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## APPENDIX A

# VALUE ADDED BY MANUFACTURE AND RELATED VARIABLES

### *Wages and Human Capital*

The variables plotted in Chart 2 are reproduced, along with the names of the industries, in Table A-1. The basic source is Helen Waehrer's study "Inter-Industry Skill Differences, Labor Earnings, and United States Foreign Trade, 1960" (unpublished Ph.D. dissertation, Department of Economics, Columbia University, 1966), supplemented by data supplied directly by her on twenty-four industries not treated as "export industries" or "import-competing industries" in her study. Her "occupational index" and "educational index," derived from *Census of Population* data, are briefly described in Chapter 2, above (footnote 22), and various qualifications and limitations of the data are also noted. Her series on average annual earnings is derived from the *Annual Survey of Manufactures, 1960* (total payroll divided by employment) and involved fitting the Standard Industrial Classification<sup>1</sup> used in the latter into the more summary industrial classification used in the *Census of Population*. The conversion system employed by Mrs. Waehrer for this purpose is as follows, the *Census of Population* code being given first (for names of industries, see Table A-1) followed by SIC numbers in parentheses: 206 (241), 207 (242,3), 208 (244,9), 209 (25), 216 (321-3), 217 (324,7), 218 (325), 219 (326), 236 (328,9), 237 (3312,3), 238 (3315-7, 332, 3391,9), 239 (333-6, 3392-9), 246 (342), 247 (344), 248 (341,3, 5-9), 256 (352), 257 (357), 258 (351, 3-6, 8,9), 259 (36), 267 (371), 268 (372), 269 (373), 276 (374,5,9), 286 (194,<sup>2</sup> 381-5), 287 (386), 289 (387), 296 (39), 306 (201), 307 (202), 308 (203), 309 (0713,<sup>2</sup> 204), 316 (205), 317 (207), 318 (208), 319 (206,9), 329 (21), 346 (225),

<sup>1</sup> See *Standard Industrial Classification Manual*, Executive Office of the President, Bureau of the Budget, 1957, and *Supplement*, 1963.

<sup>2</sup> Item excluded from computation of average annual earnings.

347 (226), 348 (227), 349 (221-4, 8), 356 (229), 359 (231-8), 367 (239), 386 (261-3,6), 387 (265), 389 (264), 396 (271), 398 (272-9), 406 (2823,4), 407 (283), 408 (285), 409 (281,2,4,6-9), 416 (291), 419 (295,9), 426 (301,3,6), 429 (307), 436 (311), 437 (313,4), 438 (312,5-7,9).

The variables plotted in Chart 3 are also reproduced in Table A-1. The sources and methods employed in deriving these variables are described briefly in Chapter 2 of this study and more fully in *Differentials in Hourly Earnings by Region and City Size 1959*, Occasional Paper 101, New York, 1967, by Victor R. Fuchs of the National Bureau. It may be noted that, unlike the earnings figures in Waehrer's study, the actual hourly and annual earnings figures in Fuchs's study are obtained from the same *Census of Population* sample as that used in computing his "expected" hourly earnings series.

#### *Nonwage Value Added and Physical Capital*

The variables for the United States plotted in Chart 4 are given in Table A-2. The basic sources of the data are as follows: (1) depreciable and depletable assets, end of 1957, from the *Census of Manufactures, 1958*, Vol. I, *Summary Statistics*, Section 9, Table 1;<sup>3</sup> (2) nonwage value added, as well as employment, in 1957 from the *Annual Survey of Manufactures, 1957*, Chapter II, Table 1, and inventories at end of 1957, same source, pp. 130-144 (all series being on the Standard Industrial Classification prior to the 1957 revision). Both Chart 4 and Table A-2 give the variables at the three-digit level of the SIC. The computations have also been done at the four-digit level (276 items), as reported in Chapter 2, and have been drawn on in Table 4.

The variables for India plotted in Chart 5 are given in Table A-3. Both series are derived from the *Annual Survey of Industries, 1961* (Calcutta, Central Statistical Organization). The same industries have been used as in the U.S.-Indian comparison in Chart 13 (see Table B-3) subject to deletion of two industries, as explained in Chapter 2.

