

THREE ASPECTS OF LABOR SUPPLY SINCE 1900
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I. PATTERNS OF LABOR SUPPLY: The Role of
the Family

Individuals do the work of the world. But are they the decision units for labor supply? In American society decisions made within, and by, the family establish who will seek work, for how long, and where. It is not the children alone who decide whether they will work. The wife does not, alone, choose between a part-time and full-time job, or when to quit the labor force. Family pressures for income enter into all these decisions. Of course these choices are constrained by the larger society: fathers in most social classes seem inevitably to work, children to go to school full time, mothers to keep house, and so on. But options keep changing. Families shift social status. Variation can be observed within any social category of which one can think. And labor force participation can be usefully considered in its family context. We shall see how the sharply different trends in labor supply since 1900 are pulled together into a wildly improbable, but apparently correct, explanatory frame by that context.

The simple facts of labor supply are conveniently summarized in about 50,000 time series for the years since 1940 - plus a hundred or so key monographic studies. From these we refer to only two facts:¹

About half the U.S. population of working age (14 and older) is in the labor force at any time: 56% in 1900 and 58% in 1966.

The proportion for males is about double that for females - 78% to 38%.

Behind these simple figures lies the infinitely complex, the continuously changing, pattern of labor supply and its determinants. The rise in output is absolutely limited by the extent to which people can be induced to give up more tantalizing activities in order to begin work earlier in life, continue on in later years, take on a second job as well as a first one, etc. And it is further bounded by their changing preferences in work itself - for factory work rather than domestic service, for jobs above ground instead of the dark of the mine, for well paid work compared to slow-paced work, and so on. The entrepreneur bidding for labor must take most of these preferences as given. For they are fixed by the mute movings of instinct, by ancient tradition, by the subtle interplay of family relationships.

A.

In recent years we have seen two titanic forces shaping labor supply. One to restrict, the other to expand it.

(1) Actions by the government constricted the supply of labor - cutting immigration from overseas to a trickle; insisting on education requirements that result in today's workers entering the labor force close on age 19 rather than - as once - ages 10 to 14; holding out old age pensions that induce men to quit close to age 65 rather than try to hang on to 70.

(2) The expansionist force, unconsciously striving against this restrictionism, was that of advertising, constantly persuading the consumer to new goods and to iterations of old ones. But the consumer lives inside the same skin as the worker. And the new commodity can typically be acquired only by work.² Hence it turns out that advertisers have been busily increasing the national labor supply.

B.

Given these massive pressures what were trends of labor input since 1900 for the three major groups - men, children and women?

MEN Two dominant forces characterize the trend in labor input by men.

1. Most obvious is the decline in hours worked. Some 95% to 98% of men in the central ages have always worked. But the hours they put in each week have fallen rapidly since 1900:

Average Weekly Hours in Factories ³	
1900	59
1929	44
1940	38
1966	41

The swoop downward from 1900 to 1929 stands out. But so does the sudden halt, and the grand stability since the 1930's. Union organization during the thirties and Federal wage hour legislation together did little to cut prevailing factory hours. The tendency to exchange more income for more leisure was apparently checked by the end of the mid 1930's. Workers thenceforth took productivity gains almost wholly in money rather than partly in leisure.⁴

2. The other major decline in male labor input was the fall in the percent of older workers in the labor force - from 1900 to the late 1920's, and continued on till today. The mild decline for the 55-64 age group, the drastic one for the

over-65 group, report the impact of rising income and of the Social Security Act:

C.

Worker Rates for Males,⁵
by age

	60-64	65-69	55-64	65+
1900			90.0%	68.4%
1930	86.8%	75.7%	87.1	58.0
1965	78	43	62.6	21.9

CHILDREN For children, too, labor input declined markedly to the late 1920's:

Worker Rates for Children,⁶
by Age

	<u>10-15</u>	<u>14-15</u>
1900	18.2%	
1920	11.3	17.5%
1930	4.7	9.2
1940	2.9	5.2
1950		20.8
1960		17.5
1965		16.0

But instead of that decline merely ceasing at the end of the depression, as that for hours worked, the trend was reversed. Work by children was welcomed at a fast and increasing rate since 1940.

WOMEN If we turn now to the other volatile component of the labor force, women, we find no such reversal, but persistent trends.^{6a} (Table 1) The only apparent decline from 1890 to 1940 was for single nonwhite women. Since then rates for both white and nonwhite single women have dropped, and those for married women have risen both persistently and markedly. As a result, rates for nonwhite married women reached equality with those for single ones during the 1950's, while those for white single and married appear likely to cross around 1970.

