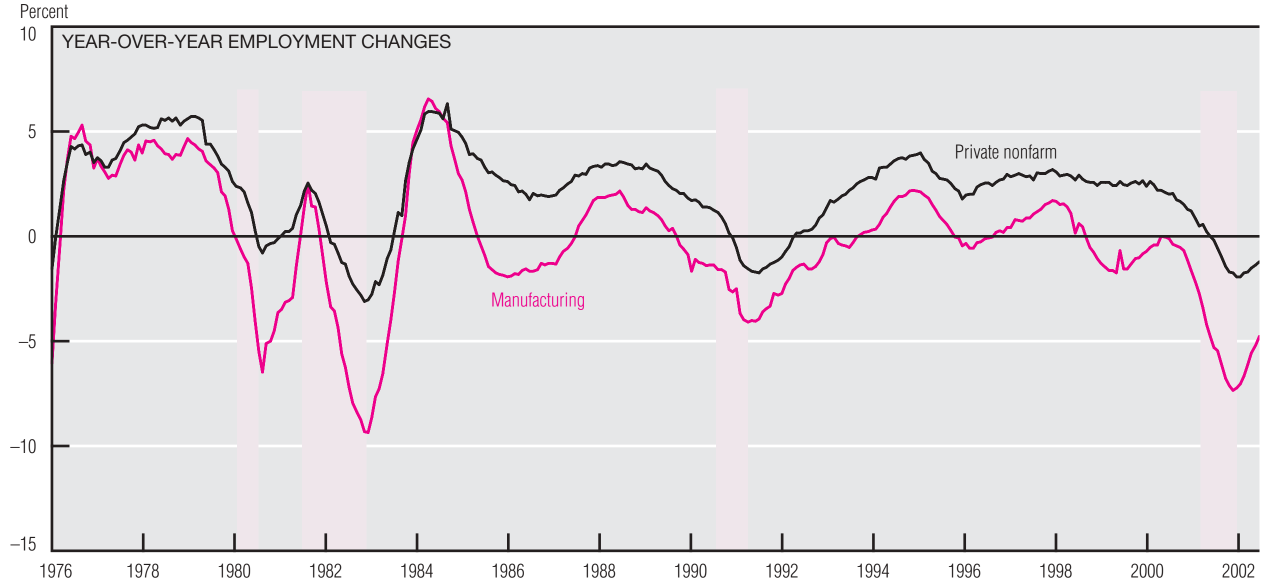
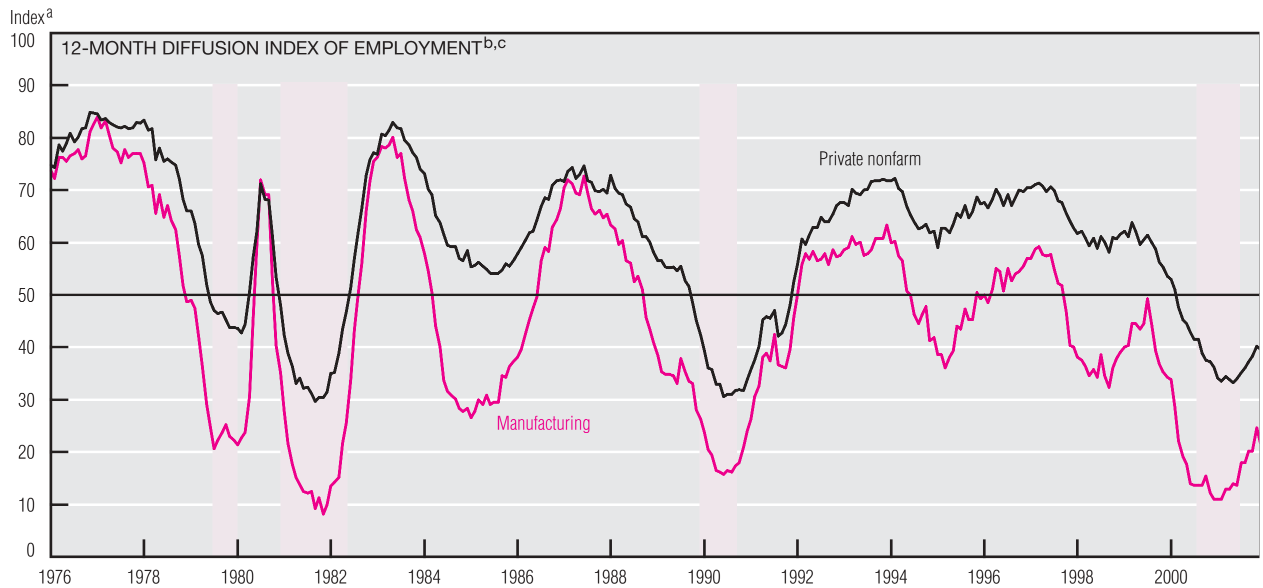
Manufacturing Employment