A test of linearity and Bartlett's test of homoscedasticity were applied to the data on physical capital and nonwage value added for both the United States and India in an effort to determine whether the arithmetic or logarithmic form of correlation was appropriate. For both countries (and, in the U.S. case, at both the three- and four-digit levels) these tests indicated that the logarithmic transformations of the data yielded variables that were linearly related and satisfied the assumptions of

<sup>3</sup> See Chapter 2, footnote 29, of this study for the combinations of items used in computing net and gross assets.

correlation analysis. As shown in Table A-4, these data were not linearly related in the arithmetic form but were linearly related when the variables were transformed into logarithms; all results were significant at the 1 per cent level of confidence.

The variances of the observations were not homogeneous for the arithmetic form of the variables, but were homogeneous for the logarithmic form; all the results were significant at the 1 per cent level of confidence. In making this test, the observations were ranked in ascending order of the independent variable; those for the United States were divided into eight groups of approximately thirty-five observations each at the four-digit level and into six groups of approximately twenty observations each at the three-digit level, and those for India into six groups of approximately nineteen observations each.

The regression equations obtained from the data and used in computing the figures in the middle column of each of Tables A-2 and A-3 are given below,  $X$  being in each case the log of physical assets per employee and  $Y$  the log of nonwage value added per employee:

United States (122 three-digit industries, net assets)

$$Y = -.050 + .822X$$

India (115 industries, "productive assets")

$$Y = -.031 + .839X$$

TABLE A-1  
*Variables Used in Analysis of Wages and Skills in U.S. Manufacturing Industry*

Code No. (Census of Population)	Name of Industry	Derived from H. Waehrer's Study (Data for 1960)		Derived from NBER Study of the Service Industries (Data for 1959)		
		Average Annual Earnings (dollars)	Percentage of Labor Force Classed as Skilled by H. Waehrer	Average Annual Earnings (dollars)	Average Hourly Earnings (dollars)	Expected Hourly Earnings (dollars)
206	Logging	3,386	14.8	3,075	2.05	2.29
207	Sawmills, planing mills, and millwork	3,683	29.8	3,513	1.94	2.31
208	Miscellaneous wood products	3,519	35.0	3,986	2.09	2.35
209	Furniture and fixtures	4,191	44.2	4,208	2.17	2.32
216	Glass and glass products	5,343	38.7	5,189	2.76	2.47
217	Cement, and concrete, gypsum, and plaster products	5,092	43.4	5,674	2.72	2.58
218	Structural clay products	4,389	31.9	5,050	2.54	2.47
219	Pottery and related products	4,467	30.9	4,644	2.35	2.45
236	Misc. nonmetallic mineral and stone products	5,324	50.7	5,230	2.71	2.51
237	Blast furnaces, steel works, and rolling and finishing mills	6,592	53.6	5,614	3.39	2.57
238	Other primary iron and steel industries	5,633	50.4	5,331	2.80	2.45
239	Primary nonferrous industries	5,799	51.4	5,668	2.98	2.63

(continued)

TABLE A-1 (continued)

Code No. (Census of Population)	Name of Industry	Derived from H. Waehrer's Study (Data for 1960)		Derived from NBER Study of the Service Industries (Data for 1959)		
		Average Annual Earnings (dollars)	Percentage of Labor Force Classed as Skilled by H. Waehrer	Average Annual Earnings (dollars)	Average Hourly Earnings (dollars)	Expected Hourly Earnings (dollars)
246	Cutlery, hand tools, and other hardware	5,275	47.9	4,900	2.48	2.39
247	Fabricated structural metal products	5,562	57.8	5,719	2.93	2.59
248	Miscellaneous fabricated metal products	5,378	57.5	5,522	2.80	2.52
256	Farm machinery and equipment	5,451	55.0	5,449	2.80	2.72
257	Office, computing, and accounting machines	6,316	64.5	6,036	3.05	2.65
258	Miscellaneous machinery	5,943	61.8	5,757	2.85	2.67
259	Electrical machinery, equipment, and supplies	5,404	54.6	5,326	2.80	2.49
267	Motor vehicles and motor vehicle equipment	6,486	47.3	5,838	3.05	2.56
268	Aircraft and parts	6,842	71.5	6,095	3.01	2.74
269	Ship and boat building and repairing	5,842	72.1	5,154	2.73	2.61
276	Railroad and misc. transportation equipment	5,352	52.2	4,214	2.43	2.39
286	Professional equipment and supplies	5,818	64.4	5,837	2.96	2.63
287	Photographic equipment and supplies	6,735	62.1	6,530	3.32	2.64
289	Watches, clocks, and clockwork-operated devices	4,959	46.4	5,114	2.83	2.14
296	Miscellaneous manufacturing industries	4,276	46.4	4,628	2.45	2.27
306	Meat products	5,077	31.9	4,852	2.42	2.33

