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DEVELOPMENT OF THE LABOUR MARKET

**ANALYSIS OF THE DYNAMICS
OF THE JOB CREATION PROCESS
IN THE UNITED STATES AND AN
EVALUATION OF MEDIUM AND
LONG TERM PROSPECTS**

VOLUME II: PUBLIC POLICY, ENTREPRENEURSHIP AND THE U S JOB
CREATION EXPERIENCE



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of the Labour Market

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Volume II: "Public Policy, Entrepreneurship and
the U.S. Job Creation Experience"

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Author: The Corporation for Enterprise
Development

Volume II: "Public Policy, Entrepreneurship and
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Public Policy, Entrepreneurship and the U.S. Job Creation Experience

The Corporation for Enterprise Development

The United States has adjusted to the post 1973 era of structural economic change with far greater employment growth than any comparable European nation, several of which actually lost jobs. For this reason, policymakers in Europe are looking to the U.S. experience for signals on how they might intervene to improve their own employment situation. Policy prescriptions range from exclusive attention to rigidities affecting the supply of labor to policies to remedy the problem through conventional macro-economic policies.

In this paper, we examine the U.S. job creation experience from 1970-1984 in the hope of illuminating at least some of the policy prescriptions that do and do not appear to explain the U.S.'s relative good fortune over this period. The paper is divided into three parts:

Part I reviews comparative data on the U.S. and European experience and attempts to develop measures of relative performance that get beyond the usual comparisons of absolute job growth. Sectoral changes in the composition of employment growth are also covered, as is the puzzle of "jobless growth" in Europe.

While labor market rigidities in Europe may or may not contribute to problems there, we argue that the sources of overall U.S. flexibility are much broader, and hence cannot be explained well by labor markets per se.

Part II then takes a look at various explanations put forward of how public policy in the U.S. has contributed to our job growth, and attempts to separate the wheat from the chaff. Explanations covered are taxation, deregulation, federal expenditures (including defense, health care, human capital, and the overall effect of macro-economic policy) and support for entrepreneurship at the federal, state and local levels.

Part III then develops the assertion that the U.S. experience is better explained by a high level of dynamism and innovation in the U.S. economy, and pinpoints the presence of a strong "entrepreneurial sector" as a primary source of this dynamism. A stage by stage categorization of environmental supports to entrepreneurship is then presented to clarify the elements the U.S. already has in place which nurture this entrepreneurial sector.

I. Job Creation in the U.S. and Europe: A Review of the Numbers

There is no question but that the U.S. outperformed Europe in creating jobs for its people from 1970-1984. Even so, the numbers commonly tossed around to highlight this disparity are somewhat misleading. In the first two parts of this section, such numbers are replaced with measures that more accurately reflect the relative job performance of nations during this period. Later in the Section, we review some of the explanations commonly given for this disparity between North American job growth versus, in several cases, aggregate job loss in Europe.

1.1 Some Apples and Oranges

From 1970 to 1984, the U.S. created over 26 million jobs. By comparison, the four largest European nations -- with a combined 1970 labor market slightly larger than ours -- lost over half a million jobs. Japan, which did reasonably well, with 6.7 million new jobs, nonetheless also fell far short of the U.S. figure, even when viewed in terms of percentage job growth. Japan generated job growth of 13.4 percent; the U.S., 33.5 percent. (See table 1.1)

1.2 Comparing Apples with Apples

What is wrong with these oft quoted numbers? A look at table 1.2 should make it clear: the U.S. labor force grew by 37.2 percent over the relevant period, while Japan's grew by only 15.3 percent. What this means is that if every new entrant in Japan's labor force immediately found a job, Japan would still have experienced only 15.5 percent job growth, well below the U.S. figure, yet as well as any country could hope for. Job growth or percentage job growth needs to be considered in the context of labor force growth. Labor force growth implies growth in demand as well as supply of labor, and both shifts should lead to greater employment.¹

It is for this reason a little misleading to call employment growth figures measures of "job creation," as if jobs were created independent of labor supply. They are a measure of job creation, yet a more precise relationship to labor force growth would be more helpful.

¹ In a perfectly functioning market, virtually any increase in the labor supply will be employed, although at lower wages. Therefore, differing levels of labor force growth should not explain changing unemployment patterns among nations, except as measures of how closely their labor market performs relative to the textbook model. The measure we introduce in table 3 attempts to compare nations' performance on this basis.

Table 1.1

Changes in Civilian Employment in Selected Countries
1970-1984

(All numbers adjusted to approximate U.S. concepts.
All numbers in thousands.)

	1970	1984	Change	% Change
United States	78,678	105,005	+26,327	+33.5
Japan	50,140	56,870	+6,730	+13.4
Four Largest European Countries, Total	89,250	88,640*	-610	-0.7
Germany	26,100	24,610*	-1,490	-5.7
Great Britain	23,780	22,960*	-820	-3.4
France	20,290	20,670*	+380	+1.9
Italy	19,080	20,400*	+1,320	+6.9

Table 1.2

Changes in Size of Civilian Labor Force in Selected Countries
1970-1984

	1970	1984	Change	% Change
United States	82,771	113,544	30,773	37.2
Japan	50,730	58,480	7,750	15.3
Four Largest European Countries, Total	91,200	97,680*	6,480	7.1
Germany	26,240	26,700*	460	1.8
Great Britain	24,510	26,390*	1,880	7.7
France	20,800	22,990*	2,190	10.5
Italy	19,650	21,600*	1,950	9.9

* Preliminary

Source: U.S. Bureau of Labor Statistics, Statistical Supplement to International Comparisons of Unemployment, Bulletin 1979, May 1985. (See our Appendix for reproduction of relevant tables.)

Table 1.3 provides one such measure. In the first three columns we see how absolute changes in the size of the labor force and the employment level combine to determine the rise or fall of absolute unemployment. In the final column, however, we see how well each economy was able to absorb a given increase in the size of its labor force. (The number tells us what percentage of new entrants were not accommodated with jobs. One hundred minus that number tells us what percentage were able to find work.)²

This number allows us to compare each nation's performance by a common scale. Glancing down this column, we see that Europe did in fact fare much worse than the U.S., but that Japan performed slightly better than the U.S.

Table 1.4 presents similar data for ten countries, along with "before" and "after" rates of unemployment. In order to get a fuller sense of how well each nation did under different levels of strain, a comparison of all these numbers is recommended.

For example, a country with a much larger labor force (assuming a healthy economy) can probably adjust more easily to changes in world markets, if only because of the greater diversification it presumably starts with.

The initial rate of unemployment is crucial also, both as an indication of how tight or loose the labor market was at the beginning of the measured period, and as another check on how well the labor force is actually being served. For example, Sweden and Japan, which, along with the U.S., achieved the lowest rankings on the "% of new labor force entrants unable to find work" indicator, continue to boast unemployment rates only forty percent of that in the U.S.³

² One problem with this numbering is that measures of a nation's labor force generally fail to capture those persons who have eventually given up in their search for employment -- the "discouraged worker." On the other hand, use of the "employment-population ratio" fails to distinguish between economic performance and the growth of labor force participation by women. In the U.S., the importance of the latter phenomenon easily overshadows the discouraged worker measurement problem. In other countries, however, the opposite is probably true. For comparative data on the labor force participation of men versus women over time, see table 12 in our appendix. For employment-population ratio comparisons, see appendix table 13. For discussion of the magnitude of the discouraged worker problem and other reasons why European unemployment measures may be greatly understated, see Guy Standing, Labour Surplus and Labour Flexibility: A European Perspective, International Labour Organization, 1986.

³ The caveats that must be mentioned concerning comparisons of such data are worthy of a separate paper themselves. It is not fair, in one sense, to compare unemployment rates in Sweden, Japan and the U.S. Yet from a policy perspective, comparisons are valid in so far as they measure citizens' experience. Thus while Sweden keeps the unemployed off the rolls with training and other activities, their experience is certainly different from a newly laid-off worker here. (All these numbers are at least adjusted to reflect U.S. concepts.) Other comparison problems relate to migrant labor, size of the underground economy, cyclical aberrations in either endpoint year, and so on.

Table 1.3

Changes in Unemployment As Difference Between Growth of Labor
Force and Growth of Jobs in Selected Countries
1970-1984

(All numbers adjusted to approximate U.S. concepts.
All numbers in thousands.)

	<u>Growth of Labor Force</u> ¹	-	<u>Growth of Jobs</u> ¹	=	<u>Growth of Labor w/o Jobs</u> ²	As % of Growth in <u>Labor Force</u>
United States	30,773		+26,327		4,446	14.4
Japan	7,750		+6,730		1,020	13.2
Four Largest European Countries, Total	6,480		-610		7,100	109.6
Germany	460		-1,490		1,950	423.9
Great Britain	1,880		-820		2,700	143.6
France	2,190		+380		1,810	82.6
Italy	1,950		+1,320		640	32.8

1 Taken from the previous two tables above.

2 Calculated directly from unemployment figures for 1970 and 1984, U.S. Bureau of Labor Statistics, Statistical Supplement to International Comparisons of Unemployment, Bulletin 1979, May 1985. European numbers are preliminary. (See our Appendix for reproduction of relevant table.)

**Table 1.4 Growth of Civilian Labor Force, Employment and Unemployment in Ten Countries
1970-1984**

(All numbers adjusted to approximate U.S. concepts. All numbers in thousands.)

	Size of Labor Force in 1970	% Growth of Lf 1970-84	% Growth of Empl. 1970-84	% of Lf Growth Unable to find work	Civ. Unem. Rate in 1970	Civ. Unemp. in 1984
United States	82,771	37.2	33.5	14.4	4.9	7.5
Japan	50,730	15.3	13.4	13.2	1.2	2.8
Germany*	26,240	1.8	-5.7	423.9	0.5	7.8
Great Britain*	24,510	7.7	-3.4	143.6	3.0	13.0
France*	20,800	10.5	1.9	82.6	2.5	10.1
Italy*	19,650	9.9	6.9	32.8	2.8	5.6
Canada	8,395	47.7	38.9	23.1	5.7	11.3
Australia	5,478	30.2	20.5	33.1	1.6	9.0
Netherlands**	4,710	21.9	7.0	69.9	3.2	15.0
Sweden	3,909	12.2	10.4	16.2	1.5	3.1

* Data for 1984 is preliminary

** Data for the Netherlands is for 1973-1984, and is preliminary for 1984.

Source: Taken or calculated from U.S. Bureau of Labor Statistics, Statistical Supplement to International Comparisons of Unemployment, Bulletin 1979, May 1985. (See our Appendix for reproduction of relevant tables.)

1.3 Variations in Sectoral Job Growth

Moving on to table 1.5, we gain a sectoral perspective on where job growth occurred (or did not occur). The very first column is a more useful variation on "% growth of labor force," in that it measures exactly what percentage growth of jobs would be required to employ all new entrants to the workforce. Then, within each major section (Agriculture, Industry⁴ and Services) the left columns indicate how important an employer that sector was in 1970; the middle columns indicate percentage job growth through 1982; and the right columns indicate that sector's contribution to total job growth. Adding the right hand columns for each sector we approximate the final column, total job growth achieved.

Contrasting North America to Europe, we see that most European countries had not only to accommodate growth of their labor force, but also large numbers of workers dislocated from the shrinking agricultural and industrial sectors. The U.S. and Canada, on the other hand, experienced slight aggregate growth in industry, and little significant change in agriculture. Both countries faced extraordinary labor force growth, however; thus, while both found employment for an admirable percentage of this large growth of job seekers, Canada experienced an unemployment rate increase from 5.7 to 11.3; while the U.S. figure rose from 4.9 to 7.5. (Refer back to table 1.4.)

1.4 The Dilemma of "Jobless Growth"

Finally, table 1.6 points up a curious dilemma for Europe. Despite superior growth (relative to the U.S.) in manufacturing output and productivity, and comparable growth in total gross domestic product, most European countries experienced much greater declines in manufacturing employment over both 1960-1973 and 1973-1983. This "jobless growth" has led some observers to conclude that Europe requires much larger output growth to achieve employment growth of any kind, and certainly less than is true in the U.S. (The Business Roundtable, "Job Creation: The United States and European Experience, December 12, 1984.)

1.5 What Does It All Mean?

The data in the previous charts give us some numbers, or clues, but what is actually occurring in these economies? Some things are obvious, and others hotly debated. We know, for example, that the U.S. and Canada's huge labor force growth is due largely to increased work participation by women and the bulge of the post-war baby boom. We know that in Europe there is a lag in the baby boom and far less dramatic change in female workforce

⁴ Data is also available in the Appendix for Manufacturing employment as a subset of "Industry." In general, all nations fared worse in manufacturing than in industry as a whole.

Table 1.5: Sectoral Contributions to Total Civilian Job Growth in Selected Countries, 1970-1982

	<u>Agriculture</u>			<u>Industry</u>			<u>Services</u>			<u>% Total Job Growth Achieved</u> ³	
	<u>% Total Job Growth Required</u> ¹	<u>% Share of Jobs in 1970</u> x	<u>% Job Growth to 1982</u> =	<u>% Increase in Total Jobs due to Agric.</u> ²	<u>% Share of Jobs in 1970</u> x	<u>% Job Growth to 1982</u> =	<u>% Increase in Total Jobs due to Industry</u> ²	<u>% Share of Jobs in 1970</u> x	<u>% Job Growth to 1982</u> =		<u>% Increase in Total Jobs due to Services</u> ²
United States	34.9	4.5	nc	nc	33.1	3.8	1.3	62.3	40.5	25.2	26.5
Japan	15.5	16.9	-38.2	-6.5	35.7	7.4	2.6	47.4	31.1	14.7	10.9
Germany ⁴	1.5	8.6	-38.9	-3.3	47.6	-16.0	-7.6	43.7	15.8	6.9	-4.0
Great Britain ⁴	5.8	3.2	-18.0	-0.6	43.2	-28.1	-12.1	53.6	8.4	8.5	-4.0
France ⁴	10.3	13.9	-38.4	-5.3	38.9	-10.9	-4.2	47.2	26.9	12.7	3.4
Italy	9.4	20.1	-34.2	-6.9	39.8	0.1	nc	40.1	34.2	13.7	7.1
Canada	45.0	7.6	-7.6	-0.6	29.8	14.5	4.3	62.6	49.0	30.7	34.4
Sweden	11.5	8.2	-24.8	-2.0	38.0	-15.0	-5.7	53.9	32.0	17.2	9.4

1. Growth of labor force as percent of 1970 job base; i.e., percent growth of jobs required to employ all newcomers.
2. Calculated from numbers on this chart (leading to greater rounding error).
3. Calculated directly from source.
4. Data for 1982 is preliminary.