NOTES: All data are seasonally adjusted unless otherwise noted. Shaded bands indicate NBER-defined recessions. The most recent recession is assumed to have ended December 2001.

a. An index value of 50 indicates that employment is rising in half of the industries and declining in half.

b. Not seasonally adjusted.

c. The diffusion index is effectively the share of three-digit SIC industries that are growing.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

The manufacturing industry tends to bear the brunt of U.S. recessions, when the industry's employment typically falls more sharply than total nonfarm private employment. In the 1970s and 1980s, manufacturing was quick to rebound, but this has not been the case in the two most recent recoveries.

In the current recovery (which many economists believe began in January 2002), manufacturing employment has not yet begun to rise. This results partly from the industry's technological advances and robust productivity growth (5.5% for 2002:IIIQ), which have caused manufacturers to downsize their workforce. In addition, these firms are relying more heavily on temporary workers (who are counted as service workers) to complement their permanent labor force.

The manufacturing industry's current behavior parallels its experience in the 1990–91 recession, when its employment level did not stabilize until October 1993 and then fell again in November 1995. Productivity growth was also very strong during that recovery, averaging 3.4% annually (from 1992 to 1995) versus 1.6% for the whole economy.

Despite manufacturing's overall employment decline during recessions, some of its sub-industries show employment growth. This can be seen in the diffusion index of employment, which measures the share of sub-industries in which employment is rising at any one point in time. Even during the 1981–82 recession (when

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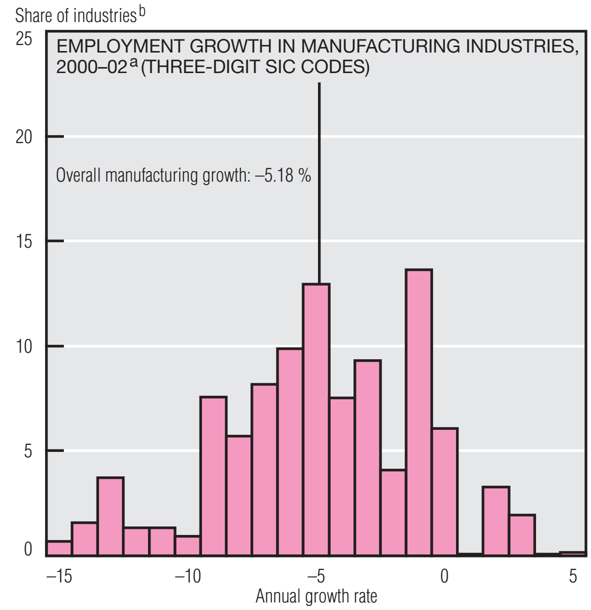
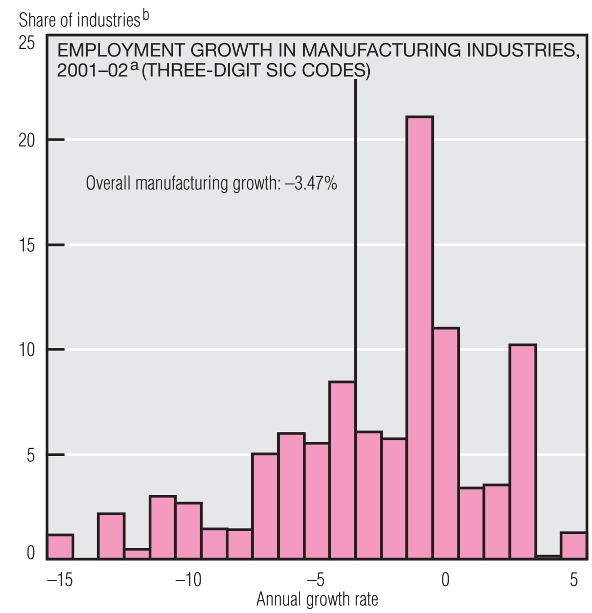
Manufacturing Employment *(cont.)*