(continued)

TABLE A-1 (continued)

Code No. (Census of Population)	Name of Industry	Derived from H. Waehrer's Study (Data for 1960)		Derived from NBER Study of the Service Industries (Data for 1959)		
		Average Annual Earnings (dollars)	Percentage of Labor Force	Average Annual Earnings (dollars)	Average Hourly Earnings (dollars)	
			Classed as Skilled by H. Waehrer			Expected Hourly Earnings (dollars)
307	Dairy products	5,017	40.0	5,141	2.32	2.64
308	Canning and preserved fruits, vegetables, and sea foods	3,602	38.5	3,887	2.20	2.33
309	Grain-mill products	5,188	52.6	5,159	2.42	2.44
316	Bakery products	4,799	55.6	4,895	2.35	2.39
317	Confectionery and related products	4,099	40.5	3,607	2.16	1.87
318	Beverage industries	5,391	47.7	5,529	2.78	2.55
319	Misc. food preparations and kindred products	4,915	49.0	4,999	2.54	2.42
329	Tobacco manufactures	3,871	34.1	3,900	2.18	2.00
346	Knitting mills	3,232	22.8	2,959	1.67	1.96
347	Dyeing and finishing textiles, exc. wool and knit goods	4,287	32.8	3,521	1.83	2.29
348	Floor coverings, exc. hard surface	3,810	36.4	5,185	2.67	2.56
349	Yarn, thread, and fabric mills	3,493	27.6	3,485	1.82	2.11
356	Miscellaneous textile mill products	4,314	38.1	5,144	2.77	2.39
359	Apparel and accessories	3,056	20.0	3,587	2.17	1.89
367	Miscellaneous fabricated textile products	3,460	32.1	3,858	2.10	2.15

(continued)

TABLE A-1 (concluded)

Code No. (Census of Population)	Name of Industry	Derived from H. Waehrer's Study (Data for 1960)		Derived from NBER Study of the Service Industries (Data for 1959)		
		Average Annual Earnings (dollars)	Percentage of Labor Force Classed as Skilled by H. Waehrer	Average Annual Earnings (dollars)	Average Hourly Earnings (dollars)	Expected Hourly Earnings (dollars)
386	Pulp, paper, and paperboard mills	5,959	43.1	5,652	2.72	2.58
387	Paperboard containers and boxes	4,946	41.1	4,906	2.55	2.40
389	Miscellaneous paper and pulp products	5,037	46.3	4,446	2.30	2.24
396	Newspaper publishing and printing	5,445	93.5	3,998	3.02	2.69
398	Other printing and publishing	5,643	80.5	5,134	2.76	2.46
406	Synthetic fibers	5,535	47.4	5,848	2.84	2.80
407	Drugs and medicines	6,108	73.0	5,998	2.93	2.99
408	Paints, varnishes, and related products	6,022	62.4	6,104	3.01	2.59
409	Miscellaneous chemicals and allied products	6,189	63.6	6,121	3.12	2.76
416	Petroleum refining	7,087	67.8	6,902	3.41	2.90
419	Miscellaneous petroleum and coal products	5,698	59.0	5,922	2.93	2.81
426	Rubber products	5,737	42.1	5,507	2.88	2.48
429	Miscellaneous plastic products	4,682	43.0	5,421	2.77	2.51
436	Leather, tanned, curried, and finished	4,744	28.7	4,423	2.40	2.23
437	Footwear, exc. rubber	3,278	21.9	3,345	1.97	1.98
438	Leather products, exc. footwear	3,851	29.0	3,345	1.93	2.08

TABLE A-2

*Variables Used in Analysis of Nonwage Value Added and  
Physical Assets per Employee in 122 (Three-digit)  
U.S. Manufacturing Industries, 1957*  
(dollars)

