* refers to a productive sector of the economy, such as manufacturing. An *occupation* refers to a particular job title or skill.

Industry Employment Projections

Short-Term Industry Employment Projections

CWIA provides short-term industry forecasts (2 years) for each of the Commonwealth's 22 workforce investment areas. Short-term industry forecasts are produced by software designed by America's Labor Market Information System (ALMIS), which was tested and further refined through a consortium of states. Projections are produced at the two-digit Standard Industry Classification level for each WIA.

Short-term industry forecasts display the likely industry employment trends within a specific geographic area. The ALMIS models used to produce the industry forecasts rely on historical patterns, leading economic indicators, and the relationships among different industries. The model provides quarterly employment projections. Table 1 shows sample output.

Table 1. Berks County Workforce Investment Area—Number of Jobs.

Industry Description	4Q 2000	1Q 2001	2Q 2001	3Q 2001	4Q 2001	Change from 4Q 2000	
Finance, Insurance, and Real Estate	8,383	8,410	8,425	8,427	8,427	44	0.52%
60 Depository Institutions	4,054	4,090	4,025	4,022	3,997	-57	-1.41%
61 Nondepository Institutions	355	354	365	374	372	17	4.79%
62 Security & Commodity Brokers	347	365	359	365	367	20	5.76%
63 Insurance Carriers	1,824	1,811	1,822	1,829	1,826	2	0.11%
64 Ins Agents, Brokers, Service	792	797	809	820	824	32	4.04%
65 Real Estate	890	870	917	949	912	22	2.47%
67 Holding & Investment Offices	121	123	128	128	129	8	6.61%

Data which might be identified with an individual employer are not published.

Table 2. Berks County Workforce Investment Area—Industry Employment.

SIC	Industry Title	Employment		Change 1998-2008		Average Annual Change
		Estimated 1998	Projected 2008	Number	Percent	
60-67	Finance, Insurance, and Real Estate	7,970	8,530	560	7.03%	56
60	Depository Institutions	4,000	3,970	-30	-0.75%	-3
602	Commercial Banks	2,800	3,050	250	8.93%	25
	Other Depository Institutions	1,200	920	-280	-23.33%	-28
61	Nondepository Institutions	310	390	80	25.81%	8
614	Personal Credit Institutions	50	60	10	20.00%	1
616	Mortgage Bankers & Brokers	170	220	50	29.41%	5
	Other Nondepository Institutions	80	120	40	50.00%	4
62	Security & Commodity Brokers	290	420	130	44.83%	13
621	Security Brokers & Dealers	200	280	80	40.00%	8
628	Security & Commodity Services	90	140	50	55.56%	5

Totals may not add up due to rounding.

Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis.

Long-Term Industry Employment Projections

CWIA also provides long-term industry projections (10 years) for the state and each of the WIAs. Like the short-term forecasts, long-term industry projections are produced using the ALMIS software. Projections are produced at the three-digit Standard Industry Classification level with the appropriate two-digit and Major Industry Division aggregations. The model provides 10-year employment projections. Table 2 shows sample output.

Occupation Projections

Industry employment projections are useful in identifying areas of strength as well as new opportunities. However, an industry focus does not provide a complete picture of demand for workers in the local job market. The fact that industry-level data does not provide information on the expected growth in particular occupations or skills illustrates this. Thus, even though analysis may identify that an industry is growing, it does not necessarily provide information on the specific types of jobs that are

growing. Occupation projections can help you understand what types of jobs will be in demand.

For example, suppose you are a workforce educator and, using the long-term industry projections, have identified that your local banking industry is expected to show tremendous growth. Hoping to capitalize on this growth, you have decided to develop an economic development strategy that nurtures this industry. One question you might ask is “What are the industry’s workforce needs?”

While the banking industry projections show broad trends, they do not provide insight into what specific types of jobs are growing. It may be the case that the growth will result in an increase in the number of bank tellers; or, it could be that the number of mortgage personnel is expected to increase. Because these occupations require different worker skills and knowledge, both individuals and practitioners need to know which specific occupations are growing. With this understanding, proper workforce training and education strategies can be developed. Two notable Internet sites provide occupation projection estimates.