Employment Growth in Manufacturing Industries (two-digit SIC codes)

	Annual Percent Growth	
	Dec. 2000– Dec. 2002	Dec 2001– Dec. 2002
MANUFACTURING	–5.18	–3.47
Durable goods	**–6.33**	**–4.49**
Electronic and other electrical equipment	–11.21	–9.07
Industrial machinery and equipment	–7.99	–5.46
Primary metals	–7.96	–5.84
Furniture and fixtures	–6.51	–2.63
Transportation equipment	–5.16	–4.39
Fabricated metal products	–4.77	–2.99
Lumber and wood products	–3.09	–1.43
Stone, clay, and glass products	–2.25	–0.90
Nondurable goods	**–3.42**	**–1.97**
Leather and leather products	–9.09	–3.57
Textile mill products	–8.82	–5.13
Apparel and other textile products	–8.09	–5.40
Printing and publishing	–4.71	–3.39
Rubber and miscellaneous plastic products	–3.97	–1.40
Paper and allied products	–3.16	–2.40
Chemicals and allied products	–1.12	–0.49
Petroleum and coal products	–0.40	–0.79
Food and kindred products	–0.21	0
Tobacco products	1.47	2.94





NOTE: All data are seasonally adjusted unless otherwise noted.
a. Not seasonally adjusted.
b. Shares are weighted based on employment.
SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

manufacturing employment declines were the sharpest in 30 years), 10% of manufacturing sub-industries continued to add new workers despite the decline in overall economic activity.

Although the most recent recession officially started in March 2001, manufacturers reported contraction much earlier. In fact, most of them argue that their industry was in recession for much of 2000, and the employment data support this contention. A look at the most commonly reported components of manufacturing employment at the two- digit level of the Standard Industrial Classification (SIC) code shows growth in only one industry—tobacco—in either 2001 or 2002.

However, an examination of the three-digit sub-industries reveals that several of them grew over the last two years. From 2000 to 2002, manufacturing employment declined about 10%, but three-digit industries, representing 7% of employment posted gains. Based on employment-weighted shares, more than half of the sub-industries decreased only modestly (less than 1%) or grew in 2002.

The largest employment declines between November 2001 and November 2002 (the most recent data available) came from industries associated with clothing and travel. This is not surprising, considering anecdotal reports that retail clothing chains, as well as travel and tourism, were hit especially hard in this recession. Wool producers' employment declined more than 35%; job losses for makers of luggage and of women's and children's undergarments were roughly 20%. Just as