SIC Code No. (pre- 1958)	Name of Industry	Nonwage Value Added per Employee		Physical Assets, Net per Employee (3)
		Actual (1)	Estimated by Regressing 1 on 3 (2)	
201	Meat products	3,419	3,319	4,958
202	Dairy products	4,756	3,679	5,620
203	Canned and frozen foods	4,160	5,477	9,118
204	Grain-mill products	8,847	6,236	10,677
205	Bakery products	3,895	2,275	3,131
206	Sugar	8,122	8,790	16,214
207	Candy and related products	5,464	4,096	6,402
208	Beverages	8,105	6,782	11,827
209	Miscellaneous foods	9,752	5,768	9,712
211	Cigarettes	24,158	10,001	18,971
212	Cigars	3,191	2,133	2,895
213	Chewing and smoking tobacco	9,385	5,243	8,646
221	Woolen and worsted manufacturers	2,028	4,155	6,515
222	Yarn and thread mills	2,034	3,471	5,234
223	Broad-woven fabrics	1,712	3,628	5,524
224	Narrow-fabric mills	2,044	2,707	3,869
225	Knitting mills	1,935	2,615	3,708
226	Finishing textiles, except wool	1,954	3,390	5,087
227	Carpet and rugs	3,677	5,540	9,247
228	Hats, except cloth and millinery	0,844	2,434	3,399
229	Miscellaneous textile goods	3,299	4,021	6,261
231	Men's and boys' suits and coats	1,491	1,793	2,343
232	Men's and boys' furnishings	1,522	1,694	2,186
233	Women's and misses' outerwear	2,130	1,527	1,927
234	Women's undergarments	2,292	1,885	2,490

(continued)

TABLE A-2 (continued)

SIC Code No. (pre- 1958)	Name of Industry	Nonwage Value Added per Employee		Physical Assets, Net per Employee (3)
		Actual (1)	Estimated by Regressing 1 on 3 (2)	
235	Millinery	2,339	1,434	1,786
236	Children's outerwear	1,493	1,606	2,049
238	Miscellaneous apparel	1,920	1,802	2,358
239	Fabricated textiles, n.e.c.	2,148	2,500	3,511
241	Logging camps and contractors	2,450	3,016	4,413
242	Lumber and basic products	1,506	3,158	4,666
243	Millwork and related products	2,100	3,107	4,575
244	Wooden containers	1,739	2,335	3,232
249	Miscellaneous wood products	2,140	2,667	3,799
251	Household furniture	2,463	2,650	3,769
252	Office furniture	5,047	3,491	5,272
253	Public and professional furniture	3,341	3,470	5,232
254	Partitions and fixtures	3,403	2,898	4,202
261	Pulp, paper, and board	6,973	8,676	15,959
264	Paper coating and glazing	6,358	5,133	8,426
266	Paper bags	4,164	4,457	7,097
267	Paperboard containers	3,104	3,995	6,212
269	Pulp, paper, and products, n.e.c.	5,325	4,592	7,359
275	Commercial printing	3,384	3,026	4,430
276	Lithographing	3,640	3,401	5,106
278	Bookbinding and related industries	2,404	2,532	3,566
279	Printing trade services	2,543	2,114	2,864
281	Inorganic chemicals	9,889	7,890	14,217
282	Organic chemicals	10,640	8,903	16,466
283	Drugs and medicines	15,444	6,412	11,045
284	Soap and related products	16,787	6,816	11,898
285	Paints and allied products	8,574	5,850	9,878
287	Fertilizers	5,049	7,142	12,595
288	Vegetable and animal oils	6,698	10,511	20,154
289	Chemical products, n.e.c.	11,899	5,949	10,083
291	Petroleum refining	12,272	17,363	37,118

(continued)

TABLE A-2 (continued)

SIC Code No. (pre- 1958)	Name of Industry	Nonwage Value Added per Employee		Physical Assets, Net per Employee (3)
		Actual (1)	Estimated by Regressing 1 on 3 (2)	
295	Paving and roofing materials	6,916	5,807	9,791
299	Petroleum and coal products, n.e.c.	6,129	6,032	10,255
301	Tires and inner tubes	5,791	5,182	8,525
302	Rubber footwear	3,132	2,812	4,051
303	Reclaimed rubber	4,065	5,587	9,341
309	Rubber industries, n.e.c.	3,689	3,530	5,344
311	Leather tanning and finishing	2,963	3,768	5,785
313	Footwear cut stock	1,895	1,999	2,675
314	Footwear, except rubber	1,816	1,629	2,086
316	Luggage	2,681	2,297	3,168
317	Purses and small leather goods	1,958	1,459	1,823
321	Flat glass	5,842	5,955	10,096
322	Pressed and blown glassware	4,144	3,433	5,166
323	Products of purchased glass	6,341	3,580	5,436
324	Cement, hydraulic	10,703	12,047	23,792
325	Structural clay products	2,618	3,378	5,065
326	Pottery and related products	2,248	2,667	3,799
327	Concrete and plaster products	6,100	4,844	7,853
328	Cut-stone and stone products	2,666	2,481	3,480
329	Nonmetallic mineral products, n.e.c.	5,569	4,845	7,854
331	Blast furnaces and steel mills	5,827	7,537	13,447
332	Iron and steel foundries	2,590	2,951	4,297
333	Primary nonferrous metals	9,378	10,432	19,969
334	Secondary nonferrous metals	3,169	5,807	9,791