All Occupations

The first site is the ALMIS site (<http://almis.dws.state.ut.us/occ/projhome.asp>), where you can obtain long-term projections for *all* occupations at the state level. On this site, users select the occupation(s) and state(s) in which they are interested. The site returns information on 10-year projected growth. A sample output from the ALMIS site is shown in Table 3.

Demand Occupations

The second occupation projection site of note is supported by CWIA (www.dli.state.pa.us/workforceinfo). Here, individuals can find information on the particular jobs that are most likely to grow in the near future in each WIA. Thus, the demand occupation projections should be viewed as a subset of all occupations. The list of demand occupations includes data on expected openings, wages, and needed education levels. Table 4 shows sample output.

Methods

Industry Employment Projections

CWIA employment projections by industry forecast the anticipated changes within an industry over time. The local forecasts are based on past regional employment trends within each industry (indeed, the model is basically a fancy version of the *charting* method described in Tool 2). The effects of state-level economic trends are also considered. Preliminary employment forecasts are initially produced using a family of statistical models. Analysts then review preliminary industry employment forecasts and make adjustments based on local and state developments that may occur over the forecast period.

All Occupation Projections (State-Level)

The state-level occupation projections build on the industry employment projections. Specifically, industry-staffing patterns are used to convert industry employment to occupational employment via a two-step process. First, staffing pattern data is used to specify the percentage of a particular occupation within an industry; for example 65 percent of employees in the banking industry work as tellers. The percentages for each occupation are multiplied by industry employment to produce occupation employment for that industry.

Occupation projection for industry (i) = employment projection for industry (i) x occupation's share of total employment in industry (i)
(example: 650 tellers = 1,000 projected jobs in the banking industry x 65% of bank employees are tellers)

In the second step, total occupation projections are determined simply by adding occupation projections across industries.

Total projected occupation employment = sum of occupation employment for all industries.

Demand Occupation Projections (WIA-Level)

CWIA demand occupations identification process begins by identifying the top 25 growing industries by employment for each WIA. The CWIA supplements this data by evaluating hiring trends for the area. From this data, the top 75 occupations are identified. When available for the area, employment projections are used to add those occupations that show a minimum of 20 projected openings per year. The list is also expanded by listing occupations recognized as demand occupations based on the knowledge of regional analysts. This list is not meant to be all-inclusive, and local experts can also provide occupations that may be added to the list.

Table 3. Select Occupation Projections for Pennsylvania.

State	Title	1998 Employment	2008 Employment	Quantity Employment Change	Average Annual Openings	Percent Employment Change
Pennsylvania	Able seamen, ordinary seamen, and marine oilers	500	450	-50	20	-10
Pennsylvania	Accountants and auditors	42650	43550	900	1560	2
Pennsylvania	Actors, directors, and producers	2350	2600	250	80	11
Pennsylvania	Actuaries	800	850	50	20	6

Source: almis.dws.state.ut.us/occ/projhome.asp

Table 4. Berks County Workforce Investment Area—2001 Demand Occupations.

OES Code	Occupational Title	Annual Openings ^a					Annual Wages ^c			Education/Training		
		200 or more	100 or more	50 or more	15 or more	^b	Entry Level	Average	Experienced Level	College Degree or More	Some Post-Secondary	On-the-Job Training
49011	Retail Salespersons	X					\$12,070	\$18,630	\$21,900			X
49023	Cashiers	X					\$11,950	\$13,570	\$14,380			X
65008	Waiters & Waitresses		X				\$11,910	\$12,770	\$13,190			X
55347	Office Clerks, General		X				\$15,340	\$21,170	\$24,090			X
31308	Teachers, Secondary School		X							X		
65038	Food Preparation Workers		X									X
19005	General Managers & Top Execs		X							X		
32502	Registered Nurses		X				\$33,160	\$41,820	\$46,150		X	
98902	Hand Packers & Packagers		X				\$13,480	\$20,360	\$23,800			X
66008	Nursing Aides/Orderlies/Attends			X			\$15,430	\$19,610	\$21,700			X

^a Includes openings due to growth and replacements.

^b Recent data indicates significant hiring activity in these occupations. However, estimates of the number of openings are not available.

^c 1999 wages do not include the self-employed; annual openings do include them. Wages for all occupations are not available, mainly due to the recent transitions to a new occupational coding structure.