Source: Calculated from the U.S. Bureau of Labor Statistics, Statistical Supplement to International Comparisons of Unemployment, Bulletin 1979, May 1985. (See our Appendix for reproduction of relevant tables.)

TABLE 1.6

Average annual percentage change in real gross domestic product* (GDP) and productivity, output and employment in manufacturing in selected industrialized countries: 1960 - 1983.

YEAR	United States	France	Germany	Italy	UK
<u>Real GDP</u>					
1960-1973	4.1	5.6	4.4	5.3	3.2
1973-1983	2.0	2.2	1.6	1.8	0.9
<u>Productivity**</u>					
1960-1973	3.0	6.7	5.7	6.9	4.4
1973-1983	1.9	4.6	3.5	3.6	2.0
<u>Output</u>					
1960-1973	4.7	7.3	5.2	6.8	3.0
1973-1983	1.6	2.0	1.2	2.5	-2.0
<u>Employment</u>					
1960-1973	1.5	1.1	0.3	1.4	-0.6
1973-1983	-0.1	-1.6	-1.4	-0.5	-3.4

* Own country price weights

** Output per hour

Source: "International Comparisons of Manufacturing, Productivity and Labor Cost Trends: Preliminary measures for 1983," Bureau of Labor Statistics, News, May 31, 1984; "Comparative Real Gross Domestic Product, Real GDP per capita and Real GDP per Employed Persons: 1950-1983," May 1984, p. 12.

participation.⁵ We know that due to self-imposed changes in laws regarding foreign guest workers in 1973, many European countries can no longer count on a labor force which dramatically swells or contracts along with the demand for labor.

We know that all advanced countries are experiencing a dramatic shift from industrial employment to employment in the service sectors, just as we all shifted from agriculture to industry earlier on.

While the implications of all this are less clear, we nonetheless suggest the following:

- o The U.S. is further along the shift to services than is Europe.
- o This shift implies lower productivity of labor, on average, but more jobs due to the human intensive nature of the service sector.
- o This shift has both positive and negative impacts on the labor force, since it implies more jobs but lower wages, on average.
- o But for advanced countries, the shift is probably inevitable, such that "do we want to or don't we?" is not the relevant question so much as "how can we make the transition as well as possible and end up with the best mix of employment opportunities?"

From this perspective, the difference between the U.S. and Europe from 1970-1984 is that the U.S. entered the period having already shifted further into services -- with 62.3 percent employment there in 1970, versus an average of 46.2 percent for the four largest European nations listed back in table 1.5 -- and was, therefore, better able to accommodate a growing workforce of less skilled, less experienced women and youth.

But why is the U.S. further along the shift to service sector employment? We believe it is here that the U.S.'s greater dynamism, innovativeness and relatively low aversion to risk can be credited. In a time of change, with employment in old sectors declining and new sectors just emerging, a country's ability to shift quickly from old to new will give it an edge in capturing the new markets and freeing resources from the old. With its relatively greater emphasis on preservation of hard earned security, Europe has had a cultural disadvantage in this process.

Thus one plausible argument is that Europe devoted its resources to retooling older, maturing industries, and invested much less in the creation, exploration and systematic development of new ones. The result was greater productivity in their mature

⁵ The baby boom lag means that Europe must attempt to accommodate an influx of young, inexperienced workers for several years to come, whereas the U.S. is already over the hump. (See Appendix for data on labor force participation by sex in Europe and the U.S.)

industries, but consequently less employment in either the old or the as yet untapped new sectors.⁶ Thus they saved the industries, but are caught with insufficient new job opportunities in emerging sectors, as productivity increases in older sectors free up labor.⁷ (It is important to note, however, that many observers believe the U.S., by not making these same capital investments, has created jobs today, but will lose more of the manufacturing market all together later down the road. See Mills and Lovell in footnote six.)

1.6 Labor Force Flexibility: The Source of Dynamism in the U.S. Economy?

Assuming that much of the above is true or at least suggestive of why the U.S. is adjusting to some aspects of the post 1973 era better than Europe, what are the elements that make up the greater dynamism of the U.S. economy?

The primary explanation typically encountered is that the U.S. has more flexible labor markets. Without question, labor markets are more flexible in the U.S. than in Europe. We have greater ease of mobility -- both for change of residence and for commuting to work -- due to the size of the nation and consequent lack of barriers such as language, visas, and change of culture; hence our workers voluntarily change jobs and occupations more frequently, change their residence more frequently and move further when they do; our unions are less powerful, so that wages are presumably more flexible here;⁸ and we have less of a

⁶ "Labor productivity" is another concept often used carelessly. Measured as the amount of output that results from a given input of labor hours, it may or may not have anything to do with the value added by that labor. If a plant fires 300 workers, puts in robots, and retains one person to turn the robots on, that person's "productivity" will have skyrocketed beyond measure. In fact, however, it is the value added by the robot that allows the firm to produce a given level of output with more (or less) efficient use of total available resources. Thus some observers believe that Europe simply traded capital for labor in various manufacturing industries, increasing productivity, profits and output while reducing employment in those industries.

⁷ See, for example, Robert B. McKersie and Werner Sengenberger, Job Losses in Major Industries: Manpower Strategy Responses (Paris, France: Organisation for Economic Co-operation and Development, 1983), p.20; National Research Council, The Competitive Status of the Steel Industry, prepared by the Committee on Technology and International Economic and Trade Issues, Steel Panel, Office of the Foreign Secretary, National Academy of Engineering and the Commission on Engineering and Technical Systems (Washington, DC: National Academy Press, 1985), pp 79-81, 99; Mills and Lovell in U.S. Competitiveness in the World Economy (edited by B. Scott and G. Lodge, Harvard Business School Press; 1985) p.437.

⁸ See accompanying paper by Dr. Richard Freeman, Factor Prices, Employment, and Inequality in a Decentralized Labor Market (prepared for the Commission of European Communities by the Corporation for Enterprise Development, 1986) on the issue of wage flexibility.

social safety net to catch workers made redundant within their former occupation (this presumably reduces workers' natural tendency to react slowly to the hard facts of needing to change occupation or locale). We also have fewer rigidities in the demand for labor relative to Europe, such as restrictions and added costs regarding lay-offs and plant closings. (Most of the sources on the impact of all the above are anecdotal or intuitive. See, however, Business Roundtable, "Job Creation: The United States and European Experience," 1984; Janet Norwood, "Labor Market Contrasts: United States and Europe," Monthly Labor Review August 1983; Heidi Fiske, "Europe, Inc.," Inc. Magazine, September 1985; and U.S. Office of Technology Assessment, Technology and Structural Unemployment: Reemploying Displaced Adults, 1986.)

Particularly in an area of rapid and profound change, it is imperative that a nation's workforce be able to adjust to changes beyond that nation's control. It is not clear, however, nor will it be resolved soon, how great an effect any of the labor market rigidities discussed above have on job creation over time. We assume there is some loss of jobs as a result, but remain agnostic as to whether sweeping statements can be made that those rigidities created by public policy generate social costs greater than the social gains for which they were introduced. (Sweden, for example, continues to meet the needs of her people quite nicely through a highly evolved welfare state. Her choice may not be appropriate for all Americans, but it is not obviously inferior as a means of meeting social welfare.)

Furthermore, while labor markets are critical, they do not operate in a vacuum. Labor can be infinitely flexible, yet without a steady flow of innovation, new product development and marketing, the business sector will not be able to sustain adequate demand for labor.

II. Public Policies and Job Creation

Having provided an overview of the job creation performance and dynamics of the American economy over the past 15 years, it is now possible to discuss the role that public policy has played in that performance -- and that which it might yet play. In this section we look at job creation impacts of three large areas of public policy -- taxes, regulation, and expenditures.

In determining the impact of various policies on job creation, several points must be kept in mind:

- o First, it is easy to overestimate the impact of public policy on job creation. The American job creation experience is a product of many factors -- cultural, institutional, demographic, technological -- and fundamentally an economic phenomenon over which public policy may have an influence, but one which is certainly not determinative. Moreover, since the U.S. has been creating jobs at a relatively lively clip (2 million annually) for more than 15 years, no single set of federal (or state and local) policies -- even a set as distinct as those of the current Administration -- can be credited with responsibility for the phenomenon.
- o Given the importance of the entrepreneurial dynamic to the job creation experience, greater care should be taken to distinguish the roles of aggregate macroeconomic policies and microeconomic policies. While the former determine overall spending and investment levels, and define the "envelope" in which economic activity occurs, the latter may be more important in affecting opportunities for combining resources in new ways (i.e., entrepreneurship). Moreover, as macroeconomic policies become stymied by inherent trade-offs (e.g. unemployment versus inflation, efficiency versus equity) the ability of microeconomic policies to sidestep some of these trade-offs becomes more significant.
- o The states have become important economic actors (and to a lesser extent, so have localities and neighborhoods). Federal policies should not be given exclusive attention. The states have become particularly important as laboratories for the new microeconomic policies. While the current impact of these relatively new policies and actors is hard to determine, they may well be a better source of ideas for more effective "entrepreneurial" policies than the federal level.
- o While it is difficult to evaluate the economic impact of many public policies, the relative youth of many of the new "entrepreneurial policies," as well as their selective application, make any thorough evaluation of their effectiveness impossible.

2.1 Tax Policy and Job Creation

The impact of tax policy on job creation depends upon the interaction between the level and type of tax (e.g. personal, business, payroll) and the type of business affected (start-up, growing, capital intensive, labor intensive). For example, most businesses under five years of age do not generate profits, and therefore do not pay business income tax; for these businesses the level of business tax incentives is meaningless -- except as it affects their larger or older competitors. Given the differential contribution of various sorts of businesses to job creation, it is a grave error to talk about the impact of various types and levels of taxes on investment without also talking about the nature of the investment induced. We, therefore, organize our discussion of tax policy first by the type of tax, and within that, by types of business. But first a comment about overall tax levels.

2.1.1 Overall Tax Level

The overall tax burden in the U.S. (like Japan) has been, and remains lower than that of most European countries. (See table 2.1)

To what extent can the overall tax burden account for differential job creation rates? This is quite difficult to assess. It should be noted that there is no consistent pattern among countries that lower taxes produce higher job creation rates. For example, the United Kingdom with a relatively low tax burden underperformed Sweden and France with high tax burdens. (Based on the job performance measure provided in the 4th column of table 1.4)

According to Kuttner (Robert Kuttner, The Economic Illusion: False Choices Between Prosperity and Social Justice; Houghton Mifflin Company; Boston, Massachusetts; 1984), "...low levels of taxation, maldistribution of tax burdens, and restraint of public spending were not the keys to economic performance during the past decade " Kuttner arrives at this conclusion through an international comparison of six countries -- Japan, Italy, France, Germany, United Kingdom, and United States. According to the author, between 1973 - 1979, "...the three industrial countries with the best growth rates, Japan, Italy, and France, had the most rapid growth of public spending. Britain, with slow public sector growth, was the worst performer. The United States had below-average public sector growth, and about average economic growth." (Ibid, p. 191)

For this reason, to really assess the impact of taxes on job creation, it is necessary to look at the structure of taxes, and their impact on the job creating sectors of the economy.

2.1.2 Business Income Taxes

In 1981, the United States Congress cut business income taxes by about \$150 billion over three years, on the theory that this would stimulate investment, growth and job creation. In fact,

Table 2.1
 Tax Revenues as a Percentage of GDP
 at market prices

	Total Tax Revenue		Personal Income Taxes		Employees' Social Security Contributions	
	1979	1983	1979	1983	1979	1983
Canada	31	35	11	12	1	2
France	41	44	5	6	4	5
Germany	37	37	11	11	6	6
Italy*	30	40	7	10	2	3
Japan	25	27	6	7	3	3
Sweden	50	51	21	20	0	0
United Kingdom	33	38	10	11	2	3
United States	30	30	11	12	3	3

* Last available year 1982.

Source: Revenue Statistics of OECD Member Countries 1965-1983,
 OECD.

business investment dropped sharply during the ensuing recession, then increased at a rate significantly above that of previous recoveries. (See Table 2.2)

How much of this increase in investment resulted from the 1981 tax cuts?

First, it is important to recognize that the various models of investment behavior differ in the relative importance they assign to cyclical and profitability factors, as well as the role of the cost of capital, and how rapid investment is estimated to respond to changes in these factors.⁹ While most of these studies suggest that tax incentives have an impact on investment, there is considerable disagreement over the extent of the impact, the time frame necessary for the impact to be realized, and the proper specification of investment models.

Boskin¹⁰ performed an econometric analysis of the impact of tax incentives on investment and concluded that the 1981 Economic Recovery Tax Act and the Extended Investment Tax Credit was responsible for 20-25% of net investment in the United States during the 1982-1984 period. Other studies finding that the Economic Recovery Tax Act had a positive impact on investment via changes in the cost of capital include Hulton and Robertson (Charles B. Hulton and James W. Robertson, "The Taxation of High Technology Industries," *National Tax Journal*, 37; September 1984) and Jane Gravell (Jane Gravell, "The Treasury Tax Proposals and Desired Capital Stocks," unpublished mimeo, 1985).

On the other hand, an exhaustive study of different model specifications (Robert S. Chrinko and Robert Eisner, "The Effects of Tax Parameters on the Investment Equations in Macroeconomic Economic Models," U.S. Treasury Office of Tax Analysis Paper No. 47; January 1981) found that changes in the cost of capital via tax credits exerted relatively small long-run direct effects on investment. Elsewhere, Bischoff (Charles W. Bischoff, "The Effect of Alternative Lag Distributions," in Tax Incentives and Capital Spending, edited by G. Fromm; Washington, The Brookings Institution, 1971) has argued that while the long-run substitution of capital for labor may be large, it cannot be so in the short run, since existing capital goods, once built, have fairly fixed labor requirements. In other words, in the short-run investment behavior is much more likely to be influenced by cyclical factors, such as the level of demand and the rate of capacity utilization.