(continued)

TABLE A-2 (continued)

SIC Code No. (pre- 1958)	Name of Industry	Nonwage Value Added per Employee		Physical Assets, Net per Employee (3)
		Actual (1)	Estimated by Regressing 1 on 3 (2)	
335	Nonferrous rolling and drawing	5,009	6,464	11,155
336	Nonferrous foundries	2,524	2,798	4,027
339	Primary metal industries, n.e.c.	4,587	5,384	8,930
341	Tin cans and other tinware	6,530	7,441	13,238
342	Cutlery, tools, and hardware	3,766	3,689	5,637
343	Heating and plumbing equipment	3,131	4,396	6,978
344	Structural metal products	3,857	4,120	6,449
346	Metal stamping and coating	2,984	3,189	4,721
347	Lighting fixtures	3,283	3,404	5,111
348	Fabricated wire products, n.e.c.	3,468	3,450	5,195
349	Metal products, n.e.c.	4,101	4,475	7,131
351	Engines and turbines	5,019	4,877	7,917
352	Tractors and farm machinery	4,106	4,937	8,036
353	Construction and mining machinery	4,899	5,262	8,685
354	Metalworking machinery	3,601	4,061	6,337
355	Special-industry machinery, n.e.c.	3,474	4,498	7,175
356	General industrial machinery	4,353	4,311	6,814
357	Office and store machines	3,801	5,352	8,866
358	Service and household machines	4,378	4,550	7,276
359	Miscellaneous machinery parts	3,793	3,546	5,373
361	Electrical industrial apparatus	4,589	3,743	5,738
362	Electrical appliances	5,208	3,600	5,472
364	Engine electrical equipment	3,929	2,763	3,966
365	Electric lamps (bulbs)	7,898	3,204	4,749

(continued)

TABLE A-2 (concluded)

SIC Code No. (pre- 1958)	Name of Industry	Nonwage Value Added per Employee		Physical Assets, Net per Employee (3)
		Actual (1)	Estimated by Regressing 1 on 3 (2)	
366	Communication equipment	3,410	3,451	5,198
369	Electrical products, n.e.c.	5,101	4,041	6,298
371	Motor vehicles and equipment	6,329	4,691	7,552
372	Aircraft and parts	2,783	3,964	6,154
373	Ships and boats	2,375	3,389	5,085
374	Railroad equipment	5,111	4,720	7,608
381	Scientific instruments	2,813	3,621	5,511
382	Mechanical measuring instruments	4,071	3,811	5,864
384	Medical equipment and supplies	5,010	3,585	5,445
386	Photographic Equipment	6,240	4,745	7,658
387	Watches and clocks	2,861	3,378	5,066
391	Jewelry and silverware	3,043	3,079	4,524
393	Musical instruments and parts	2,813	2,948	4,291
394	Toys and sporting goods	2,702	2,611	3,703
395	Office supplies	3,591	3,409	5,122
396	Costume jewelry and notions	2,233	2,456	3,437
397	Plastics products, n.e.c.	2,970	3,239	4,813
398	Miscellaneous manufacturers	3,171	2,832	4,086

Note: n.e.c. = not elsewhere classified.

