IN the Spotlight
(continued from page 1)
setters/operators, grinding machine
setters/operators, maintenance and
production (M/P), punching machine
setters/operators (M/P), foundry mold
and core makers, and machine forming
operators (M/P).
An 8% growth rate for skilled tool
and die jobs between 1996 and 2006
day not appear significant, but when
replacement jobs for the industry are
included, another picture emerges.
Table 1 shows that 17,850 — 21% of
the employees working in machine
shop-related jobs — will have to be
replaced statewide between 1996 and
2006. Occupations experiencing the
most turnover are machinists, machine
forming operators, numerical control
machine operators, combination
machine tool setters and combination
machine tool operator/tenders.
When tool and die replacements are
combined with new jobs, the
workforce picture becomes clearer.
Between 1996 and 2006 the industry
will need a total of 24,705 new and
replacement workers across the state,
or 29% of the 1996 tool and die
workforce. This equals 2,470 jobs
annually. The main reason the Hoosier
tool and die industry may face
challenges in finding skilled workers is
the number of workers leaving the
industry, largely due to retirement.
One reason for this may be that
many tool and die jobs are connected
to Indiana’s automotive industry,
which is projected to experience
significant retirements in the skilled
trades. In 1996, there were 20,092
skilled tool and die workers employed
in SIC 37 (transportation) statewide,
representing approximately 23% of the
state’s tool and die workforce.
Although DWD does not have
replacement figures at the two-digit
SIC level, tool and die workers make
up 23% of Indiana’s transportation
sector production workforce.
Total statewide tool and die growth
and replacement figures may be even
higher. Because DWD used 1996 as
the base year, many new direct and
indirect tool and die jobs created by
Toyota in Southwest Indiana are not
included; employment did not begin
there in earnest until the second half of
1998. Once these numbers are included
in DWD’s 1998–2008 round of
occupation projections, tool and die
totals may increase further.
The tool and die industry plays a
vital support role in Indiana’s new
economy. Filling an estimated 2,470 or
more positions a year may be a
challenge as the industry competes for
skilled workers. With the benefit of
DWD’s long-term projections, industry
representatives can start to address
these issues today.

<table>
<thead>
<tr>
<th>Table 1: Indiana Tool &amp; Die Occupational Projections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total tool &amp; die jobs, 1996</td>
</tr>
<tr>
<td>Replacement jobs open due to retirement, transfer, etc., 1996-2006</td>
</tr>
<tr>
<td>New jobs created, 1996-2006</td>
</tr>
<tr>
<td>Total new workers needed, 1996-2006</td>
</tr>
<tr>
<td>Percent of 1996 workforce</td>
</tr>
<tr>
<td>Total tool &amp; die jobs, 2006</td>
</tr>
<tr>
<td>Percent increase, 1996-2006</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Labor Statistics and Indiana Department of Workforce Development

IN the Details
How Jobs in Indiana Are Forecast
The Indiana Department of Workforce Development (DWD), in cooperation with the U.S.
Department of Labor, recently released its forecast estimating the kinds of jobs that will be found in
Indiana in the year 2006. This forecast projects the number of jobs in each occupation within each
industry for the period 1996–2006. The projections are developed using a four-step process that builds off of
1996 data. The first step in preparing the projections is completing the
Indiana Occupational Employment Statistics (OES) survey, which provides current estimates of
occupational employment by industry. A sample of establishments in the nonfarm wage and salary sectors of
(continued on page 3)
Midwest Turnaround

The years from 1978 to 1988 were difficult for the Midwestern states. Indiana and its four neighboring states, plus Wisconsin, added private sector jobs at an average annual rate of just 1.1% during those years, while the nation enjoyed a 2.3% annual increase. But the picture has changed. In the subsequent 10 years, 1988 to 1998, both the nation and this six-state region have seen jobs grow at a 2% average annual rate.

While every state in the region witnessed a bounce back in private sector employment growth (see Figure 1), the experience is far from uniform. Indiana, Kentucky and Wisconsin, the three smallest states of the region, have been the leaders in recovery, each topping the nation’s 2% growth rate. The larger states (Illinois, Michigan and Ohio) have been lagging.

(continued on page 4)

Figure 1: Average Annual Percent Change in Employment, by State

<table>
<thead>
<tr>
<th>State</th>
<th>1978-88</th>
<th>1988-98</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>2.3%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Illinois</td>
<td>1.0%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Indiana</td>
<td>1.2%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Kentucky</td>
<td>1.3%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Michigan</td>
<td>1.1%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Ohio</td>
<td>1.0%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>1.5%</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Economic Analysis

IN the Details

(continued from page 2)

the economy is surveyed over a three-year period to obtain employment levels by occupation. There are 75 industries from the Standard Industrial Classification system at the two-digit level, and more than 700 occupations. The next set of projections, through 2008, will be issued later this year and will use industry data at the three-digit SIC level for about 400 industries.

Industry/Occupation (I/O) Matrix

The next step is to create the industry/occupation matrix, which presents the occupational staffing patterns of each industry. It tabulates employment cross-classified by industry and occupation.

Industry Projections

Projecting the growth and decline of individual industries is the third step in preparing the forecast. Changes in industry structure will affect the growth and decline of the occupations needed to staff those industries.

Statewide annual average employment projections are produced for each industry based on statistical analysis of data from DWD, BLS and the U.S. Census Bureau. In addition, qualitative information from local and state labor market analysts is used to adjust industry projections.

Occupational Employment Projections

The last step is to forecast employment demand by occupation within each industry using the I/O matrix. Statewide estimates are developed for the base year (1996) and projected to the year 2006. They take into account factors, developed by BLS, that estimate changes in industry staffing patterns brought about by new technology and changing business practices.

The projected estimates include annual net job openings caused by both new demand due to growth and replacement needs. Average net openings for each occupation are the sum of growth demand and

(continued on back cover)
replacement needs. Replacement needs are the average number of workers who retire or leave their occupation to enter a new occupation.

The projected data reflect studies of past and present industrial trends. They illustrate what is likely to happen, barring major changes from past trends. The forecast assumes that no major events, such as widespread or long-lasting energy shortages, other price shocks, or major wars will significantly alter the economy’s industrial structure or economic growth rates. Current political, institutional, social, technological and scientific trends are also assumed to continue without significant changes. Readers should view the estimates of projected employment as indicators of relative magnitude and probable direction rather than as estimates of absolute values. Therefore, consider the projections only a starting point when studying future industry and occupational employment.