Pharmaceutical Industries Contribute $173 Billion to US Economy

In October, the Milken Institute (a think-tank founded in 1991 to promote job and capital formation) released *Biopharmaceutical Industry Contributions to State and U.S. Economies*, a 217-page analysis of the pharmaceutical and biotechnology industries' impact on regional economies.

The study, sponsored in part by the Pharmaceutical Research and Manufacturers of America (PhRMA), analyzed data from the US Bureau of Labor Statistics and other sources, combining data by North American Industry Classification System (NAICS) codes for pharmaceutical manufacturing companies (NAICS 3254) with information on life-science research-and-development enterprises (NAICS 5417102). (NAICS replaced the familiar Standard Industrial Classification SIC codes in 2003.) The study uses the term *biopharmaceutical* to include both conventional and large-molecule pharmaceuticals.

Right now, the industry directly employs 407,000 workers in the US, while its activities generate another 2.3 million additional jobs. Similarly, biopharmaceutical companies produce some $64 billion in direct outputs, and indirectly stimulate another $109 billion in economic activity, yielding approximately $32 billion in state and federal tax payments in the process. By 2014, the Milken report projects direct employment rising to 536,000 employees and direct outputs to $128 billion.

The study breaks down industry impact by state, in four categories:

Current real output and employment. (The leading states are New Jersey, Indiana, Massachusetts, North Carolina, and Pennsylvania.)

Innovation, measuring the state's ability to maintain biopharmaceutical strength. (Top scorers were Massachusetts, Maryland, Connecticut, New Jersey, and Pennsylvania.)

Economic multiplier and tax impact, indices of the industry's overall contribution to the state economy. (California, New Jersey, Pennsylvania, North Carolina, and Illinois.)

Ten-year industry projections, forecasting output and employment growth (California, Massachusetts, Pennsylvania, New York, and Maryland.)

The accompanying table extracts employment, output, and growth data from the report. The full report is available online at www.milkeninstitute.org.

–Douglas McCormick

Table I: Biopharmaceutical industry contributions to state and US economies.*

	Employment			Real output				Wages
State	2003 (USD, 000s)	'93–'03 Growth	2014 Forecast (000s)	2003 (USD, million)†	'93–'03 Change	2014 Forecast (USD, million)	2003† Per employee (USD, 000s)	2003 Per employee (USD, 000s)
US**	406.69	28.1%	536.3	63,966.7	77.6%	128,339.4	157.3	72.6
AL	1.39	55.4%	3.62	96.8	62.1%	234.4	69.5	46.1
AK	0.09	117.9%	0.2	4.2	86.9%	6.0	49	39
AZ	1.18	0.2%	0.93	151.8	10.3%	88.3	128.3	52.9
AR	0.37	–2.4%	0.38	14	–23.7%	7.8	38.2	24.7
CA	69.99	43.8%	99.61	9,637.9	101.2%	22,886.7	137.7	73.9
CO	5.17	86.9%	6.39	458.8	75.7%	788.3	88.7	41.7
CT	9.91	43.6%	15.01	1,820.5	134.9%	4,947.2	183.7	120.1
DE	0.88	–23.2%	1.87	87.8	21.3%	236.4	99.7	65.2
DC	2.82	27.9%	3.57	182.7	54.8%	254.5	64.8	62.1
FL	6.49	56.4%	11.3	911.2	160.2%	2,584.2	140.3	56.1
GA	3.96	46.3%	4.14	682.9	125.6%	902.0	172.3	64.3
HI	0.32	71.5%	0.52	26	140.0%	45.8	82.1	44.9
ID	0.02	–56.7%	0.02	1.1	–63.5%	0.7	56.5	42.4
IL	21.91	24.9%	24.22	3,381.2	47.0%	4,322.1	154.3	77.4
IN	19.50	8.6%	23.59	5,711.4	127.0%	11,820.9	292.9	84.7
IA	2.52	31.1%	3.18	332.6	9.7%	251.4	132.1	34.7
KS	1.48	–20.6%	1	187.4	41.8%	244.3	126.5	45.8
KY	2.16	220.2%	3.27	170.7	289.3%	282.1	79	30.2
LA	0.67	–30.6%	0.48	58.9	–46.1%	18.7	87.4	43.5
ME	1.40	36.2%	1.32	112	59.6%	115.9	79.8	47.4
MD	10.72	46.0%	18.04	1,437.9	123.4%	4,562.4	134.2	62.6
MA	21.42	96.7%	37.26	2,351.6	180.1%	7,597.0	109.8	72
MI	12.21	19.7%	10.35	1,926.8	48.3%	2,092.6	157.8	66.9
MN	2.65	8.4%	2.39	279.5	79.9%	383.1	105.5	62.7
MS	1.19	–21.3%	0.95	169.1	4.4%	158.5	142.7	49.9
MO	6.13	–15.3%	7.5	1,085.3	21.4%	2,238.4	177	68.1
MT	0.56	83.8%	0.79	22.4	26.1%	18.4	39.8	27.9
NE	1.81	23.5%	2.31	316.6	111.6%	483.1	174.8	44
NV	0.43	89.5%	1.78	31.2	110.6%	177.8	73.4	54.8
NH	1.14	301.6%	2.64	85.3	376.8%	519.1	75.2	50.1
NJ	46.36	–5.4%	49.8	10,173.3	66.9%	18,256.8	219.5	115.5
NM	0.91	30.2%	1.14	46.9	20.5%	79.3	51.4	41.6
NY	36.31	23.9%	45.63	4,501.8	46.0%	8,672.4	124	55.5
NC	25.48	28.2%	32.04	4,493.2	67.2%	7,824.8	176.3	50.1
ND	0.02	100.7%	0.04	0.5	26.9%	0.5	28.1	19.4
OH	4.64	21.3%	5.42	402.5	18.0%	422.0	86.7	52.2
OK	0.54	16.7%	0.45	118.6	45.7%	95.9	219.3	53
OR	1.45	26.2%	1.36	73.6	55.4%	87.4	50.6	29.4
PA	34.67	33.7%	48.33	7,341.7	71.7%	12,216.5	211.7	87.9
RI	1.84	146.6%	6.67	148.3	232.5%	961.6	80.7	53
SC	2.24	62.2%	1.6	223.4	93.4%	174.0	99.6	42.1
SD	0.08	33.2%	0.1	2.2	–14.3%	2.9	27.7	14.2
TN	3.83	–11.9%	2.68	609.5	73.6%	956.8	159	52.8
TX	12.31	27.2%	15.8	1,512.0	97.5%	3,114.0	122.8	59.1
UT	5.29	194.0%	8.37	330.5	258.8%	981.4	62.5	36.9
VT	0.12	166.8%	0.35	6.7	181.2%	23.7	54.7	31.9
VA	5.31	27.2%	7.12	608.5	13.4%	693.1	114.5	47.9
WA	8.71	47.5%	2.97	857.1	60.3%	1,091.0	98.4	58.8
WV	1.88	106.1%	12.02	318.3	214.2%	3,451.3	169.4	56.8
WI	4.14	44.5%	5.71	445.4	91.2%	947	107.5	43.1
WY	0.06	–16.6%	0.11	17.2	26.2%	19.3	280	67.9

* The table combines North American Industry Classification System (NAICS) codes 3254 and 5417102.
** United States figures are based on the sum of all state and Washington, DC, totals.
† In 1996 US dollars. Sources: Milken Institute, Economy.com, BLS.