TABLE A-3

*Variables Used in Analysis of Nonwage Value Added and Productive Assets in Indian Manufacturing Industry, 1961*  
(dollars)

Indian Industrial Classification		Nonwage Value Added per Employee		Productive Assets per Employee, Net (3)
		Actual	Estimated by Regressing 1 on 3	
Code No.	Name of Industry	(1)	(2)	(3)
2021,2	Manufacture of milk foods and other dairy products	664	1,063	4,409
203	Canning and preserving of fruits and vegetables	223	263	835
204	Canning and preserving of fish and other seafoods	692	203	613
2052	Rice mills	191	202	609
2051,3	Flour mills	484	523	1,894
206	Manufacture of bakery products	685	408	1,411
2071	Sugar	575	628	2,354
208	Manufacture of cocoa, chocolate, and sugar confectionery	553	444	1,560
2093	Hydrogenated oil	1,207	745	2,890
2099	Salt	206	215	656
211,2	Spirits and wine	433	561	2,059
213	Breweries and manufacture of malt	3,042	751	2,914
214	Soft drinks and carbonated water industries	936	693	2,649
2202,3	Cigars and cigarettes	1,210	748	2,900
2311	Cotton textiles	268	245	770
2313	Woolen textiles	515	443	1,555
2314,5	Silk and artificial silk	326	318	1,047
2316	Webbing, narrow fabrics embroidery and lace manufacturing	219	391	1,342
2317	Textiles dyeing, bleaching, finishing, and processing, etc.	294	287	927
2318	Thread and threadball making	588	711	2,730
232	Knitting mills	297	225	694
233	Cordage, rope, and twine industries	245	258	816

(continued)

TABLE A-3 (continued)

Indian Industrial Classification		Nonwage Value Added per Employee		Productive Assets per Employee, Net (3)
		Actual	Estimated by Regressing 1 on 3	
Code No.	Name of Industry	(1)	(2)	(3)
2395,6	Coated fabric and linoleum	894	640	2,409
2398	Tarpaulins, tents, sails, and other made-up canvas goods	245	217	666
2431,3	Clothing and tailoring	160	183	544
2432	Umbrella manufacture	172	323	1,067
241	Manufacture of footwear	301	135	377
2511	Sawmilling	163	185	551
2512	Plywood	275	356	1,196
252	Wooden and cane containers and cane small ware	142	174	509
2602,3	Furniture and fixtures, metal	296	406	1,401
2711-3	Pulp and paper mills	640	818	3,228
2714,6	Paperboard	616	701	2,686
2715,7	Paper and paper products	858	346	1,157
2801,2	Printing and bookbinding	265	315	1,036
291	Tannery and leather finishing plants	192	351	1,179
293	Manufacture of leather prod. exc. footwear and other wearing apparel	137	484	1,727
3001	Tires and tubes	3,705	1,204	5,118
3002,4	Surgical and medical products	517	347	1,164
3003	Rubber footwear	200	168	489
31111,3	Fertilizers	833	1,683	7,628
31121	Heavy chemicals, inorganic	874	1,134	4,762
3113,5	Synthetic resins and man- made fibers	2,165	1,818	8,361
3116	Explosives including gunpowder and safety fuses	652	1,079	4,488
3117	Dyestuffs	4,040	1,987	9,297
3118	Turpentine and rosin	1,638	689	2,633
313	Manufacture of paints, varnishes, and lacquers	751	603	2,246
3196	Soaps and glycerine	2,323	953	3,872

(continued)

TABLE A-3 (continued)

Indian Industrial Classification		Nonwage Value Added per Employee		Productive Assets per Employee, Net
		Actual	Estimated by Regressing	
Code No.	Name of Industry	(1)	1 on 3 (2)	(3)
3195	Drugs and pharmaceuti- cals	1,468	846	3,362
3197	Perfumes, cosmetics, and other toilet preparations	430	360	1,216
3198	Matches	403	217	663
3192	Insecticides, fungicides, and weedicides	1,368	1,123	4,709
31910	Glue and gelatine	126	525	1,902
3311-3	Fire bricks and refractories	246	346	1,160
3314	Tiles	142	148	421
3321,4-6	Pressed and blown glassware	168	178	526
3322	Sheet and plate glass	268	642	2,418
3331	Chinaware and pottery	105	253	800
3332	Sanitaryware and whiteware	161	286	922
334	Manufacture of cement	989	1,111	4,649
3391	Asbestos cement	725	409	1,412
3392	Hume pipes and other cement and concrete products	313	349	1,172
3395, 39916 }	Stone and slate products	148	192	574
3411	Iron and steel (metal)	852	1,199	5,089
3396	Grinding wheels and abrasives	1,160	813	3,204
3412	Ferro-alloys	1,667	2,082	9,827
3413	Iron and steel castings and forgings	106	213	649
3414	Iron and steel structurals	270	429	1,495
3415	Iron and steel pipes	808	698	2,670
342	Nonferrous basic metal industries	1,113	1,393	6,090
3501	Metal containers & steel trunks	606	551	2,017
3502	Cutlery, locks, etc.	334	204	616
3503	Bolts, nuts, nails, screws, springs, chains, etc.	391	629	2,359