Table 1

Female Worker Rates, by Marital Status

Year	White			Nonwhite		
	Total	Sin- gle	Mar- ried	Total	Sin- gle	Mar- ried
1890	12.1	35.2	2.5	39.5	56.4	22.5
1940*	26.9	47.9	14.6	43.2	45.1	33.5
1951*	31.5	50.5	24.3	41.1	41.3	36.0
1960*	34.1	45.5	29.6	41.2	33.6	40.8
1966*	36.8	42.0	35.0	44.1	32.7	49.4

*March

In the midst of capitalist society there exists an island of primitive communism - the family. Its members share labor and income among themselves with little reference to private market allocation procedures. Yet its decisions and desires help create the varied pattern of labor inputs to the market noted above. Now most American families live above a coarse subsistence level. Hence a significant share of labor is provided by men and women busily working to add optional items to the family expenditure level. Faster junking of automobiles, homes with greater privacy for family members, added TV sets, money for retirement years - all of these are options. But they are options that can be achieved only by extra work on the part of family members. Hence labor supply is ultimately fixed by family expenditure horizons, or if you will, the associated income horizons.

It is easy to explain why most adult males work. But to explain work patterns in a society well above subsistence levels we must look to the role of income horizons. Suppose that we confront the usual history of increasingly delayed entrance, and earlier retirement, of males from the U. S. labor force, plus the increasingly shorter scheduled work weeks, with the present complex patterns of labor force participation.

The traditional findings imply a flight from labor to leisure as the years have passed. But if so what are we to make of recent data for males in the central age group, 25-44? For these report that in 1965:⁷

- 40.1% worked overtime (on one job)
- Another 8.2% had two or more jobs (averaging 39 hours on their primary job, 13 more on their secondary job).
- Some 37.2% had working wives.
- Another 11.8% had other family members in the labor force (but not working wives)

These figures may be added together, with only limited error, to reach one conclusion: nearly every family in the central, 25-44, age group was making some extra effort to earn income above and beyond a regular job by the husband. Half did so by additional work of the husband; half by wives or children working. (Some tried both.)

Existing data do not permit us to say whether the search for income has intensified since 1900. About all one can add is that some of these endeavors substitute for taking in boarders and lodgers. (About one-quarter of urban families did so in 1900, although less than 5% do so today.⁸) Work has thus not merely helped to adorn the home with artifacts: it has made it more private.

These differing trends - worker rates rising for married females; declining for males; declining then rising for children; shortening of the scheduled work week but probably expansion of overtime and second jobs - seem susceptible to only one explanation. It is not an explanation to be found in the demand side of the labor market per se, but in the family's labor supply schedule. We have asserted that the schedule is fixed by family income horizons. Data on sources of family income, put together from surveys scattered over two-thirds of a century, tell us something about that horizon. They report an unsuspected constancy:

Proportion of Family Income
Contributed by Husband
(urban families)⁹

1901	80
1935-1936	82
1965	81

Apparently families set their income horizon at 25% more than the head of the family earns. So it was in 1901, when unemployment, and real incomes were low. So it was a third of a century later in the midst of our most extended depression. And so it was in the piping warlike days of 1965. As real hourly wages of husbands rose from 1901 to 1935-1936 other family members adjusted their own participation so that they continued to add 25% to the husband's income. As wages continued to rise over the next thirty years, and unemployment to fall, there was again an adjustment to 25%. Now since wage rates for women and teen agers had also been rising, it is clear that the historic increase in female labor force participation was not required to yield the same real income. Instead, income horizons had shifted. And the family continued to seek 25% more income than the husband provided, despite his higher wage rates and despite his overtime work. Perhaps a moralist or philosopher could explain why the U. S. family always seeks more than the husband's income. But it would require a more protean analyst to explain why the family income horizon apparently kept moving throughout two-thirds of a century to a point 25% beyond the income that the husband could provide.

II. The Decline of the Entrepreneur

A.

Let us turn now to the transition since 1900 from a labor force with a major independent, entrepreneurial component to one with an employee, a worker, orientation. Europe had entered the twentieth century trailing a history that ranged from Feudalism (at its harshest) to sharp class distinctions (at its mildest.) Not so in the United States, which still retained the upward, sanguine outlook of an open society. Our past had been a different one. Moreover, the role of the self-employed remained distinctly

greater than in Europe, and workers' prospects of gaining that station were more assured.