⁹ One of the best known models has been introduced by Dale W. Jorgenson, "Capital Theory and Investment Behavior", American Economic Review; May 1963; A host of authors have challenged and modified Jorgenson's model, including Robert S. Eisner and M. Ishaq Nadiri; "Investment Behavior and Neoclassical Theory", Review of Economics and Statistics; August 1968; Charles W. Bischoff, "The Effect of Alternative Lag Distributions," in Tax Incentives and Capital spending, edited by G. Fromm; Washington; The Brookings Institution, 1971.

¹⁰ (Michael J. Boskin, The Impact of the 1981-1982 Investment Incentives on Business Fixed Investment, National Chamber of Commerce; Washington, DC, 1985)

Table 2.2

**Indexes of Cyclical Growth in Business Investment, Previous Cycle Average
and 1982-84**

Index of 1972 dollars

Category	Recession trough equals 100 ^a			Previous peak equals 100 ^b		
	Trough quarter	Fourth quarter	Eighth quarter	Trough quarter	Fourth quarter	Eighth quarter
		after trough	after trough		after trough	after trough
Gross national product						
Previous cycle average	100	107	112	98	105	110
1982-84	100	106	112	99	106	112
Nonresidential structures						
Previous cycle average	100	106	108	95	100	103
1982-84	100	99	115	102	101	117
Producers' durable equipment						
Previous cycle average	100	111	120	90	100	107
1982-84	100	121	142	91	110	128
Office equipment						
Previous cycle average	100	111	126	95	104	115
1982-84	100	124	159	159	197	252
Business automobiles						
Previous cycle average	100	145	140	85	120	110
1982-84	100	145	173	104	150	179
Other equipment						
Previous cycle average	100	108	119	90	96	106
1982-84	100	117	131	77	90	101
Domestic production of other equipment						
1982-84	100	112	120	70	79	85

Sources: National income and product accounts and author's calculations as described in the text.
^a Index = 100 in 1982:4, the trough quarter for current cycle.
^b Index = 100 in 1979:3, 1979:4 for current cycle.

Table prepared by Barry Bosworth for "Taxes and the Investment Recovery" in Brookings Papers on Economic Affairs: 1985. Brookings Institution, Washington, DC 1985.

Whatever the impact of the tax cuts on the overall level investment, our interest for the purpose of this inquiry is the effect of tax cuts on job creation. And to answer this, we need to look at the types of investment encouraged as well as its level.

The bulk of the 1981 business tax cuts came in the form of allowing accelerated depreciation of physical assets. The value of these cuts was anything but uniform: The prime beneficiaries were older, capital intensive, profitable businesses. Eighty percent of the benefits of the 1981 cuts went to 2,000 firms --the top 1 percent of America's businesses.¹¹ For a year, federal law permitted older, capital intensive, unprofitable industries to gain further advantage from the tax cuts by actually selling their tax deductions to profitable firms. These older firms were not creating jobs; the largest 1,000 U.S. firms, for that matter, lost jobs slightly during the 1970s (and three of their ten million jobs moved overseas during that period).

More importantly, most of the firms that were creating jobs could take little advantage of the tax benefits. Firms are rarely profitable in their first five years, and therefore, do not generally owe business income taxes; nor can they take advantage of deductions.¹² Service sector firms often have few physical assets to depreciate.

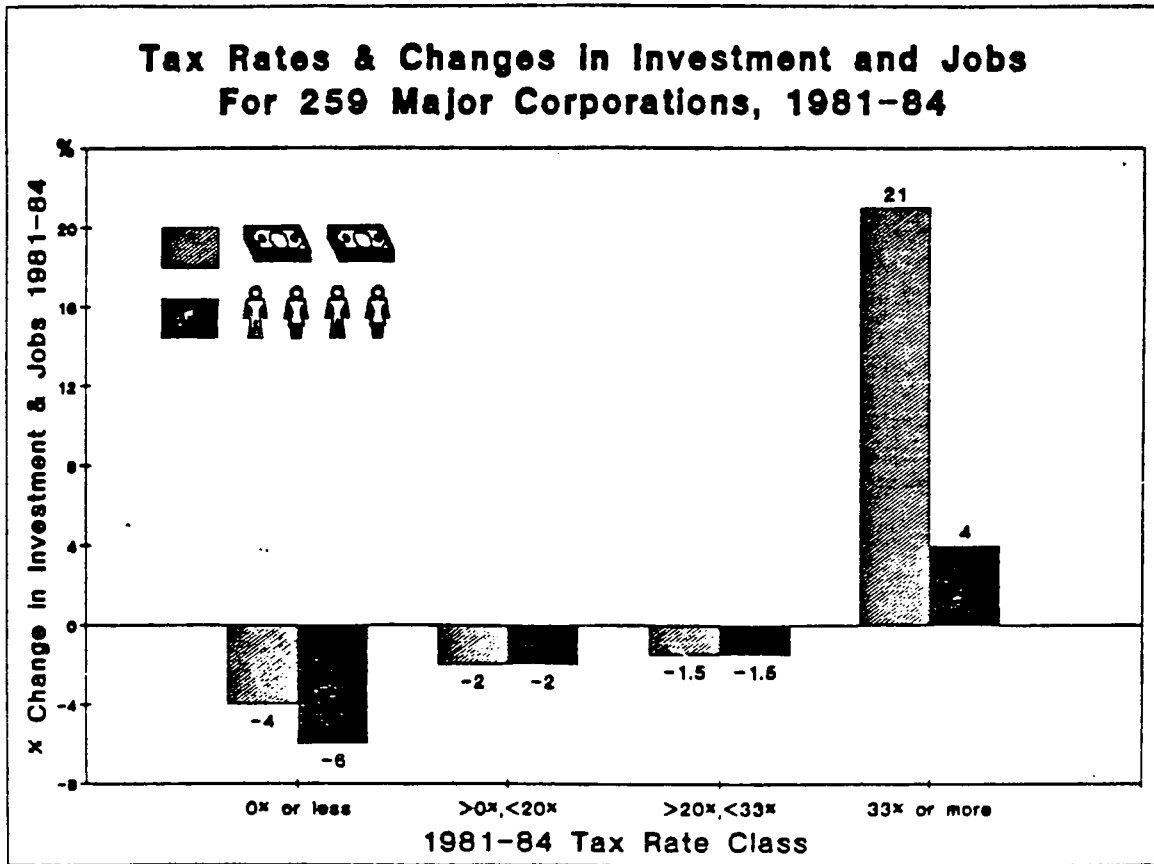
It might be that modernization investments induced by the tax cuts could lead to increased job creation (or job loss reduction) in the long run, but one would expect a lag, and even then there is evidence that should cause us to question whether new job creation will in fact occur.

For example, in a recent study, Citizens for Tax Justice found absolutely "...no correlation between tax 'incentives' and improved capital spending or job creation. (Citizens for Tax Justice, Money for Nothing: The Failure of Corporate Tax Incentives, 1981-1984; p.3) The CTJ study is based on a sample of 259 of the nation's largest and most profitable non-financial corporations over the 1981-84 period. The study found that the 44 non-financial companies in the survey that paid no federal income taxes at all -- or received net tax refunds -- over the four years actually reduced investment while the 43 highest tax companies increased both investment and employment. The performance of low-tax companies relative to their higher tax counterparts is high-lighted in the Table 2.3. According to the CTJ study, the highest taxed companies (i.e., those paying at least 33 percent of their domestic profits in federal income rates) boosted their capital spending by 21 percent and added four percent more workers to their payrolls.

¹¹ Robert S. McIntyre and Dean C. Tipps, Inequity and Decline (Washington, DC: Center on Budget and Policy Priorities, 1984).

¹² Lawrence Litvak and Belden Daniels, Innovations in Development Finance (Washington, DC: Council of State Planning Agencies, 1979).

Table 2.3



From: Citizens for Tax Justice, "Money for Nothing:
The Failure of Corporate Tax Incentives, 1981-1985."
Washington, DC 1985

At the other end of the extreme, the least taxed companies (i.e., those either paying no taxes or actually receiving tax rebates) reduced their aggregate capital spending by four percent from 1981 to 1984; they cut their total number of employees by six percent over the same period. The study concludes that these firms have used their tax rebates for mergers and acquisitions, increased dividends, and higher pay for corporate executives (Ibid, p. 8).

The findings of the CTJ study are consistent with those of another recent Brookings study (Barry Bosworth, "Taxes and the Investment Recovery," Brookings Mimeo; April 1985). According to Bosworth, tax incentives explain very little of the rise in business investment. Bosworth considers the composition as well as the level of investment spending, noting that total business fixed investments rose 33 percent in real terms from the fourth quarter of 1982 to the fourth quarter of 1984, but that increased investment in office equipment (especially computers) and business automobiles accounted for most of the aggregate increase. Contending that the 1981 and 1982 tax changes reduced the effective tax rate on business automobiles only slightly and actually increased the effective tax rate on office equipment, Bosworth stresses that tax incentives deserve little credit for the investment increase.

Other studies have questioned the link between taxes and investment by focusing on trends in federal taxation on corporate profits. (See David L. Brumbaugh and Wayne M. Morrison, "Why Some Corporations Don't Pay Taxes", Congressional Research Service; Report No.35-75E; March 22, 1985.)

These studies attempt to assess the hypothesis that high taxes on corporate profits have prompted an investment crisis. If this hypothesis were correct, then it would follow that tax cuts on corporate profits should stimulate investment. However, a host of studies confirm that the effective corporate tax rate has been declining and is relatively low. The Congressional Research Service notes that due to the wide array of tax deductions, exemptions, exclusions, and credits, many corporations pay far less than the statutory rate that the U.S. tax code applies to most taxable corporate income.

Finally, there are a host of studies suggesting that the potential benefits of specific tax incentives must be balanced against possible distortions in investment decisions. (Two examples are: Alan Auerbach and Dale Jorgenson, "The First Year Capital Recovery System", 1979; Federal Reserve Board, Public Policy and Capital Formation; 1981) The primary critique of most of these studies is that distortions in investment patterns caused by tax preferences are intrinsically bad because they substitute tax factors for economic forces when investment decisions are made. These distortions are virtually inevitable when profits from investments in different assets are taxed at different effective tax rates. The concern with potential distortions prompted the Federal Reserve Board to remark: "While finding the overall rate of capital formation is probably adequate, this study concludes that the existing capital stock is misallocated, probably seriously, among sectors of the economy and types of capital,

primarily because of distortions caused by inflation and U.S. tax laws. The biases are substantial...as a result capital is not applied to its most efficient uses."

Likewise, the 1981 Economic Report of the President acknowledged distortions caused by the Accelerated Cost Recovery System: "ACRS does not treat all types of business investment equally"; it "...is relatively more favorable to investment in short-lived equipment. Tax rates vary across industries...Effective tax rates on new equipment are negative for some industries."

Others claim that as the maze of tax incentives expands, the maximum gap between effective tax rates on different types of investment will increase, exerting further pressure to base investment decisions on tax considerations, not market forces. (For data on the growing gap between the highest and lowest effective corporate tax rates on different types of investments, see the following: The Economic Report of the President, 1982; Robert S. McIntyre and Dean C. Tipps, Inequity and Decline, Center on Budget and Policy Priorities; Washington, DC 1983; Wayne M. Morrison, Why Some Corporations Don't Pay Taxes Congressional Research Service; Report No. 85-75E; March 22, 1985.)

There are, of course, other sorts of business taxes and tax incentives. States particularly have used property tax abatements and tax reductions to induce plants to locate within their borders. But few would argue that such incentives do more than affect the location of economic activity and jobs, and there is considerable doubt that business tax incentives are effective or efficient in doing even that.¹³

One source of U.S. job creation that is often overlooked is the non-profit or third sector. (Both as direct creators of jobs -- the sector which includes universities, hospitals and churches employs one-fifth of the labor force -- and as cultivators of private initiative which spills over into the for-profit sector.) The size and vitality of this sector is undoubtedly related to the fact that it is exempt from most federal and state business taxes, and that private contributions to a subset of the sector are deductible from personal income taxes. However, we do not know the job impact of this exemption.

Our review of the literature leads us to conclude that:

- o It is doubtful that business tax reductions produce significant increases in business investment;
- o To the extent they do, it is in the very firms that are least likely to create large numbers of new jobs, at least directly; and

¹³ Roger Vaughan, State Taxation and Economic Development (Washington, DC: Council of State Planning Agencies, 1979); Michael Kieschnick, Taxes and Growth (Washington, DC: Council of State Planning Agencies, 1982); Roger Schmenner, Making Business Location Decisions (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1982.)

- o They can create uneconomic distortions in investment behavior (which is particularly destructive in a time of rapid change and innovation where the best guarantee of intelligent investment decisions is to have lots of investors making individual decisions based on economic, not tax, criteria).

2.1.3 Personal Income Taxes

Reductions in personal income tax rates are often given credit for American job creation. Again, while they have had some effect, we conclude that their contribution is usually overstated.

Most of the 1981 tax cuts -- roughly \$600 billion over three years -- went toward reducing individual income taxes. Savings (investment) rates have not increased as a result; in fact, individual savings rates have fallen. The reasons for this are probably many:

- o People invest based on the basis of perceived returns; such perceptions were clouded by the recession.
- o Tax savings may be (and evidently were) used to increase consumption or leisure, and need not be invested.
- o To the extent tax savings found their way into investment, the application of this investment would be mediated by the behavior of the institutions (e.g., banks, savings and loans, brokers) through whom the funds were invested. Often these financial institutions find it difficult to invest in smaller, younger, and collateral-poor businesses since information and transaction costs are high.

The growth of the venture capital industry in the late 1970s is often given credit for the growth of entrepreneurship, and a cut in capital gains rates in 1978 is given credit for the growth of venture capital. Few would dispute that the reduction in capital gains rates contributed to the growth of the venture capital industry and in turn to the growth of entrepreneurship, but its impact is usually overstated:

- o The growing importance of entrepreneurship started well before the growth of the venture capital industry.
- o The venture capital industry, while showing disproportionately large returns in terms of employment, profitability, and innovation, is still quite small -- roughly \$20 billion in a \$5 trillion economy. Each year it invests in only a few thousand of 650,000 new businesses, and in a relatively few sectors (high technology chief among them) and states.
- o The attractive rates of return offered by venture capital funds -- an average of 25% after-tax annual rates of return -- must be given some credit for attracting investment.