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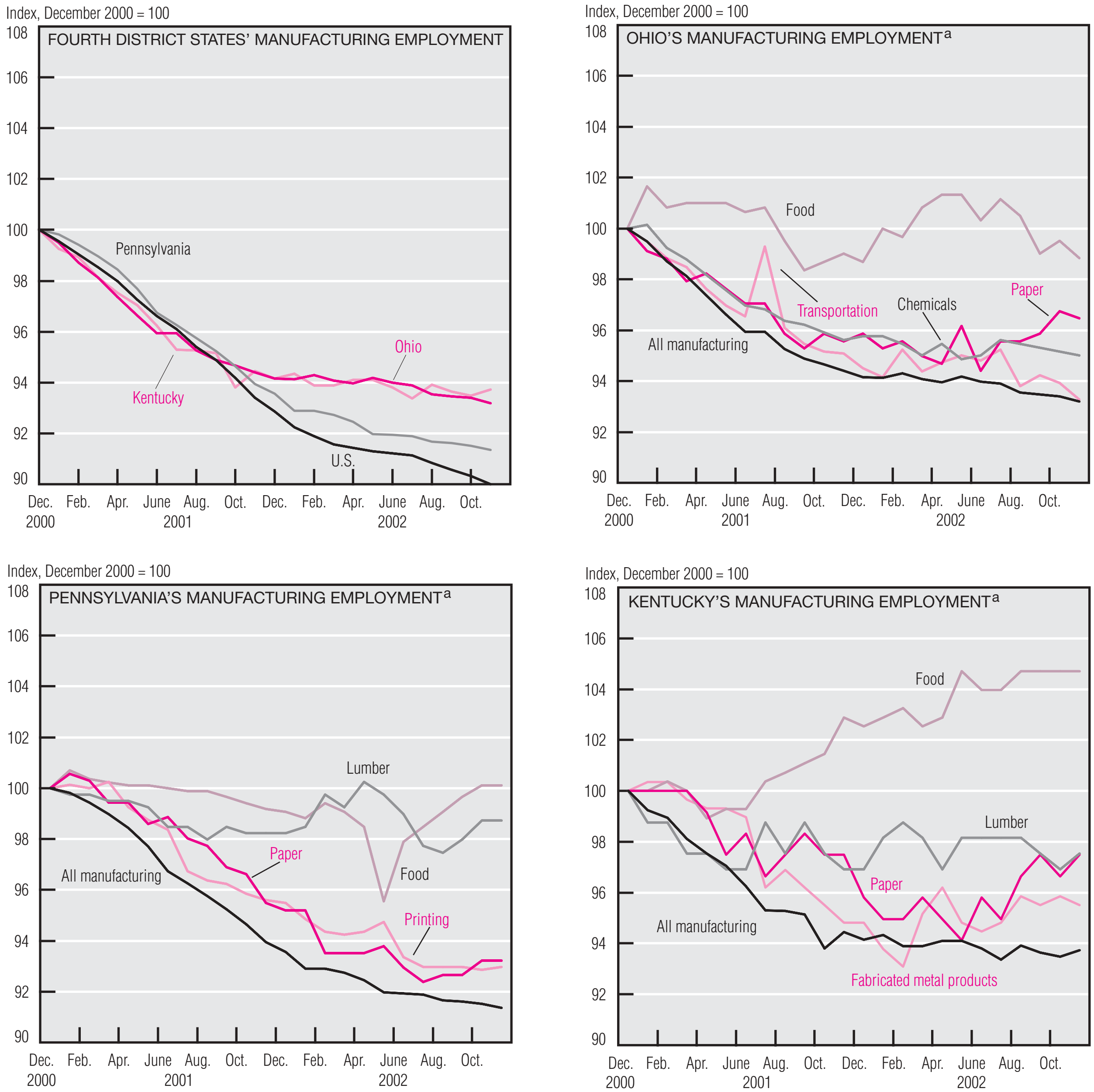

NOTE: All data are seasonally adjusted.
a. Sub-industries are two-digit SIC industries.
SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; and Federal Reserve Bank of Cleveland calculations.

manufacturing industries associated with struggling sectors of the economy underwent steep employment losses in 2002, those associated with more resilient sectors, such as residential construction, gained employment that year. Hydraulic cement producers increased employment by almost 5%, while producers of asphalt paving and roofing materials increased 4%, despite contraction in total manufacturing employment.

The Fourth District has a higher concentration of manufacturing employment than does the rest of the country; in 2000 (last data available), roughly 16% of the District's jobs were derived from manufacturing, compared with 12% for the U.S. as a whole. Consequently, one might expect that manufacturing employment in Fourth District states would decline more steeply than the nation during recessions. This has not been true for Ohio, Kentucky, and Pennsylvania in the most recent recession. In these states, manufacturing employment losses at the close of 2000 were smaller than the roughly 10% drop in the nation.

Each state had several two-digit sub-industries that fared better than its manufacturing industry as a whole. Employment in both paper and nonfarm food production have done well in all three states; in both Kentucky and Pennsylvania, employment in food manufacturing has increased from December 2000 levels.