In 1900 (as Table 2 reports), about 13 million persons were closely involved in running family businesses. About the same number of persons were employees. The one-to-one ratio between the independent, profit-oriented, group and the hired worker group helped define an open society, helped generate tantalizing worker hopes for personal advance. It was neither happenstance nor a testimony to the power of legal injunction and employer dissuasion that in 1900 less than 4% of the labor force was unionized.¹⁰ Self-employment reached high tide - perhaps not surprisingly - in 1925-26, just midway in the Coolidge years. But its absolute rise from 1900 had been small and its ratio to the number of employees had run almost steadily downward.

The fading of independent entrepreneurship synchronized with the deadly accumulation of mass unemployment in the early 1930s, and the swift rise in the percent of the labor force organized, from 8% in the beginning of the Roosevelt-Truman era (1932) to 26% at its end (in 1952). By 1967 declines in farm employment had decimated the self-employed group, to a figure of not much over 10%.¹¹ (And few of these self-employed were employers.) That percentage may not exceed the corresponding figure of the Union of Soviet Socialist Republics. Most of the 71 million labor force took orders from other employees - corporate officers, foremen and others who possessed power, but not the power (nor the perspective) of the classic independent entrepreneur. The "employing class" was on its way to extinction.

Table 2

Labor Force and Employment
(in millions)

	1900	1941	1960
Civilian Labor Force	28.4	55.9	70.6
Self Employed and Unpaid	12.7	12.8	10.9
Unpaid Family Workers	3.0	2.0	1.7
Self Employed	9.7	10.8	9.2
Farm	5.8	5.2	2.8
Service	1.1	1.6	2.2
Trade	1.3	2.3	2.4
Construction	.5	.5	.8
Manufacturers	.4	.3	.4
Other	.4	.5	.6
Employees	12.5	35.5	53.4
Domestic Service	1.8	2.1	2.5
Unemployed	1.4	5.6	3.9
Armed Forces	.1	1.6	2.5

Sources: Tables A3, A4, A7 in Manpower in Economic Growth

B.

The swift rise of the employee share in the labor force had its deepest impact in that dynamic, critical sector of the economy where goods were made. Factory production had been somewhat equitably shared between independent proprietors and corporations in 1900. But after 1900 output (and employment) centered in corporations.¹²

Manufacturing Sales (billions)		
	1900	1964
Sole Proprietors	\$ 3	\$ 7
Corporations	8	453

Not fate nor malignant endeavor accounts for this shift. Increasing returns to scale had appeared throughout the economy: more goods were produced with the same effort and investment as the scale of production increased. But to achieve the larger economy larger business units were apparently required. And to assemble financing for such larger units the corporate form proved more feasible (largely because safer) than the sole proprietorship. Hence the growth of the corporation, hence its taking over of the vast bulk of U. S. output and employment.

Only in part did greater efficiency derive from larger plants, larger production units. True, plant size did rise after 1900. But most factory workers, even today, are not employed in those giant plants with over 1,000 workers. Changes in plant size proved trivial compared to changes in the size of business firms per se. And increasingly the larger firms began to dominate the economy. The advance in concentration of employment can be noted most reliably for manufacturing. Between 1900 and 1963, as Table 3 indicates, the proportion of all factory employees in the 185 largest firms rose from 8% to 27%:

Table 3

Concentration of Employment
in factories¹³

	1900	1947	1963
Total	5,308	11,918	12,232
In the 185 largest firms	400	(2,035)	(3,300)
Percent in largest firms	8%	(17%)	27%

Such advancing concentration probably signalled with broad accuracy the increasing centralization of employment in the entire economy.¹⁴ (Although such small-employer sectors as trade and service grew at faster rates than did total employment, that most centralized of employers, government, grew still faster.) Today

we reside in neither the early world of small master and humble journeymen, nor in that caricature, "the apogee of monopoly capitalism". Yet Table 3 does suggest a speeding up in concentration after 1947. And one might speculate that by the year 2,000 half our labor force will work for the 250 largest businesses and government units.

III. NEW CONTROL MECHANISMS

Given the growing concentration of employment, the greater role of larger business units, differences in the mode of production appear. Corresponding differences in wages and working conditions may spring up.

There is no evidence that the competition of 400,000 factory enterprises in 1963 produced a different kind of wage determination than the competition of 450,000 in 1900, even ignoring the labor market competition across industry sectors.¹⁵ But whether the growing concentration of employment in larger firms makes a major difference for wage determination (via pattern bargaining etc.) is uncertain. The analytic warfare between those who argue for the impact of market power, union importance and oligopoly on wages as against those who argue for demand forces and the power of competition has not yet been settled - if ever it will be.