- o Changes in the regulation of pension funds has played a critical role in the development of the industry. In 1978, along with the capital gains reduction, the U.S. Department of Labor was revising the interpretation of the Employee Retirement Investment Security Act of 1973 (ERISA). Prior to 1978, the Department of Labor asserted that venture capital was "too risky" an investment for private pension funds. After 1978, however, the Department of Labor agreed that such investing could be examined in the context of a fund's overall investment strategy, thereby freeing funds to place a small portion of their assets in venture capital. States also began to allow public pension funds to invest a portion of their assets in venture capital. By 1982, pension funds were providing one-third of the new funds committed to privately managed venture capital pools. In addition, non-taxed endowments and foundations are making substantial commitments to venture capital, In total, tax-exempt investors are responsible for providing approximately 40 percent of new capital financing into the venture capital industry. It is, to put it mildly, unlikely that the behavior of these investors was significantly influenced by cuts in the capital gains tax. (See Kieschnick in "The Venture Capital Boom," Politics and Markets, Washington, DC: The Gallatin Institute, February 1984.)

The ability of personal tax cuts to influence investment in entrepreneurship is limited by the fact that they are relatively blunt instruments -- inevitably providing windfalls to people who do not change their behavior as a result. Cost effective incentives need to be carefully designed. There are ways that both the federal and state tax codes might stimulate investment in entrepreneurship.

- o Reducing the favorable treatment accorded real estate development which draws investment away from business development, for example, by capping or eliminating the mortgage interest deduction as proposed by the U.S. Treasury's 1984 Tax Reform package.
- o Allowing equity investments in new ventures in depressed areas to be written off as losses upon investment.
- o Raising capital gains rates on non-productive investment (e.g. collectibles) and reducing rates on productive investment as California and New York have done.
- o Providing tax credits for investments in state-chartered venture capital corporations as Indiana and Wisconsin have done.

2.2 Regulation and Job Creation

This section summarizes the course of deregulation over the past dozen years, the benefits deregulation was expected to produce, and what is known about the impact to date. All conclusions in this area must be extremely tentative. Various industries remain in deregulatory mid-stream, and it is even possible that unfore-

seen changes combined with a new President could result in re-regulation. No study has yet tried to assess the overall impact of deregulation; the primitive "state of the art" would render any such study methodologically suspect.

The impact of deregulation on job creation is especially uncertain. Improved efficiency, however defined, and not job creation, is usually considered the proper goal of deregulation. Therefore if increased efficiency is accompanied by job losses in an industry (which has in fact occurred), many observers would not conclude that the reform had necessarily failed. Moreover, in the real world (e.g., the severe recessions of the early 1980s) it is extremely difficult to apportion job losses in deregulated industries to one factor over another. Finally, if deregulation does stimulate job creation, it is likely to occur outside the deregulated industry, and would not be measured by industry-specific studies.

2.2.1 Background

The past dozen years have witnessed the rise and pause of an unprecedented deregulatory movement in the United States. Regulations instituted over the past century to protect the public against either monopolies or the drawbacks of a market economy were attacked for aiding monopolies and hindering economic growth.

The deregulatory debate moved to the forefront of national attention in early 1981 when President Reagan made it one of the cornerstones of his economic program (the other three were budget and tax cuts and a restrictive monetary policy). According to Reagan, unnecessary regulations were costing American businesses over \$100 billion annually and had been a major cause of the slow growth of the 1970s.

Although in a sense regulation constitutes everything that the federal government does, the regulation debate in the U.S. is usually focused on two types of regulation: economic and social. Economic regulation controls prices, condition of market entry and exit, and conditions of service in specific industries thought to require regulation to protect the public interest. Some examples are the airline, trucking, telecommunications, financial, and railroad industries. By contrast, social regulation is generally not industry-specific, but instead attempts to protect the environment, workers' health and safety, and consumer safety by regulating a variety of industries. The Environmental Protection Agency, the Consumer Product Safety Commission, and the Occupational Safety and Health Administration are examples of social regulatory agencies. The two categories do overlap to some extent (e.g., the National Highway Traffic Safety Administration represents social regulation applied to the auto industry), but the division is still extremely useful in examining the history of deregulation.

Economic deregulation was accomplished primarily in the 1975-1980 period, during the presidencies of Republican Gerald Ford and Democrat Jimmy Carter. Several factors combined to provide a catalyst for deregulation: (1) unanimity among economists and

political scientists that competition instead of regulation would better serve the public interest; (2) broad political discontent with the status quo by free market conservatives, liberals such as Senator Edward Kennedy, and consumer advocate Ralph Nader; (3) an altered economic environment caused by high inflation and technological innovation which provided an impetus for change; and (4) increasing distrust and dissatisfaction with government produced by the Vietnam War and the Watergate scandal. (See especially Martha Derthick and Paul J. Quirk, The Politics of Deregulation, Brookings Institution, 1985.)

The result was a remarkable series of successful deregulatory efforts in the airline, trucking, financial and railroad industries between 1975 and 1980. Interestingly, at the same time the Carter Administration undertook a serious effort to strengthen social regulations in a variety of areas. Reforms in this area were limited to attempts to improve the regulatory process and introduce greater rationality into the system.

Advocates of economic deregulation -- which included nearly everyone outside the affected industries by the late 1970s -- believed it would directly lead to lower prices, increased efficiency, and greater innovation. These effects would in turn stimulate economic growth and concomitant job creation. Aside from costs associated with making a transition to deregulation, it was commonly believed that few if any problems would be caused by retrieving the government's visible hand from these industries.

While economic deregulation was being implemented, the groundwork was being laid for social deregulation. Unlike economic regulation, it was clear that social regulation conferred important benefits on the public. The question increasingly raised here, by business groups as well as some economists, was whether the costs of regulation were outstripping the benefits. A groundbreaking and controversial study by Murray Weidenbaum (Murray L. Weidenbaum and Robert DeFina, The Cost of Federal Regulation of Economic Activity, American Enterprise Institute, 1978) -- later President Reagan's first chair of the Council of Economic Advisors -- was the basis for Reagan's claims that social regulations cost an unnecessary \$100 billion annually. Their use of cost-benefit analysis (CBA), which suffered among other defects from the need of placing a monetary value on the benefits of good health or even life itself, was subjected to much criticism. (See especially Mark Green and Norman Waitzman, Business War on the Law, Corporate Accountability Research Group; 1979.)

As noted earlier, President Ronald Reagan elevated the issue to national attention in 1981. Although his Administration did continue economic deregulatory efforts (in the busing industry and further deregulation of the financial industry), the primary focus of its program was social deregulation. The Administration moved to centralize authority for the regulatory process in the White House's Office of Management and Budget; reduce regulatory activity by drastically cutting the budget of the agencies involved; appoint people to head the regulatory agencies who were

opposed to regulation; create a Presidential Task Force on Regulatory Relief headed by Vice President George Bush; and seek legislative reform.

In contrast to economic deregulation, no consensus on social deregulation existed with regard to the Reagan program. In fact, public opinion polls showed that if anything the public wanted health and safety regulations strengthened (see New York Times, "Rising Concern on Consumer Issues in Found in Harris Poll," Feb. 17, 1983 and Mark Green, "The Gang That Can't Deregulate," New Republic, March 21, 1983). Several Supreme Court decisions severely limited the use of CBA in setting regulations, and scandals in the Environmental Protection Agency effectively halted the Administration's efforts in 1983. No social regulatory reform legislation has been passed, and proposals to delegate regulatory authority to the states were abandoned. The Administration's program had its greatest impact through refusing to issue new regulations and relaxing enforcement of rules already on the books.

2.2.2 The Results of Deregulation

It is important to reemphasize that the deregulated industries are still in a period of transition, making all conclusions in this area extremely tentative. Nevertheless, the following is a summary of what is known about the impact of deregulation in several areas.

To date, airline deregulation appears to have been a success. The U.S. General Accounting Office (GAO) concluded that deregulation resulted in lower air fares, increased operating efficiency, and better consumer service. Although the industry underwent its worst financial performance in its history during the six years following deregulation in 1978, the situation had rebounded by mid-1983. The following year witnessed the highest operating profit for the industry in 11 years. ("Deregulation: Increased Competition is Making Airlines More Efficient and Responsive to Consumers," GAO, Nov. 6, 1985). However, some observers are concerned that concentration is beginning to occur in the airline industry.

Telecommunications deregulation did not occur until January 1, 1984 with the break-up of the American Telephone and Telegraph monopoly, making it too early to determine what the overall impact has been. Some obvious benefits have been greater innovation and product diversification, more rapid introduction of new technologies, and lower long distance rates and equipment costs. However, the transitional period has also seen abundant confusion, high residential rates, increased service costs accompanied by poorer service, concerns about affordable phone service for the poor, and the threat that large phone users will bypass the system to save money and thereby endanger a unified telecommunications network.

Similarly, there has been no clearcut result issuing from financial deregulation. Changes have occurred primarily in three areas: 1) price deregulation (e.g., the removal of ceilings on interest-bearing accounts); geographic deregulation (e.g.,

interstate banking); and 3) product diversification (e.g., the expansion of services by banks into non-traditional areas, and the expansion of securities firms and insurance companies into deposit services traditionally offered only by banks). The last two changes (especially product diversification) have developed more as a result of financial institutions circumventing existing law than because of government deregulation. The primary effect of the changes has been to make various financial institutions more similar in terms of the services they provide.

Financial deregulation has probably made the flow of funds more efficient. However, observers disagree on whether the reforms have driven interest rates higher, thereby making credit less available. Given the fact that regulatory response is now clearly following industry-led changes, it is likely that we have not seen the end of regulatory reform in the financial area. Serious concerns have been raised about possible concentration in the industry, the threat to financial stability, and the possibility of conflicts of interest in the emerging diversified financial organizations.

On a more positive note, some states are now changing the way financial institutions are regulated to encourage more aggressive investments in economic development:

- o Massachusetts is using a Community Reinvestment Act to tie approvals of expansion of bank powers to banks' record of meeting the credit needs of their communities.
- o California has passed, and Michigan is likely to soon pass, "loan loss reserve" programs to encourage bank loans to growing businesses.
- o Several states have loan guarantee programs to encourage more aggressive bank lending.
- o Several states are simplifying securities regulation to make small offerings of securities in new firms easier and cheaper.

If the evidence on the overall impact of deregulation is somewhat inconclusive, it is no surprise that the impact on job creation is even more so. However, increased competition does seem to have exerted a downward pressure on wages in the deregulated transportation industries. Average airline compensation costs in constant dollars declined six percent over 1978-1984. Employment has declined in the airline and railroad industries (employment had been declining in the latter before deregulation), but it is unclear, given the recession, how much of this can be attributed to deregulation.

Assessing the impact of social deregulation is even more difficult because it affected a broad variety of industries and because of the Reagan Administration's ineffectiveness in implementing its reforms. The only independent study which has been performed to date is that of the Urban Institute, which will

be relied upon heavily for the following assessment (George C. Eads and Michael Fix, Relief or Reform? Reagan's Regulatory Dilemma, Urban Institute Press, 1984.)

Reviewing the evidence which led to the social deregulatory movement, the authors conclude that "Regulation may have hurt economic growth, depressed the rate of growth of productivity, and caused the rate of inflation to be higher than it otherwise would have been, but regulation cannot be blamed -- at least on the basis of the evidence examined here -- for more than a small fraction of the economy's poor performance in any of these dimensions." (Ibid. p.18) However, the authors also caution that factors currently not amenable to measurement could radically alter this conclusion.

The Urban Institute examined the Administration's claimed savings resulting from its deregulatory efforts, which were made at the time the Task Force on Regulatory Relief disbanded in August 1983. The Administration claimed one-time savings of \$15.2-17.2 billion plus additional annual savings of \$13.5-13.9 billion. The Institute concluded, "Evidence strongly suggests, however, that the effect of much of this claimed saving to business was questionable at best." The Institute noted that the most seriously questionable items "add up to about two-thirds of the total claimed," (John L. Palmer and Isabel V. Sawhill (Eds.), The Reagan Record, Ballinger Publishing Co., 1984, p. 309) and called the actual savings to business "clearly modest." (p. 311)

As an interesting sidelight to the questions of the cost of social regulations, the Urban Institute noted, "Our survey of business executives suggests that although they find complying with regulations annoying and time consuming, in most instances, they do not believe (at least in the early 1980s) that regulations reduce profitability substantially." (p.309)

The area of social regulation which has entailed the greatest costs is environmental regulation. The nonpartisan Congressional Budget Office (CBO) studied the impact of environmental rules on productivity.

"The results of this analysis indicate that environmental regulation has not been a significant source of productivity losses in the private sector. The output and productivity losses attributable to environmental regulation in the United States have been slightly larger than those experienced in the three other nations studied -- Canada, Japan, and the Federal Republic of Germany -- but they are nonetheless small in magnitude. Moreover, the economic losses attributable to environmental regulation, in terms of both measured output and productivity, appear to have declined over time."

CBO's findings on productivity are generally comparable with other studies. ("Environmental Regulation and Economic Efficiency," CBO, March 1985, pp. xii, xvi)

Given the paucity of information on the subject, it is difficult to reach any conclusion on the impact of social deregulation on job creation. The Urban Institute noted, "Regulation actually seemed, on balance, to increase employment." ("Relief or Reform?", p. 89, emphasis in original). The best guess, however, is that the impact of either social regulation or deregulation on job creation has been small.

2.2.3 Several conclusions emanate from the foregoing review:

- o The impact of deregulation on job creation is not clear but it is unlikely that recent deregulatory moves have been a significant cause of job creation. The nexus between deregulation and economic growth and job creation has not definitely been established, but a correlation between efficiency and growth is extremely likely.
- o More research needs to be done on the relative costs and benefits of deregulation. Because the economy is still in a period of deregulatory adjustment, it is uncertain whether or not the drawbacks to deregulation (e.g., possible concentration in industry) may eventually outweigh the benefits.
- o Although it is probable that social deregulation has reduced costs to businesses, it is not clear that the net economic costs to society were reduced as well, and it is possible that this question may never be answered definitively. Also, some sort of regulation may, in fact, create jobs.
- o States are pinpointing their deregulatory efforts to encourage investment in young firms and reduce barriers to start-ups.