How This Information Is Used in Economic and Community Development

Knowing future industry and occupation trends helps community and economic development practitioners understand their local economy, foster compatible growth, and promote local strengths. People looking for work and those doing training, counseling, and/or job placement may use the industry projections to learn about employment opportunities in various industries. Still, when interpreting this information, keep the following points in mind:

1. The level of aggregation matters. If broad projections indicate declining employment, it may be that only one or two industry sectors are experiencing the decline and other sectors may still be expected to grow. For example, retail trade has several components, including building materials and garden supplies; general merchandise stores; food

stores, automotive dealers and service stations; and apparel and accessory stores. Thus, investigating all sectors of the industry is best.

2. Turnover creates opportunities. Although an industry may be stable and is not expected to grow, it does not mean that there are no opportunities for employment. Individuals change or leave their jobs permanently for varying reasons. High turnover, especially in industries that require lower skill levels, means that there are frequent openings even though there is little or no growth.
3. Industries have varying levels of growth. Not all industry sectors, such as those in retail trade or in services industries, grow at the same rate; nor are all sectors located in every county.
4. Location matters! If an individual is considering relocating within the state, the size of the industry and its expected growth level needs to be

kept in mind. Often, small rural counties will not have the same opportunities that are available in larger metropolitan areas.

A Few Caveats

- Remember that these data are estimates. The projections are developed assuming that historical trends will continue into the future. However, unpredictable events may occur over the course of the projection period, adversely affecting projection accuracy. For example, an unexpected major business closure or opening or a natural disaster can have a substantial impact on employment levels.
- Long-term projections employment data are annual averages. These averages may not accurately portray seasonal occupations or industries such as those found in agriculture, retail sales, and recreation.

- Projected employment levels reflect only those workers who are covered by the unemployment insurance program. As a result, industries made up largely of individuals who are self-employed will be understated. Examples include industries such as real estate, hair salons, and book-keeping.
- Do not use these projections as your sole source of information. Supplement the projections data with other, more recent sources of local economic data. Useful information may be found in other documents such as those published by local chambers of commerce or local economic development agencies.

Keep in mind that projections are just one planning tool and that the estimates are based on information available at the time the forecast was made.

For More Information

Additional information on industry employment and occupation projections is available from a number of sources. At the state level, these sources include:

Center for Workforce Information and Analysis, Pennsylvania Department of Labor and Industry (www.dli.state.pa.us/workforceinfo). CWIA is Pennsylvania's designated provider of employment statistics. Their goal is to provide users with the most current data available to help with decision making and to assist in meeting local planning needs.

Team Pennsylvania Workforce Investment Board (www.TeamPA.com). TeamPA's Workforce Investment Board seeks to foster a dynamic world-

class workforce in which Pennsylvania's citizens and businesses possess the knowledge and skills to succeed and excel in a highly competitive and rapidly changing world. Specific goals include bringing the existing workforce into alignment with the needs of Pennsylvania business; preparing the emerging workforce for successful careers in the new economy; and targeting assistance to those sectors, communities and customers in greatest need. TeamPA can be reached by calling 717-705-0857. At the national level, some of the most useful information sources include:

The U.S. Bureau of Labor Statistics (BLS) (www.bls.gov/oes). BLS has developed the Occupational

Employment Statistics (OES) program, which produces employment and wage estimates for over 700 occupations. These are estimates of the number of people employed in certain occupations and estimates of the wages paid to them. Self-employed persons are not included in the estimates. These estimates are available for the nation as a whole, individual states, and metropolitan areas; national occupational estimates for specific industries are also available.

BLS has also developed the Occupational Outlook Handbook (www.bls.gov/oco), a nationally recognized source of career information, designed to provide valuable assistance to individuals making decisions about their future work lives. Revised every

two years, the Handbook describes what workers do on the job, working conditions, the training and education needed, earnings, and expected job prospects in a wide range of occupations.

The home of ALMIS projections is <http://almis.dws.state.ut.us/occ/projhome.asp>. Here, you will find projections of occupational employment growth for all states and the nation as a whole. Information on this site allows projected employment growth for an occupation to be compared among states. It also allows projected employment growth among occupations to be compared within one state.

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