There are some changes, however, with respect to the labor force to which one can point with more confidence.

A.

To control workers in larger plants, in greater firms, employers put together control mechanisms that were weak (or superfluous) when workers and owners labored together. One obvious and standard component was direct, hired, supervision. It is probably impossible to report the number of persons engaged in supervision. But Table 4 may tell us something about that trend. As the number of self-employed, who oversaw their own businesses, drifted downward over the years, the number of foremen - a fairly clear-cut and indicative category - increased. The ratio of foremen per employee changed little from 1910 (perhaps from 1900) to 1940. But when unions began to spread in the late 1930's, and wage rates spiralled, a sharper cost consciousness was apparently generated. Supervision became markedly closer after 1940, the ratio of foremen to employee rising at 5 times the rate it did 1910-40.

B.

But there were further alternatives to the urgency that a master could communicate, or the drive that a foreman could command. Some were embodied in another control mechanism: the

the incentive pay system. That system did not rely on personality to shape worker responses, nor on command and status. Instead it trusted to direct financial stimuli.

Incentive pay schemes are, of course, very old. The men who chased Moby Dick were paid a percentage of the sales value of the catch. And sharecroppers have long been classic examples of workers paid by results.

For manufacturing we have trend data of real reliability.¹⁶ Summarized in Table 5, what do they report?

Table 4

Employment in Manufacturing (000)			
	1910	1940	1960
Self-Employed ¹	504	324	383
Foremen ²	175	293	742
Employees ²	7,280	10,601	17,530
Foremen per 100 Employees	2.40	2.76	4.23

- Sources: (1) Manpower in Economic Growth, Table A-7
- (2) 1910: Employees - Gladys Palmer & Ann Ratner, Industrial and Occupational Trends in National Employment (1949), App. III. These data are based on the Population Census, hence comparable with the others shown here. Foremen - 1910 Census, Occupations, p. 91.
- 1940: 1940 Census, Occupation Characteristics, Table 9.
- 1960: 1960 Census, Occupation by Industry, pp. 17, 19.

First, and most obviously, the tide was running toward incentive plans: the proportion of all factory workers under incentive plans rose from 18% to 27%. More than two thirds of the sectors shown report increases. Spectacular ones showed up in many of the durable goods industries, such as primary metals from 10 to 46%; stone, clay and glass from 8 to 25%; electrical machinery from 16 to 40%.

Secondly, and no less significant were spectacular declines in some nondurable industries - tobacco falling from 64 to 31%, printing from 15 to 4%, furniture from 54 to 25%.

What are we to make of this mixed pattern -

particularly if we note the fairly trivial changes for a few sectors (e.g. food from 10 to 12%)? Most sectors, particularly those with a small proportion using incentive plans originally, found increasing scope for the plans. They presumably proved an effective tactic of cost control by transport equipment and other industries that were increasingly under pressure for higher wage rates.

On the other hand if we made a list of industries who were relatively sluggish in their productivity advance, who generally bombarded the Congress with pleas for tariff protection, we would include many of those that had high incentive percentages to begin with - and then increased them further: leather, from 44 to 63%, apparel from 51 to 59%. And that list would include such other high ratio industries as knitting (65%) apparel (59%) steel (60%) glass (45%). All of which simply suggests that incentive pay schemes proved to be no panacea: like good whiskey they may be effective medicine or, denatured in vegetable compounds, constitute a sorry excuse for genteel toying and evasion of responsibility.

Table 5

Incentive Pay:
Percent of Factory Workers
on Piece Work (1890) or Incentive Pay (1958)

	1890	1958
All Manufacturing	17.9%	27.0%
Tobacco	64.1	30.9
Furniture	54.2	25.0
Apparel	51.3	59.3
Leather	44.0	63.2
Paper Boxes*	45.3	20.0
Printing	14.6	3.8
Textiles	13.4	39.7
Food	10.4	11.5
Chemicals	5.6	8.8
Lumber	4.1	6.3
Instruments	45.2	29.2
Toys, Sporting Goods*	24.5	24.0
Nonelectrical Machinery	21.2	25.9
Fabricated Metals	18.6	23.1
Electrical Machinery	15.6	40.3
Toys and Games	12.7	24.5
Primary Metals	10.1	46.4
Jewelry, Silverware*	10.0	35.0
Stone, Clay and Glass	8.4	25.1
Transport Equipment	4.6	10.4

Sources: 1890: Computed from data in 1890 Census, Manufacturing, Part 1, Table 4.