2.3 Federal Expenditures and Job Creation

Since the New Deal, the federal government has played a critical role as a major actor in the economy. This section examines the role of deficit spending, direct federal spending in two areas (defense and health care), and human capital investment as contributors to the U.S. job creation experience.

2.3.1 Deficit Spending

Contrary to popular belief, federal fiscal policy was not expansionary during the latter 1970s. After the economy emerged from the mid-1970s recession, both federal outlays and the deficit were reasonably stable. Measured as a proportion of the Gross National Product (GNP), outlays constituted roughly 21-22 percent of GNP during that period and deficits were about 2 percent of GNP. In the early 1980s, outlays ranged from roughly 23-25 percent of GNP, and the deficit fluctuated between about 4-6 percent of GNP, but overall macro policy remained restrictive due to extremely tight monetary policy. (The Economic and Budget Outlook: Fiscal Years 1986-1990, CBO, February 1985, p. 160.)

Since then, the extraordinary deficits, combined with less oppressive monetary policy have led to enormous job growth in 1984 -- over 4 million jobs, compared to a loss of over 1.3 million in 1983. Of course, much of this most recent increase is attributable to the recovery from the severe recession of the early 1980s. Thus, a significant portion of 1984's job growth can be credited to the recovery from a deep recession and unprecedented peace-time deficits. (CBO attributed the greatest influence on the deficit to tax cuts, as defense increases and non-defense budget cuts roughly cancel each other out. Because the tax cuts reduced government revenue on a long-term basis, the result was built-in, or structural, deficits.) This accounts for 1984 job growth.

Macro policy does not account, however, for sustained U.S. job growth over the 15 year period from 1970-1985. Although macro policy can provide a more stable environment for economic activity, it cannot sustain an expansion in employment beyond the "full employment" level without incurring massive and accelerating inflation. This does not appear to be the case in the U.S. over this period.

Note, however, that some observers have argued that European nations have not stimulated their economies even to the capacity possible under normal keynesian assumptions -- i.e., that much of Europe's unemployment over the last decade could have been addressed by macroeconomic policies but was not due to incorrect assumptions and fears of inflationary consequences. (See, for example, James Tobin in Unemployment and Growth in the Western Economies, edited by Andrew J. Pierre, New York, New York: Council on Foreign Relations, 1984.)

2.3.2 Military Spending

Some observers have pointed to recent military spending increases as a potent factor in job creation. On the other hand, opponents of these increases have argued that military spending creates significantly less jobs per dollar than other forms of federal spending.

Over the 1970-1984 period, military spending has not grown at all (\$94.0 vs. \$93.9 billion) in real (constant 1972 dollar) terms, primarily because the United States was involved in the Vietnam War at the beginning of this period. However, in the post-Vietnam War era (1974-1984), military spending grew in real terms by 34.9 percent. Over nine-tenths of this growth has occurred since 1980. (Statistical Abstract of the United States, U.S. Dept. of Commerce, Bureau of the Census, 1985, Table 490, p. 308.)

Although defense spending has increased greatly, this increase has been more than offset by non-defense cuts, according to the Congressional Budget Office. Thus, whatever job creation impact the defense build-up may have had has been negated by reduction in non-defense spending. (CBO, p. 155.)

On the question of whether equivalent spending in defense versus non-defense will produce more jobs, two careful studies have been done (both, however, used the same econometric model). CBO concluded that "Additional dollars spent on defense should provide more or less the same employment as additional dollars spent on most non-defense products." (Defense Spending and the Economy, CBO, February 1983, p. xiii.) The Congressional Research Service (CRS) concluded that non-defense spending would produce slightly more jobs. CRS estimated that shifting \$10 billion (in 1972 dollars) from defense to non-defense spending would create an additional 30,000 jobs (about 8 percent more jobs). (Carolyn Kay Brancato and Linda LeGrande, The Impact of Defense Spending on Employment, CRS Report No. 82-182E, November 4, 1982, p. 4.)

Finally, research by Gordon Adams indicates that military spending does not create more or less jobs than other types of federal spending, but that it does affect different sectors of the economy and workforce in different ways. (Adams, G. and Gold, D.H., "The Economics of Military Spending: Is the Military Dollar Really Different?" Defense Budget Project, Center on Budget and Policy Priorities, Washington, DC, December 1985.) One hypothesis put forward by others is that concentrated defense spending on research and development activities led to the growth of the high-tech industry in the U.S. This is certainly a plausible argument (though comparable growth could doubtlessly have been achieved by civilian R&D spending of a comparable level).

2.3.3 Health Care Spending

Another source of job creation in recent years may have been the large growth in health care spending, according to some observers. Over the 1970-83 period, employment in hospitals and health services grew by 76.1 percent, almost three times as fast as overall industrial employment (28.2 percent). (Statistical Abstract, Table 678, p. 404.)

Over the same period, the real (adjusted for inflation in medical care) growth of health care spending was 61.9 percent. As a proportion of GNP, health care expenditures rose from 7.5 to 10.8 percent from 1970 to 1983. (Robert M. Gibson, et al, National Health Expenditures, 1982, Health Care Financing Review, Fall 1983.

Some, but not much, of this increase was due to such demographic factors as the aging of the population. The Congressional Research Service (CRS) examined the reasons for the growth spending over the 1972-92 period. CRS attributed two-thirds (67.2 percent) of the growth to either general inflation or inflation specifically in medical care. Only 7.7 percent was attributed to demographic factors. The remaining one quarter (25.1 percent) of the growth was due to real increases in per capita use of health care services. (Janet Pernice Lundy, Health Care Cost Containment, CRS Issue Brief No. IB83172, November 20, 1984, pp. 4-5.)

While it is likely that federal health care spending (primarily Medicare and Medicaid) was an extremely important factor in this growth, it may not have been the most important influence. While federal spending in this area led the way with 97.5 percent real growth over 1970-83, private sector health care spending also grew at a strong rate of 50 percent (adjusted for inflation). In fact, about half of the real growth in overall health spending over 1970-83 is attributable to the private sector, as compared to somewhat over a third (37 percent) due to federal spending. (Gibson, et al -- all figures adjusted for medical care inflation.)

How much of this private sector growth would have occurred in the absence of a strong federal stimulus in health care is difficult to determine. Nevertheless, it is clear that the private sector played an extremely important role in the growth of health care spending and the job creation which resulted from it.

2.3.4 Human Capital Spending

Human capital refers to the skill level and knowledge of the workforce. Human capital proponents propose that investments in human beings is as important, if not more so, than investment in physical capital. This section examines what is known about the education and training of the workforce, and the impact of human capital on economic growth.

According to the U.S. Bureau of Labor Statistics (BLS), the proportion of the 18-64-year-old civilian labor force with at least a high school education rose from 66.4 percent in 1970 to 82.0 percent in 1983. Those with four or more years of college rose from 12.9 to 21.0 percent during that same period. (Educational Attainment of Workers, March 1982-83, U.S. Dept. of Labor, BLS, April 1984, Table B-1, p.10.)

There are strong indications from a variety of sources, however, that the quality of education declined in the 1970s. (See Dave M. O'Neill and Peter Sepielli, Education in the United States: 1940-1983, U.S. Dept. of Commerce, Bureau of Census, July 1985, Chapter 3.) However, this does not affect the average increased educational level of the workforce, as labor force entrants still have more education than the elderly persons retiring from the workforce.

In addition to education, the last two decades have seen a large investment by the federal government in employment and training programs. Because the number of participants enrolled does not provide a very accurate description of the total effort (enrollees received a disparate range of services), overall expenditure data will be reviewed to provide some measure of the government investment in employment and training.

The most careful assessment has been performed by Gary Orfield of the University of Chicago, who compared constant dollar expenditures in employment and training for fiscal years 1975-84. In constant dollar terms, federal spending on training (including vocational education but excluding public jobs programs) rose from \$3.0 billion in 1975 to \$4.3 billion in 1980, a 44 percent

increase. From 1980 to 1984 training expenditures decreased to \$2.4 billion, a drop of 44.5 percent. Over the entire 1975-84 period, federal investment in training declined 20 percent. (The Federal Budget and Shrinking Resources for Job Training, Report No. 1, Illinois Unemployment and Job Training Research Project, University of Chicago, April 25, 1985, p. 7.)

Some measure of the extent of private sector training, as well as the scope of adult education generally, is provided by a new Bureau of Labor Statistics (BLS) survey. The survey questioned workers about how they obtained 1) training to qualify for their current job and 2) training to improve their skills at their present job. Unfortunately, the survey did not investigate either how much was spent on this training or who paid for it. Also, since it has only been conducted once, no historical comparisons are possible. BLS found that 55 percent of workers required training for their current position. Some 29 percent of workers received their qualifying training in school, 28 percent through informal on-the-job training, and 10 percent through a formal company program (the figures are not additive since respondents could choose more than one category).

Slightly over a third of all workers (35 percent) took skill improvement training at their current job. About 12 percent of all workers received this training through a school, 11 percent through a formal company program, and 14 percent through informal on-the-job training. (How Workers Get Their Training, U.S. Dept. of Labor, BLS, February 1985, pp. 21, 39.)

In short, the study confirms that there is a large private sector investment in training. Workers believe that they receive relatively more of their necessary qualifying training from previous jobs than from school, and a large group of workers is receiving skill improvement training at their current job. While no historical comparison is available, it is likely that this high level of employment-based training has been occurring for some time.

The most careful work in assessing how much human capital investment has contributed to economic growth has been performed by Edward Denison of the Brookings Institution. (Edward F. Denison, Trends in American Economic Growth, 1929-1982, Brookings Institution, 1985.) Denison divides the causes of economic growth into two categories: 1) changes in factor input (labor, capital, and land), and 2) changes in output per unit of input. The two areas of Denison's analysis most closely related to human capital are education (a portion of labor's factor input) and advances in knowledge (the most important cause of increasing output per unit of input). For the entire 1929-1982 period, human capital factors were the most important cause of growth: education per worker was responsible for 14 percent and advances in knowledge for 28 percent, for a total of 42 percent. This compares with the next two largest causes, labor input except education (32 percent) and capital (19 percent). (Denison, p. 30.)

For the 1973-82 period, education was an even greater factor, accounting for 30 percent of economic growth. However, advances in knowledge turned slightly negative during the same period, and output per unit declined as a whole. (Table 8-1, p. 111.) Denison acknowledges that it is unclear what is causing this recent decline (p.30), but he believes it is attributable to a number of factors and not to a single cause (p.56). The 1973-82 period witnessed exceptionally slower growth, less than even that seen during the Great Depression (1.55 vs. 2.09 percent annually). (Table 8-1, p. 111).

2.4 Among the conclusions drawn from the above are:

- o Data indicates that the 1981 tax cuts exerted a significant impact on the federal deficit and may have played a major role in recent demand-side job stimulation, but that deficit spending cannot account for the job creation record of the 1970-1985 period as a whole.
- o Evidence suggests that, on balance, defense spending has had minimal, if any, impact on job creation. Several studies, for instance, conclude that defense budget increases and non-defense budget cuts have cancelled each other out.
- o Available evidence suggests that increases in human capital do in fact play a major role in economic growth.

III. Entrepreneurship Policy

As the review in Part II indicates, no one public policy action seems to come even close to explaining the U.S. job creation experience in the last fourteen years. Some would argue, in fact, that it is a lack of public intervention -- for example, in our labor markets -- which explains our performance relative to Europe. Based on our work as a consultant on economic development policy here in the United States, however, we do not support this contention. We accept that labor market inflexibility could be one factor in Europe's lack of job growth, but do not accept that a relative lack of it satisfactorily explains the U.S.'s ability to innovate and adapt quickly within the changing world economy.

A far more important variable, we believe, is the cultural and economic environment for entrepreneurship in the U.S. Public policies affect this environment, but do not create it from thin air. Moreover, the most sophisticated public efforts to promote entrepreneurship here are much less concerned with "minimalist government" policies such as deregulation, as with strategic interventions to provide potential entrepreneurs access to needed inputs otherwise unavailable to them; for example, specific types of capital or links to the latest technological breakthroughs. In the U.S., such policies are developing primarily at the state and local level. Lessons from the U.S. experience follow below.

3.1 Research on the Economic Contribution of Entrepreneurship

The subject of entrepreneurship and economic development has been a recurring but not well elaborated theme in the history of economic thought. Visions of the role of the entrepreneur can be traced at least as far back as 1800 when J.B. Say stated, "The entrepreneur shifts resources out of an area of lower and into an area of higher productivity and greater yield."

However, it is only since the days of Joseph Schumpeter that economists have seen the entrepreneur as the key figure in the process of economic development. According to Schumpeter, the entrepreneur plays the role of disrupting the existing equilibrium and thus contributing to economic growth through innovation. This innovation assumes a variety of forms, including the invention of a new product with which consumers are not yet familiar; the discovery of a new method of production; the creation of new markets; the finding of new sources of raw materials; and the reorganization of entire industries.

3.1.1 Entrepreneurship and Job Creation

The most notable aspect of the U.S. job experience is its dynamism. Research by Birch and Harris, for example, found that practically all of the variation in net employment changes among regions is due to differences in the rate of job replacement.¹ Birch, for instance, found that firm deaths and contractions vary little from one place to another; the key difference between growing and declining regions is their job replacement rate. Harris discovered that the regions experiencing better than average net employment growth actually have higher rates of gross job loss. Thus, between 1976 and 1980, the Pacific region was found to have lost 41 percent of its 1976 workforce; however, the number of replacement jobs were 70 percent greater than the number lost to plant closings, causing the region to experience substantially better than average net employment growth.

Research by Armington and Odle finds that each percentage point of net employment growth in the aggregate is the net combination of 1.1 percent growth due to births, 1.7 percent due to expansion, 1 percent loss due to deaths, and .8 percent loss due to contractions. These researchers find that between 1978 and 1980, private sector employment increased by 8.3 percent, with the excess of expansion over contraction accounting for 59 percent of this growth and the surplus of births over deaths accounting for the remaining 41 percent. (Armington and Odle -- also of Brookings -- "Sources of Employment Growth," 1978-1980; paper prepared for the Second Annual Small Business Research Conference; Bentley College, Waltham, Massachusetts; March 11-12, 1982; pp. 5-6.)