(continued)

TABLE A-3 (continued)

Indian Industrial Classification		Nonwage Value Added per Employee		Productive Assets per Employee, Net (3)
		Actual (1)	Estimated by Regressing 1 on 3 (2)	
Code No.	Name of Industry			
36061	Ball, roller, and tapered bearings	680	515	1,859
3504	Enameling, japanning and lacquering, galvanizing, plating, etc.	307	371	1,260
3507	Safes and vaults	139	141	396
35010	Hand tools and small tools	483	438	1,533
35012	Sanitary and plumbing fixtures and fittings of metal	134	220	675
360111,2	Typewriters and office machines	1,150	712	2,738
3607	Machine tools	413	791	3,100
36012	Weighing machines	510	326	1,079
3603	Internal combustion engines	594	468	1,658
360411	Paper machinery	261	704	2,699
36041	Textile machinery, etc.	271	374	1,271
36044, } 360414 }	Food products machinery	380	442	1,550
36049	Chemical machinery	357	282	908
360513	Refrigeration plants for industrial use	843	302	987
36081,2	Farm machinery and equipment	322	325	1,073
360511	Power driven pumps-reciprocating, centrifugal, etc.	439	423	1,471
360512	Air and gas compressors and vacuum pumps	907	518	1,874
360113	Air conditioners and refrigerators	516	366	1,237
360115	Sewing and knitting machines	204	284	915
36052	Conveying equipment-bucket elevators, skip hoists, etc.	366	481	1,714
37011	Equipment for generation, transmission and distribution of electricity	479	416	1,442

(continued)

TABLE A-3 (concluded)

Indian Industrial Classification		Nonwage Value Added per Employee		Productive Assets per Employee, Net (3)
		Actual (1)	Estimated by Regressing 1 on 3 (2)	
Code No.	Name of Industry			
37012	Electric motors	578	488	1,745
37013	Electric fans	511	279	896
37014	Electric lamps	506	604	2,248
37016	Electric cables and wires	1,345	1,115	4,667
37019	Household appliances, such as electric irons, heaters, etc.	323	315	1,037
370110	Storage batteries	869	799	3,138
370111	Dry cells	646	509	1,836
37021,2	Telephone and telegraph apparatus	279	490	1,753
37023,4	Radio communication apparatus and receivers	675	621	2,326
3812	Boatbuilding	236	498	1,786
383	Manufacture of motor vehicles	734	689	2,630
385	Manufacture of motor cycles and bicycles	422	493	1,766
3911,3,4 39121	Scientific, medical, optical, measuring, and drawing instruments	419	429	1,495
3924	Manufacture of photo- graphic and optical goods-others	155	195	586
393	Manufacture of watches and clocks	104	403	1,387
3941	Jewelry	213	239	745
3993,4	Pens and pencils	370	275	883
3995	Button making	675	497	1,781
3997	Plastic molded goods	378	388	1,328
39910	Brooms and brushes	353	252	793
39911,2	Toys, games, and sport goods	109	106	284

TABLE A-4

*Linearity and Bartlett Tests for Comparisons of Nonwage Value Added and Net Physical Capital per Employee in the United States and India*

Test	Number of Industries	Arithmetic Form	Logarithmic Form
Linearity			
United States			
Four-digit level	276	2.87* (18,256)	.58 (13,261)
Three-digit level	122	4.68* (3,117)	.40 (3,117)
India	115	3.96* (18,95)	.47 (15,98)
Bartlett			
United States			
Four-digit level	276	200.82** (7)	14.72 (7)
Three-digit level	122	102.04** (5)	3.64 (5)
India	115	125.95** (5)	2.44 (5)

Note: Linearity test is derived from W. J. Dixon and F. J. Massey, Jr., *Introduction to Statistical Analysis*, New York, 1957, p. 197. Bartlett's test is derived from G. W. Snedecor, *Statistical Methods*, Ames, Iowa, 1947, pp. 250-251. Numbers in parentheses indicate degrees of freedom for each statistic.

\*Variables not linearly related at 1 per cent level of confidence.

\*\*Variances significantly different from one another at 1 per cent level of confidence.