1958: Monthly Labor Review (May 1960), P. 461.

*BLS coverage too limited to permit showing 2-digit totals for paper or miscellaneous.

III

The third major technique adopted creating spirit in the labor force and controlling labor costs can be inferred from the fact that tobacco and furniture cut their high 1890 incentive percentages markedly by 1958. Bumping up against the limits of the incentive technique they shifted the burden of payroll control on to machine pacing. By 1958 only 3% of cigarette workers (and 13% of motor vehicle workers) were under incentive schemes. The other 97% (87%) were controlled more effectively by the scheduling inherent in the production line, the pacing of the conveyor belt.

In sum, no industry found a single, simple control to replace the eye of the master in the small workshop. Some expanded supervision by foremen. Some put in piecework schemes. Some instituted machine pacing of work. Some combined techniques, their mixture depending on the rate of technical advance, the constraints of materials, the quality of management.

APPENDIX

A. In 1965 21.4% of the male noninstitutional population aged 14-15 was in the labor force, 44.6 of the 16-17 group, 70% of the 18-19 year olds, and so on. (BLS Special Labor Force Report No. 69, Labor Force and Employment in 1965, Table B-1.) Assuming a zero participation rate below age 14, we infer that 21.4% entered the labor force beginning at age 14, that 44.6 minus 21.4 (or 23.2%) entered at ages 16-17, and so on, till the 98% rate for age 30-34, taking that as the effective maximum. At the other end of the age spectrum a problem arises because rates for a given year necessarily do not reflect the nonparticipation of those in our beginning period population who have already died or entered institutions. We pick an arbitrary 65 in the light of participation rates and death rates. Hence the average male enters at 18.5 leaves at 65, based on rates in 1965. (Rates for 1960-64 are much the same.)

B. In January 1966 a labor force survey indicated that males then aged 65-69 had spent 14.6 years on their current job; those aged 60-64 had spent 16.5 years, and so on. Taking 15.5 as the average for men 65 years of age, we then estimate the duration figure for men aged 49.5 (i.e., 65 minus 15.5), and so on. Summing these intervals indicates 12 jobs from age 18 1/2 to 65. (Data on job tenure as of January, 1966 from BLS Special Labor Force Report No. 77, Job Tenure of Workers, January 1966, Table A.) Tenure surveys for 1951 and 1963 suggest shorter job durations were probable during peak hiring periods (e.g., World War II and the Korean War), and longer during slow growth. Using the 1966 report for pro-

jections assumes something like the 4.5% to 5.5% average unemployment that prevailed in the past half dozen years. (I here use more recent survey evidence, and a somewhat better procedure than that adopted for a similar estimate in my Men Without Work.)

C. For 1900 Rees gives a daily average of 9.89 hours in manufacturing. (Albert Rees, Real Wages in Manufacturing, 1890-1914 (1961), p. 33.) For 1929, 1966: Economic Report of the President, January 1967, p. 244.

D. 1900: Estimated from data for 1901 in U. S. Commissioner of Labor, Annual Report (1904). Pp. 362, 366. 1935-1936: Ratios for particular sampling areas, as shown in the BLS-BHNHE Consumer Purchases Volumes, weighted by the appropriate distribution of nonfarm families from National Resources Committee, Consumer Incomes in the United States (1938), Table 24B. 1965: Bureau of the Census, Current Population Reports, P-60, no. 51, Income in 1965 of Families and Persons in the United States. For nonfarm families, male head, married wife present, the median family income was \$7,436, of which the head's income was \$6,026 (p. 32), or 81%. Of 39,419 wives 19,816 had a median income of \$1,789 or an average of \$872 per family, leaving \$538 contributed by children and other family members.

E. Data from Manpower and Economic Growth, p. 53 and the writer's "Labor Force and Employment, 1800-1960" in Conference on Research in Income and Wealth, Output, Employment and Productivity in the United States after 1800 (1966), p. 148. Participation rates for ages 10-13, 14-15 in 1940 from the latter source were weighted by population data from 1940 Census, Characteristics by Age, p. 8.