Furthermore, these same researchers have discovered that slightly more than 50 percent of all new jobs between 1969 and 1980 were created by independent small entrepreneurs. This figure far exceeds such employers' 37 percent share of total jobs. New and young establishments are also responsible for a majority of jobs created, a fact that applies to all facilities, whether independent, subsidiaries, or branch plants.

Brookings also discovered that small independent concerns generated two hundred sixty-four percent of net employment change in the 1980-1982 period.

The surprisingly large role of young firms in job creation is also reflected in a detailed case study of the electronics industry. The American Electronics Association surveyed its

¹ David L. Birch, The Job Generation Process; MIT Program on Neighborhood and Regional Change; Cambridge, Massachusetts; 1979; Candee S. Harris, "The Magnitude of Job Loss from Plant Closings and the Generation of Replacement Jobs: Some Recent Evidence;" Brookings Institution, September 1984.

member corporations to measure the growth rate of firms in four different age categories: mature (more than 20 years old), teenage (between 10 and 20 years old), and developing (5 to 10 years old), and start-ups (less than 5 years old). For 1976, the survey found that the average employment growth rate for the teenage companies was from 20 to 40 times the rate for mature companies. Developing companies had an employment growth rate in 1976 that was nearly 55 times the growth rate for mature companies. The growth rate for start-ups in 1976 was 115 times that of mature companies.

The importance of start-ups in generating jobs has also been noted in several other studies (Deloitte, Haskins and Sells; and Arthur D. Little, "Summary of the Economic Impact of the Small Business Investment Company Program;" Washington, DC: National Association of Small Business Investment Companies; 1982; American Electronics Association, Statement Before the House Committee on Ways and Means; March 7, 1978). The Haskins, Sells, and Little study found that companies financed by Small Business Investment Companies (SBICs) generated more than ten times the employment growth rate of all other small companies. Significantly, roughly one-third of the SBIC investments were directed to start-ups. Another study, by U.S. General Accounting Office (GAO), points out that \$209 million in venture capital investments in the 1970s created 130,000 jobs, more than \$100 million in corporate tax revenues, \$350 million in employee tax revenues, and \$900 million in export sales. (GAO Report GAO/82-35, Washington, DC: 1982.)

3.1.2 Entrepreneurship and Innovation

U.S. small businesses also play a critical role in new technological innovation. The U.S. Department of Commerce concluded in a 1967 study, Technological Innovation: Its Environment and Management, that more than 50 percent of all scientific and technological developments since the beginning of the century could be directly attributed to the efforts of small businesses and independent inventors. Small firms and independent inventors not only are the main source of innovation, however; they also seem to innovate more efficiently and at a lower cost than larger firms. The National Science Foundation has reported that, from 1953 to 1973, small enterprises produced 4 times as many innovations per research and development dollar as medium-sized firms, and 24 times as many as large businesses.

A more recent GAO investigation reviews nine major empirical studies on this issue, concluding that smaller firms contribute mightily to industrial innovation. (GAO, Report PAD-82-18, Washington, DC: 1982.) Their innovative efficiency appears to be higher than that of large firms. Small enterprises also are the most likely contributors to new product development in atomistic industries, while in concentrated industries, they play a more complementary role, performing specialized functions

and developing products which bigger business then dominates. Finally, some data indicate that small businesses are better at creating new technically feasible ideas than they are at commercializing them. This may, however, partially reflect the capital and other market barriers that small and new and young firms face in the business world.

Small firms thus tend to innovate in a different manner than big business: They tend to create new products and processes, establishing new markets and hence new jobs. Large-firm innovation, by comparison, is directed more at improving efficiencies in production processes and substituting capital for expensive labor, in order to undercut the competition and increase the firms' share of an existing market. Small firms create markets and jobs; large firms often reduce the need for labor in existing markets -- ideally, freeing resources for new investment. Other studies suggest that entrepreneurial companies tend to produce more break-through innovations, while established companies stick to incremental improvements.

3.1.3 Entrepreneurship and Economic Resilience

Continuing economic health depends upon the economic vitality represented by a high rate of company formations.

"What we really want," business professor Albert Shapero notes, "is to achieve a state denoted by resilience -- the ability to respond to changes in the environment effectively; creativity and innovativeness -- the ability and willingness to experiment and innovate; initiative taking -- the desire and power to begin to carry through useful projects. Preceding and accompanying these dynamic characteristics...is diversity. Obviously, diversity offers an area some measures of invulnerability of the effects of many unforeseen events and decisions; unaffected by changes in a single industry or market place or legal constraints on a given product. Less obvious, but perhaps as important, diversity provides a favorable environment for creativity and innovativeness."

Smaller, more entrepreneurial firms play a crucial role in providing these desired economic characteristics.

3.1.4 Small Business and Job Quality

The quality of small business employment is, of course, a controversial topic of debate. Evidence exists that they tend, on average, to create fewer "good" jobs -- they pay less, provide less employment security, have poorer working conditions, and do not provide benefits. This does not always hold true, however; during the 1980-1982 recession, for example, an American manufacturing worker was more apt to lose his or her job in a large firm -- over 100 employees -- than in a small

one.² Moreover, one additional service that small firms do provide is first time employment to new members of the labor market. Evidence exists that these new labor market entrants then use the training or simple work skills learned in the small firm sector to move up to higher paid jobs with larger firms. (See Roger Vaughan, State Tax Policy and the Development of Small and New Business, Coalition of Northeastern Governors, Policy Research Center, 1983.)

3.2 Public Policy Supports for Entrepreneurship³

During the last ten years -- largely in response to the data presented above -- there has been a revolution in U.S. state and local economic development policy. In that short period of time the focus of development efforts has shifted from luring branch plants of large manufacturing firms -- affectionately known as "smokestack chasing" -- to cultivating in-state entrepreneurs and businesses.

Crosscutting the wide body of experimentation in this field is a consistent set of themes. The new policies and programs possess the following features:

- o Investment Oriented: They are premised on the idea that we must invest resources now in order to gain growth, health and increased returns later. The assumption of risk is inherent in this process.
- o People Centered: The policies recognize that the central dynamic in a changing economy is people with ideas about how to do something better.
- o Market Perfecting: The policies recognize both the effectiveness and power of private markets, as well as their shortcomings. The policies aim at improving market functioning, focusing on areas where there are identifiable market failures.
- o Public-Private Cooperation: The policies comprehend that we live in one economy -- part private and part public. The role of the public sector is neither simply to "get out of the way" nor to respond with bureaucratic programs; instead, it is to help perfect markets and to act as an entrepreneur as well.

² Harris Candee, "The Magnitude of Job Loss from Plant Closings and the Generation of Replacement Jobs: Some Recent Evidence," The Annals of the American Association for the Advancement of Science; September 1984; p.15.

³ A comprehensive guide to the theory and practice of U.S. entrepreneurship policy at the state and local level can be found in the Corporation for Enterprise Development's Building the New Economy: States in the Lead (Washington, DC: CfED, 1986.)

- o Cross-Political Lines: The policies are pursued by both Democratic and Republican governors, and attract and repel constituencies across the political spectrum. They are neither "laissez-faire" conservatism nor welfare-state liberalism.
- o Bridge Economic and Social Policies: The policies recognize that social problems need economic solutions and that the key to a revitalized economy is to bring new people and products to the marketplace.

Abundant theoretical and empirical evidence suggests that markets -- like all other human institutions -- do not function perfectly. Investment does not always flow to areas of highest return (controlling for risk). "Seed" and equity capital investment is often unavailable to new, young and growing businesses. Investable assets are becoming increasingly concentrated in large institutions which find it difficult and costly to make long-term investments in small deals, and are by habit and regulation trained to be excessively risk averse. Labor markets are similarly imperfect: information on job openings and available skilled labor is fragmented and expensive; financing for the acquisition of new skills is often unavailable, even as skill requirements increase and change with greater rapidity; rewards for skill acquisition are often uncertain and low in a loose labor market; management practices and the threat of technological displacement often inhibit labor productivity. Technological innovation is impeded by lack of investment in R&D and new ventures, research biases of engineers and scientists, and gaps between academia and the marketplace.

Market imperfections differ from region to region. For instance, states that already possess an abundance of venture capital will proceed very differently from those that have none. Thus, programmatic success will come only after a careful look at the critical ingredients of business formation, expansion, and renewal in a state -- capital, labor, markets, technology, and management -- and a thoughtful crafting of well-targeted efforts to reduce or abolish these barriers.

It should be noted, too, that these systemic barriers also represent opportunities: if they can be lowered or removed, the opportunity for a widespread increase in business growth will be created, along with the associated gains in employment, innovation, and economic vitality. Careful identification and assessment of the barriers are critically important, for the effectiveness of any public policy initiative to stimulate entrepreneurship depends on the significance of the barrier addressed and appropriateness of the remedy.

3.2.1 Guidelines of an Effective Entrepreneurial Policy

The most effective of these new policies share the following five characteristics: (1) They are carefully aimed at the barriers to entry and expansion faced by new, young and growing enterprises. The needs of those businesses are distinct: they need equity not debt, and they cannot take advantage of business tax incentives. (2) They are indirect and systemic since it is impossible for the public sector to cut individual deals with hundreds of thousands of fledgling entrepreneurs. (3) They are cheap and rely either on redirecting existing public expenditures or private capital flows. These conditions are dictated both by the magnitude of the resources required, current constrictions on state budgets, and the absolute necessity of conserving and increasing public investments in education and services that are crucial to cultivating a self-sufficient population. (4) They are market-sensitive, designed to engage the energies and initiative of a large number of people and institutions but without pretending markets are perfect. (5) They address the full range of public policy from income-maintenance and social-service policies to employment and economic policies.

Entrepreneurship policies must not be guided by popular mythologies regarding public and private capacities. Private is not always efficient and public is not always wasteful and lethargic. Nor are public and private sectors separate and independent. In fact, thinking about them in that way prevents market-perfecting strategies which could expand output and jobs, and confines public economic activities to bureaucratic and marginal activities. We live in a single economy, partly public and partly private, where the real question is how can the sectors most productively interact to optimize the achievement of public and private values.

Properly designed development programs should be viewed not as mere expenditures of taxpayer dollars, but as investments in the citizenry's future prosperity. The state government should be investing in new ideas through its research and development efforts; in its people through its education and training programs; in its businesses by increasing access to capital; in public works by assessing the infrastructure needs for an evolving economy and by putting a long-term capital planning and budgeting process in place; and in its natural resources through its efforts to insure the sustained productivity of renewable resources while securing a healthy environment.

Entrepreneurial policy also requires a genuine belief in the ingenuity of working people. There is no way of assuring this except by making sure reasonable access to the necessary support and investments exists.

3.2.2 Michigan: A Case In Point

Governor James Blanchard of Michigan presides over one of the states most hard hit by the last recession and by global industrial restructuring. By necessity and by creativity his administration has pushed the boundaries of policy innovation into new areas, thereby laying the building blocks for creating one of the most comprehensive and forward-looking of all the state strategies.

Early on, facing tight budgeting constraints, the Blanchard administration realized that it must carefully and strategically target its limited state resources of money, expertise, and people. The Governor asked his Cabinet Council on Jobs and Economic Development to devise new ways to meet the economic needs "of industries in which Michigan has an historic competitive advantage: industries which comprise a major portion of our economic base and are important to the development, expansion, and diversification of that base."

Doug Ross, now the state's Commerce Director, was charged with convening a high level group of policymakers and policy analysts to define that competitive strength. Its report, The Path to Prosperity, found that

"The state remains one of the leading centers of durable goods manufacturing in the world. We possess some of the largest manufacturing firms in the world in a variety of industries, including automobiles, steel, machinery, office equipment, chemicals, pharmaceuticals, appliances, and office furniture. Our management and labor skills are concentrated in manufacturing to a degree perhaps greater than any other state in the nation. We have a vast industrial infrastructure, highways, railroads, airports, water and related resources, physical plant, equipment, labor -- created expressly to support manufacturing. We have a broad network of suppliers and ancillary industries already in place to serve our manufacturing economy. Our universities are strong in industrial technology. Michigan's fundamental problem is that we no longer employ these resources in the most competitive and innovative way to produce the most competitive products."

Michigan's new industrial frontier lies in applying new technology to its existing economic base and becoming the "factory of the future."

The Blanchard Administration has sought to do this by undertaking a variety of new initiatives. First, it made direct investments in public-private-academic programs to foster the development and commercial application of new technologies. The new administration built on the previous Governor's High Technology Task Force work and provided financing for: (1) the

Industrial Technology Institute (ITI) which was designed to encourage advanced industrial automation; and (2) the Michigan Biotechnology Institute (MBI) to spearhead new research in molecular biology. Both of these "centers of excellence" fit in well with Michigan's comparative advantage and were infant industries nationwide. ITI, for instance, plans to run a three track strategy. Track one, which will tap half of ITI's resources, are short-term development projects that can be commercialized in one to three years. Eventually this will be financed almost entirely by industry on a contractual basis. The next 25 percent of its activities will be in applied research, such as building feasibility demonstrations and prototypes, and will tap both private and government dollars. The third track would involve more basic research in the robotics field.

Next, the state developed a targeted industry development program for auto supplies, forest products, and food processing. Each of the three targets presented clear, compelling and unique opportunities for job growth or retention. However, the state does not provide any set-asides or special incentives for any of these sectors. Instead, it seeks to create public/industry councils for strategic thinking and cooperation, to conduct up-to-date research on each industry, to better coordinate and package existing development incentives for projects in target industries, to bridge "turf" problems between different state agencies, to encourage new technology adoption, and to develop computerized data bases of industries, products and customers.

The administration also sought to grapple with the underdevelopment of the venture capital industry in the state -- only \$35 million was invested in the state during 1982, compared to \$718 million in Massachusetts and nearly \$1.3 billion in California. The legislature passed a law in 1982 which earmarked up to 5 percent of public employee retirement fund benefits for such investments. The new fund was launched in 1983 and by March 1985 it had directly invested \$40 million and committed another \$78 million to limited partnerships with other in-state and out-of-state professional venture capital funds.