F. BLS, SLF 81, Overtime Hours and Premium Pay, Table J reports 6,949,000 male wage and salary workers working overtime as of May 1966, or 40.1%. BLS, SLF No. 63, Multiple Jobholders in May 1965 reports 1,676,000 males in May 1965 with 2 or more jobs, or 8.2% of those employed in the group. Given the broad stability in the dual jobholder percentage we assume that 8.2% applies to May 1966 as well. Now since about 60% of the self-employed worked longer than 40 hours (BLS, SLF 69, Table D-2), the 40.1% for wage earners plus 8.2% should run to over 50% for all males 25-44. BLS, SLF 80, Marital and Family Characteristics of Workers, March 1966, Table B, indicates that 37.2% of all females, married husband present, aged 25-44 were in the labor force. Since women tend to be married to men slightly older than themselves, the rate for wives of men 25-44 might be 0.5% or so lower.

SLF No. 80, P. A-6 reports 37.2% of females

husband present age 25-44 in the labor force. To this we apply a ratio of 30.4% to derive 11.8% for other family members, but not working wives. We derive the 30.4% as the ratio of F.A-21 data indicating 35.5% of all wives in the labor force and 10.8% of husband-wife families with no wife but other members in the labor force.

8. 1900: 1900 Census, Manufactures, Part 1, pp. lxxxii, 3. We take the 185 organizations for which data are tabulated as equivalent to the 185 largest. Such an assumption is mildly in error: the Carnegie firm was omitted, as well as a few others who might supersede some of the smaller of the 185. 1947: 1963 Census of Manufactures, Vol. I, p.44. 1963: For 1963 the U. S. Census, Concentration Ratios in Manufacturing Industry, 1963, p. 2 gives figures of 26% for the top 150 firms, and 28% for the top 200, from which we interpolate. The same source gives data on concentration of value added, data which show a ten point rise from 1947 to 1963 for the 150 largest firms - and for the 200 largest as well. We reduce the employment ratio for 1963 by ten points to get a 1947 estimate.

FOOTNOTES

1 cf. the writer's Manpower in Economic Growth, p. 512, BLS,SLF 69, p. A-7.

2 Theft, is, of course, one alternative, but mores, internalized values and police all preclude much resort to that solution. Drawing down savings or borrowing is another alternative. However, since families have savings goals, savings must be replenished and debts paid; hence the net answer proves to be: additional work.

3 Estimated in Appendix C. Although estimates for all workers exist, we prefer here to rely on the more reliable data for manufacturing industry - likely to be indicative as well as reliable.

4 It is irrelevant to our present purpose to note that coffee breaks, etc. have probably proliferated. The worker's 40-hour presence on factory premises is required. Additional hours have not (as in earlier decades) been traded for less income.

5 1900-1940: estimates made for developing the annual series in Manpower in Economic

Growth, Pp. 393, 402. Cf. 1900 Census, Occupations, P. cxviii; 1930 Census, Occupations, p. 115. 1960ff: BLS, SLF No. 69, Labor Force and Employment in 1965, p. A-10.

6 Estimated in Appendix E.

6a 1890-1960: Data from Manpower in Economic Growth, p. 519. 1966: BLS, Special Labor Force Report No. 80, Marital and Family Characteristics of Workers, P. A-5.

7 Estimates derived in Appendix F.

8 U. S. Commissioner of Labor, Cost of Living and Retail Prices of Food (1904), p. 362 reports for a large (but in some respects biased) sample of urban families in 1901, that 23% had income from boarders and lodgers; 9% from working wives; 22% from working children. 1960 Census, Families, p. 195 reports just under 4% of all families in urbanized areas as having lodgers.

9 Estimated in Appendix D.

10 Gregg Lewis, Unionism and Relative Wages in the United States (1963), p. 244.

11 BLS, SLF 69, Labor Force and Employment in 1965, Table C-4.

12 1900 Census, Manufactures, Part 1, p. 503, U. S. Internal Revenue Service, Business Tax Returns, 1964-1965, p. 7. Data for "partnerships and firms" in 1900 totalled a further \$2.6 billion.

13 Estimated in Appendix G.

14 Such a conclusion appears to be at variance with the well known study by Nutter, and later work built upon that. However that study is questioned by the writer in the Review of Economics and Statistics, November, 1953. Moreover it deals with national income. When we come to employment the role of government is necessarily greater - the contribution of government capital being omitted in the income estimate.

15 For 1900 we roughly adjust the 512,254 establishment figure (1900 Census, Manufactures, Part 1, p. 503). For 1963 we use the IRS total Business Tax Returns, 1964-65, p. 7.

16 1890 data computed from figures in Eleventh Census, Report on Manufacturing Industries of the U. S. (1895), Part 1. Other data from Monthly Labor Review, November 1947, p. 535 and May 1960, p. 461.