The state recognized that this venture capital effort to help foster indigenous business development, expansion, and retention would not realize its fullest potential if entrepreneurs' other financing programs were too uncoordinated and limited in scope to provide full life cycle financing options. The Michigan Strategic Fund (MSF) was created to meet this need, to combine its existing programs under one umbrella, and to create some new institutions. The MSF has broad ranging powers to obtain and invest funds and consists of six development "windows": (1) the Center for Product Development; (2) the Center for Loan Insurance; (3) the Center for Assistance to Private Enterprise; (4) the Center for Research and Development; (5) the Center for Assistance to Local Government; (6) the Center for Minority Venture Capital. Some of the centers are still taking shape,

but the first two are now being implemented. The product development institution will finance new processes, technologies, and products that can be commercially developed by providing a small matching grant and getting a royalty on future sales. The state is now marketing a "loan loss reserve" program to Michigan banks that would be an actuarially-based loan insurance pool, equally financed by lender, borrower, and government. Its purpose would be to encourage higher risk bank investments by providing a sufficient margin of funds to cover worst case loan loss scenarios.

MSF's design offers the advantages of flexibility, comprehensive private sector participation in its deals (through its board of directors) and clear targetting to the state's strongest opportunities.

Finally, the Blanchard Administration did not neglect traditional "business climate" issues. It created a computerized ombudsman service and cut out nearly one-third of the required state forms needed to do business. Securities regulations were streamlined. The state reformed its archaic franchise laws, overhauled its workers compensation program, and cut taxes for smaller firms. It created various business commissions in order to better listen to the private sector and develop new policy on the basis of an enhanced dialogue between the public and private sectors.

3.2.3 Life Cycle Support for Entrepreneurship in the U.S.

What follows is a stage by stage breakdown of the environmental inputs needed to support entrepreneurial activity. To the extent these inputs exist -- as they largely do in the U.S. -- the result is a healthy environment for entrepreneurship. To the extent they are lacking, barriers to entrepreneurship will result.

3.2.3.1 Role Models: Researchers estimate that five to ten percent of any population possesses latent entrepreneurial talent. A far smaller percentage, however, learn to realize that potential. The presence or lack of role models with whom the potential entrepreneur can identify is one critical variable in determining who does and does not take the entrepreneurial path.

Obviously, the U.S. has a major advantage here in that, aside from the small number of highly publicized, big stakes entrepreneurs, over 9 million Americans are currently self-employed. Furthermore, we have 3.1 million business owners who provide important role models for our fastest growing entrepreneurial sector: the woman-owned business. Women-owned sole proprietorships now account for one quarter of all U.S. sole proprietorships, and their numbers are increasing faster every year.

3.2.3.2 Cultural Support: The cultural differences between Europe and the U.S. regarding entrepreneurship are striking. In the U.S., the entrepreneur is hallowed as hero. In parts of Europe, one gets the impression that while competence is admired, people who earn a huge sum of money from business activities must apologize for it when conversing with their friends and colleagues.

Sensible risk taking is another ideal in the U.S. A person who takes well-balanced risks is admired here. If one starts a business and it fails, that person will pick him or herself up and start another one. In many venture capital circles here, a person is taken more seriously if he has already suffered through at least one business failure. The assumption is that we learn from failure, and that if a person has never experienced a failure, he will be less likely to recognize the signs of a new one in the making.

In parts of Europe, a business failure is regarded on a level with the plague. In the words of one German businessman, referring to why his country had such difficulty luring potential entrepreneurs from existing corporations, "If someone who left failed, he'd be virtually unemployable by a large corporation." Or, in the words of a Swiss banker, "In the States, if someone loses \$10 million, it's considered money spent to acquire an education for his next venture. Here, you have to change your name, you have to move. You can never get funding. Forget it." (Both quoted in "Europe Inc.," Inc. Magazine September 1985.)

3.2.3.3 Access to New Technology or Research: Entrepreneurs in some industries require access to new technological developments. Here in the U.S., there are a variety of efforts, generally initiated by state governments, to improve linkages between the private sector and the research activities of major universities. Some state programs also provide capital to support more market oriented research to help bridge the gap from basic R&D to actual product development.

3.2.3.4 Access to Information: In a rapidly changing world, market opportunities appear and are then absorbed by whomever gets there first. To discern these opportunities, one needs access to information. An often overlooked form of public assistance to American entrepreneurs is the huge quantity and quality of data gathered, compiled and published by the U.S. government. Such data is generally free for the asking and covers such ground as the changing demographics and income of the consumer and business market and regional differences in the educational attainment of the workforce.

3.2.3.5 Seed Capital: Once a potential entrepreneur has decided to take the plunge and has identified a niche he or she thinks can be filled, the next step is to find money to finance the

early start-up or pre-start-up stage of the venture. Such financing precedes by a large gap the "venture capital" financing one normally associates with entrepreneurship. In the U.S., admittedly a rich nation, seed capital is usually provided by friends, family, associates -- the FFA network. Combined with other informal (i.e., non-institutional) financing sources, the FFA provides a fairly adequate pool of early stage, high risk capital for most communities in the U.S. Seed capital is conspicuously scarce in low-income communities in the U.S., however, and for this reason many states and non-profit developers are experimenting with public seed capital funds in such communities.

3.2.3.6 Risk and Venture Capital: The U.S. venture capital market, though somewhat small relative to the need and perhaps overly concentrated in a few industries, is nonetheless the most developed in the world. The U.S. banking system, though conservative in its lending, also provides a vital source of funds to the small business sector. Relative to Europe, the most salient aspect of both these capital sources is their extreme degree of decentralization. We have, for example, 1,400 separate banks with 40,000 separate branches. The result is a fully competitive, aggressive market of both sellers and purchasers of capital.

3.2.3.7 Access to Large and Diverse Markets: The larger and more diverse the market an entrepreneur has access to, the greater will be his or her opportunity for success. In the U.S., entrepreneurs have access -- for both buying and selling -- to an enormous yet well linked domestic market. In Europe, by comparison, many small businesses must quickly enter the export market in order to expand -- an added and sometimes conclusive obstacle to the many difficulties of starting up a new business venture.

3.2.3.8 Supportive Public Policy: To the extent that public policy enhances the environmental supports listed above, it will contribute to the entrepreneurial dynamism of the economy. By treating all gaps in the above list of prerequisite supports as specific barriers to be overcome, policy can be crafted to achieve the maximum effect with the least public expenditure (or undesired market distortion). In the U.S., a tremendous surge in state and local activity has recently arisen to reduce market barriers to entrepreneurship. Many of these programs purport to help small business meet the criteria discussed above; however, others simply seem to throw money at smaller firms in a vague hope that greater job creation will result. Thus it is critical to note that small business promotion is not necessarily an economic development tool; to be an effective tool of development, such programs must have a more strategic sense of what they hope to accomplish. (We should also note that the surge in public sector support for entrepreneurship here was a reaction

to a pre-existing surge in entrepreneurship, and therefore cannot easily explain the U.S. job creation experience over the past fifteen years.)

3.3 Conclusion

- o High levels of entrepreneurship in the U.S. are one explanation of the recent U.S. job creation experience.
- o The entrepreneur's role in economic development is to disturb an existing equilibrium -- or take advantage of exogenous disturbances or dislocations -- in order to exploit untapped opportunities for profit making. In doing so, the entrepreneur creates new products or services, or delivers old ones in a more efficient or qualitative manner, and thus innovates to develop markets and economies.
- o Entrepreneurs are not produced from thin air. The presence or absence of a variety of environmental supports greatly influences the level of entrepreneurial activity in an area. The absence of any of these supports is thus a barrier to entrepreneurship.
- o Public policy on entrepreneurship will be effective to the extent it enhances these supports (or reduces these barriers). A pure laissez-faire approach will therefore miss much of the potential for governments to strategically nurture the desired supports. By the same token, unstrategic government expenditures designed to "help small business" will also miss their potential.

Selected Tables From;
**STATISTICAL SUPPLEMENT TO
INTERNATIONAL COMPARISONS
OF UNEMPLOYMENT
BULLETIN 1979**

**PREPARED BY:
U.S. DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS
MAY 1985**

THIS SUPPLEMENT UPDATES SELECTED INTERNATIONAL LABOR MARKET STATISTICS WHICH WERE PUBLISHED IN BULLETIN 1979, INTERNATIONAL COMPARISONS OF UNEMPLOYMENT (U.S. BUREAU OF LABOR STATISTICS, 1978). THE TABLES ARE KEYED TO THOSE PUBLISHED IN THE BULLETIN. NEW DATA FOR 1977-85 ARE INCLUDED WHEREVER POSSIBLE AS WELL AS REVISIONS OF DATA FOR EARLIER YEARS.

THIS SUPPLEMENT CONTAINS REVISIONS OF PREVIOUSLY PUBLISHED ESTIMATES FOR FRANCE, GERMANY, GREAT BRITAIN, AND THE NETHERLANDS. FOR FRANCE, REVISED ESTIMATES FOR 1970 ONWARD ARE BASED ON A NEW METHOD OF ADJUSTING FRENCH DATA FOR COMPARABILITY TO U.S. CONCEPTS OF EMPLOYMENT AND UNEMPLOYMENT. THE REVISIONS REFLECT THE INCORPORATION OF DATA ADJUSTED TO INTERNATIONAL DEFINITIONS BY THE FRENCH STATISTICAL OFFICE.

FOR GERMANY, THE REVISIONS REFLECT THE INCORPORATION OF LABOR FORCE SURVEY RESULTS FOR 1982-84 AS WELL AS REVISIONS OF PREVIOUSLY PUBLISHED GERMAN ESTIMATES OF EMPLOYMENT.

FOR GREAT BRITAIN, THE REVISED ESTIMATES ARE BASED ON A NEW METHOD OF ADJUSTING THE REGISTERED UNEMPLOYED AND ON REVISIONS OF PREVIOUSLY PUBLISHED BRITISH ESTIMATES OF EMPLOYMENT.

FOR THE NETHERLANDS, THE REVISIONS RELATE TO THE INCORPORATION OF REVISED ESTIMATES OF EMPLOYMENT, FINAL RESULTS OF THE 1981 LABOR FORCE SURVEY, AND PRELIMINARY RESULTS OF THE 1983 LABOR FORCE SURVEY.

THE REVISIONS FOR GREAT BRITAIN AND THE NETHERLANDS HAVE NOT BEEN INCORPORATED IN TABLE 8A. CIVILIAN EMPLOYMENT BY ECONOMIC SECTOR, 1960-84 AND TABLE 8B. PERCENT DISTRIBUTION OF CIVILIAN EMPLOYMENT BY ECONOMIC SECTOR, 1960-1984.

SUPPLEMENT TO TABLE 3. LABOR FORCE, EMPLOYMENT, AND UNEMPLOYMENT IN TEN COUNTRIES, 1959-84--CONTINUED

YEAR	UNITED STATES	CANADA (4)	AUSTRALIA (1)	JAPAN	FRANCE	GERMANY	GREAT BRITAIN	ITALY	NETHERLANDS	SWEDEN
CIVILIAN LABOR FORCE (THOUSANDS)										
APPROXIMATING U.S. CONCEPTS										
1959	68,369	6,286	(2)	43,320	18,960	25,850	23,330	20,900	(2)	3,609
1960	69,628	6,462	(2)	44,120	18,970	25,990	23,550	20,730	(2)	3,679
1961	70,459	6,575	(2)	44,610	18,940	26,160	23,810	20,750	(2)	3,695
1962	70,614	6,670	(2)	45,040	19,080	26,210	24,150	20,610	(2)	3,718
1963	71,833	6,805	(2)	45,430	19,280	26,290	24,360	20,190	(2)	3,724
1964	73,091	6,994	4,559	46,040	19,650	26,270	24,490	20,160	(2)	3,719
1965	74,455	7,207	4,689	46,780	19,750	26,380	24,650	19,810	(2)	3,743
1966	75,770	7,493	4,862	47,850	20,010	26,290	24,740	19,540	(2)	3,794
1967	77,347	7,747	5,022	48,810	20,110	25,730	24,710	19,710	(2)	3,772
1968	78,737	7,951	5,140	49,690	20,360	25,690	24,600	19,700	(2)	3,822
1969	80,734	8,194	5,284	50,140	20,770	25,960	24,580	19,530	(2)	3,851
1970	82,771	8,395	5,478	50,730	20,800	26,240	24,510	19,650	(2)	3,909
1971	84,382	8,639	5,624	51,120	20,980	26,420	24,360	19,580	(2)	3,955
1972	87,034	8,897	5,752	51,320	21,120	26,340	24,600	19,380	(2)	3,964
1973	89,429	9,276	5,901	52,590	21,360	26,540	24,850	19,550	4,710	3,971
1974	91,949	9,639	6,053	52,440	21,550	26,400	24,880	19,890	4,770	4,037
1975	93,775	9,974	6,169	52,530	21,600	26,130	25,130	20,080	4,820	4,123
1976	96,158	10,203	6,244	53,100	21,840	25,900	25,290	20,300	4,890	4,149
1977	99,009	10,500	6,358	53,820	22,100	25,870	25,430	20,530	4,950	4,168
1978	102,251	10,895	6,443	54,610	22,290	26,000	25,620	20,630	5,010	4,203
1979	104,962	11,231	6,519	55,210	22,470	26,240	25,710	20,910	5,100	4,262
1980	106,940	11,573	6,693	55,740	22,570	26,500	25,870	21,210	5,290	4,312
1981	108,670	11,904	6,810	56,320	22,640	26,610	25,870	21,410	5,500	4,326
1982	110,204	11,958	6,910	56,980	22,900	26,640	(3)25,880	21,450	(3)5,560	4,350
1983	111,550	12,183	6,997	58,110	22,800	26,640	(3)25,980	21,610	(3)5,720	4,369
1984	113,544	12,399	7,133	58,480	(3)22,990	(3)26,700	(3)26,390	(3)21,600	(3)5,740	4,385

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SUPPLEMENT TO TABLE 3. LABOR FORCE, EMPLOYMENT, AND UNEMPLOYMENT IN TEN COUNTRIES, 1959-84--CONTINUED

YEAR	UNITED STATES	CANADA (4)	AUSTRALIA (1)	JAPAN	FRANCE	GERMANY	GREAT BRITAIN	ITALY	NETHERLANDS	SWEDEN
CIVILIAN EMPLOYMENT (THOUSANDS)										
APPROXIMATING U.S. CONCEPTS										
1959	64,630	5,936	(2)	42,340	18,630	25,340	22,690	20,020	(2)	3,549
1960	65,778	6,042	(2)	43,370	18,670	25,710	23,070	20,060	(2)	3,616
1961	65,746	6,136	(2)	43,950	18,680	26,000	23,380	20,160	(2)	3,640
1962	66,702	6,302	(2)	44,450	18,830	26,060	23,530	20,100	(2)	3,663
1963	67,762	6,454	(2)	44,840	19,040	26,170	23,590	19,760	(2)	3,662
1964	69,305	6,688	4,496	45,500	19,390	26,170	23,920	19,680	(2)	3,661
1965	71,088	6,944	4,628	46,210	19,470	26,310	24,160	19,210	(2)	3,699
1966	72,895	7,242	4,785	47,200	19,660	26,220	24,220	18,890	(2)	3,735
1967	74,372	7,451	4,928	48,180	19,740	25,390	23,940	19,130	(2)	3,692
1968	75,920	7,593	5,046	49,100	19,870	25,400	23,840	19,080	(2)	3,737
1969	77,902	7,832	5,188	49,570	20,310	25,790	23,860	18,940	(2)	3,778
1970	78,678	7,919	5,388	50,140	20,290	26,100	23,780	19,080	(2)	3,850
1971	79,367	8,104	5,517	50,480	20,410	26,260	23,430	19,020	(2)	3,854
1972	82,153	8,344	5,601	50,590	20,530	26,150	23,580	18,730	(2)	3,857
1973	85,064	8,761	5,765	51,910	20,790	26,350	24,070	18,910	4,560	3,873
1974	86,794	9,125	5,891	51,710	20,940	25,980	24,130	19,350	4,590	3,956
1975	85,846	9,284	5,866	51,530	20,700	25,230	24,000	19,480	4,570	4,056
1976	88,752	9,477	5,946	52,020	20,850	25,010	23,810	19,600	4,630	4,083
1977	92,017	9,651	6,000	52,720	21,030	24,970	23,840	19,800	4,700	4,093
1978	96,048	9,987	6,038	53,370	21,110	25,130	24,040	19,870	4,750	4,109
1979	98,824	10,395	6,111	54,040	21,110	25,460	24,360	20,100	4,830	4,174
1980	99,303	10,708	6,284	54,600	21,120	25,730	24,100	20,380	4,960	4,226
1981	100,397	11,006	6,416	55,060	20,950	25,520	23,190	20,480	4,990	4,218
1982	99,526	10,644	6,415	55,620	20,980	25,060	(3)22,820	20,430	(3)4,930	4,213
1983	100,834	10,734	6,300	56,550	20,840	24,650	(3)22,650	20,470	(3)4,890	4,218
1984	105,005	11,000	6,490	56,870	(3)20,670	(3)24,610	(3)22,960	(3)20,400	(3)4,880	4,249

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SUPPLEMENT TO TABLE 3. LABOR FORCE, EMPLOYMENT, AND UNEMPLOYMENT IN TEN COUNTRIES, 1959-84--CONTINUED

YEAR	UNITED STATES (1)	CANADA (4)	AUSTRALIA (1)	JAPAN	FRANCE	GERMANY	GREAT BRITAIN	ITALY	NETHERLANDS	SWEDEN
UNEMPLOYMENT (THOUSANDS)										
APPROXIMATING U.S. CONCEPTS										
1959	3,740	350	(2)	980	330	510	610	880	(2)	60
1960	3,852	420	(2)	750	300	280	480	670	(2)	63
1961	4,714	439	(2)	660	260	160	430	590	(2)	55
1962	3,911	368	(2)	590	250	150	620	510	(2)	55
1963	4,070	351	(2)	590	240	120	770	420	(2)	62
1964	3,786	306	63	540	260	100	570	480	(2)	58
1965	3,366	263	61	570	280	70	490	600	(2)	44
1966	2,875	251	76	650	350	70	520	640	(2)	59
1967	2,975	296	94	630	370	340	770	590	(2)	80
1968	2,817	358	94	590	490	290	760	610	(2)	85
1969	2,832	362	96	570	460	170	720	600	(2)	73
1970	4,093	476	91	590	510	140	730	560	(2)	59
1971	5,016	535	107	640	570	160	930	560	(2)	101
1972	4,882	553	150	730	590	190	1,020	650	(2)	107
1973	4,365	515	136	680	570	190	780	630	150	98
1974	5,156	514	162	730	610	420	750	550	180	80
1975	7,929	690	302	1,000	900	890	1,130	610	250	67
1976	7,406	726	298	1,080	990	890	1,480	700	260	66
1977	6,991	849	358	1,100	1,070	900	1,590	740	250	75
1978	6,202	908	405	1,240	1,180	870	1,580	760	260	94
1979	6,137	836	408	1,170	1,360	780	1,350	810	270	88
1980	7,637	865	409	1,140	1,450	770	1,770	830	330	86
1981	8,273	898	394	1,260	1,690	1,090	2,680	920	510	108
1982	10,678	1,314	495	1,360	1,920	1,580	(3)3,060	1,020	(3)630	137
1983	10,717	1,448	697	1,560	1,960	1,990	(3)3,330	1,140	(3)830	151
1984	8,539	1,399	642	1,610	(3)2,320	(3)2,090	(3)3,430	(3)1,200	(3)860	136

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SUPPLEMENT TO TABLE 3. LABOR FORCE, EMPLOYMENT, AND UNEMPLOYMENT IN TEN COUNTRIES, 1959-84--CONTINUED

YEAR	UNITED STATES	CANADA (4)	AUSTRALIA (1)	JAPAN	FRANCE	GERMANY	GREAT BRITAIN	ITALY	NETHERLANDS	SWEDEN
CIVILIAN UNEMPLOYMENT RATE (PERCENT)										
APPROXIMATING U.S. CONCEPTS										
1959	5.5	5.6	(8)2.1	2.3	1.7	2.0	2.6	4.2	(2)	1.7
1960	5.5	6.5	(8)1.6	1.7	1.6	1.1	2.0	3.2	(2)	1.7
1961	6.7	6.7	(8)3.0	1.5	1.4	.6	1.8	2.8	(2)	1.5
1962	5.5	5.5	(8)2.9	1.3	1.3	.6	2.6	2.5	(2)	1.5
1963	5.7	5.2	(8)2.3	1.3	1.2	.5	3.2	2.1	(2)	1.7
1964	5.2	4.4	1.4	1.2	1.3	.4	2.3	2.4	(2)	1.6
1965	4.5	3.6	1.3	1.2	1.4	.3	2.0	3.0	(2)	1.2
1966	3.8	3.4	1.6	1.4	1.7	.3	2.1	3.3	(2)	1.6
1967	3.8	3.8	1.9	1.3	1.8	1.3	3.1	3.0	(2)	2.1
1968	3.6	4.5	1.8	1.2	2.4	1.1	3.1	3.1	(2)	2.2
1969	3.5	4.4	1.8	1.1	2.2	.6	2.9	3.1	(2)	1.9
1970	4.9	5.7	1.6	1.2	2.5	.5	3.0	2.8	(2)	1.5
1971	5.9	6.2	1.9	1.3	2.7	.6	3.8	2.9	(2)	2.6
1972	5.6	6.2	2.6	1.4	2.8	.7	4.1	3.4	(2)	2.7
1973	4.9	5.5	2.3	1.3	2.7	.7	3.1	3.2	3.2	2.5
1974	5.6	5.3	2.7	1.4	2.8	1.6	3.0	2.8	3.8	2.0
1975	8.5	6.9	4.9	1.9	4.2	3.4	4.5	3.0	5.2	1.6
1976	7.7	7.1	4.8	2.0	4.5	3.4	5.9	3.4	5.3	1.6
1977	7.1	8.1	5.6	2.0	4.8	3.5	6.3	3.6	5.0	1.8
1978	6.1	8.3	6.3	2.3	5.3	3.4	6.2	3.7	5.2	2.2
1979	5.8	7.4	6.3	2.1	6.1	3.0	5.3	3.9	5.3	2.1
1980	7.1	7.5	6.1	2.0	6.4	2.9	6.8	3.9	6.2	2.0
1981	7.6	7.5	5.8	2.2	7.5	4.1	10.4	4.3	9.3	2.5
1982	9.7	11.0	7.2	2.4	8.4	5.9	(3)11.8	4.8	(3)11.3	3.1
1983	9.6	11.9	10.0	2.7	8.6	7.5	(3)12.8	5.3	(3)14.5	3.5
1984	7.5	11.3	9.0	2.8	(3)10.1	(3)7.8	(3)13.0	(3)5.6	(3)15.0	3.1

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SUPPLEMENT TO TABLE 3. LABOR FORCE, EMPLOYMENT, AND UNEMPLOYMENT IN TEN COUNTRIES, 1959-84--CONTINUED

FOOTNOTES:

- (1) PUBLISHED AND ADJUSTED DATA ARE IDENTICAL.
- (2) NOT AVAILABLE.
- (3) PRELIMINARY ESTIMATES BASED ON INCOMPLETE DATA.
- (4) PUBLISHED AND ADJUSTED DATA ARE IDENTICAL FROM 1966 ONWARD. FOR 1959-1965, DATA ARE BLS ESTIMATES BASED ON NEW SURVEY DEFINITIONS.
- (5) INCLUDING MILITARY PERSONNEL FOR THE UNITED STATES, JAPAN, GERMANY, ITALY, AND SWEDEN.
- (6) THE SWEDISH LABOR FORCE SURVEY WAS INITIATED IN 1961. THE PUBLISHED DATA FOR 1959-1960 ARE ESTIMATES MADE BY THE ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT.
- (7) FOR THE UNITED STATES, CANADA, AUSTRALIA, JAPAN, ITALY, AND SWEDEN, UNEMPLOYMENT AS RECORDED BY SAMPLE LABOR FORCE SURVEYS; FOR FRANCE, ANNUAL ESTIMATES OF UNEMPLOYMENT; AND FOR GERMANY, GREAT BRITAIN, AND THE NETHERLANDS, THE REGISTERED UNEMPLOYED.
- (8) THE AUSTRALIAN LABOR FORCE SURVEY WAS INITIATED IN 1964. UNEMPLOYMENT RATES FOR 1959-1963 ARE ESTIMATES MADE BY AN AUSTRALIAN RESEARCHER.
- (9) FOR CANADA, AUSTRALIA, AND FRANCE, UNEMPLOYMENT AS A PERCENT OF THE CIVILIAN LABOR FORCE; FOR THE UNITED STATES, JAPAN, ITALY, AND SWEDEN, UNEMPLOYMENT AS A PERCENT OF THE CIVILIAN LABOR FORCE PLUS CAREER MILITARY PERSONNEL; FOR GERMANY, GREAT BRITAIN, AND THE NETHERLANDS, REGISTERED UNEMPLOYED (EXCLUDING ADULT STUDENTS IN GREAT BRITAIN) AS A PERCENT OF EMPLOYED WAGE AND SALARY WORKERS PLUS THE UNEMPLOYED. WITH THE EXCEPTION OF FRANCE WHICH DOES NOT PUBLISH AN THE UNEMPLOYMENT RATE, THESE ARE THE USUALLY PUBLISHED UNEMPLOYMENT RATES FOR EACH COUNTRY. PUBLISHED RATES SHOWN FOR GERMANY, GREAT BRITAIN, AND THE NETHERLANDS CANNOT BE COMPUTED FROM DATA CONTAINED IN THIS TABLE.

NOTE: DATA FOR THE UNITED STATES RELATE TO THE POPULATION 16 YEARS OF AGE AND OVER. PUBLISHED DATA FOR FRANCE, GERMANY, AND ITALY RELATE TO THE POPULATION 14 YEARS OF AGE AND OVER; FOR SWEDEN, TO THE POPULATION AGED 16 TO 74; AND FOR CANADA, AUSTRALIA, JAPAN, GREAT BRITAIN, AND THE NETHERLANDS, TO THE POPULATION 15 YEARS OF AGE AND OVER. BEGINNING IN 1973, PUBLISHED DATA FOR GREAT BRITAIN RELATE TO THE POPULATION 16 YEARS OF AGE AND OVER. THE ADJUSTED STATISTICS HAVE BEEN ADAPTED, INSOFAR AS POSSIBLE, TO THE AGE AT WHICH COMPULSORY SCHOOLING ENDS IN EACH COUNTRY. THEREFORE, ADJUSTED STATISTICS FOR FRANCE RELATE TO THE POPULATION 16 YEARS OF AGE AND OVER, FOR GERMANY, TO THE POPULATION 15 YEARS OF AGE AND OVER, AND FOR THE NETHERLANDS, TO THE POPULATION 14 YEARS OF AGE AND OVER FOR 1973-1974, AND TO THE POPULATION 15 YEARS OF AGE AND OVER FROM 1975 ONWARD. THE AGE LIMITS OF ADJUSTED STATISTICS FOR CANADA, AUSTRALIA, JAPAN, GREAT BRITAIN, AND ITALY COINCIDE WITH THE AGE LIMITS OF THE PUBLISHED STATISTICS. STATISTICS FOR SWEDEN REMAIN AT THE LOWER AGE LIMIT OF 16, BUT HAVE BEEN ADJUSTED TO INCLUDE PERSONS 75 YEARS OF AGE AND OVER.

SUPPLEMENT TO TABLE 8A. CIVILIAN EMPLOYMENT BY ECONOMIC SECTOR, 1960-84
(IN THOUSANDS)

YEAR	UNITED STATES	CANADA	AUS- TRALIA	JAPAN	FRANCE	GERMANY	GREAT BRITAIN (1)	ITALY	NETHER- LANDS (2)	SWEDEN
CIVILIAN EMPLOYMENT										
1960	65,778	5,965	NA	43,370	18,595	25,954	23,660	20,064	4,092	3,513
1965	71,088	6,862	4,614	46,200	19,540	26,418	24,782	19,210	4,414	3,673
1970	78,678	7,919	5,388	50,140	20,343	26,169	24,381	19,083	4,601	3,836
1971	79,367	8,104	5,518	50,470	20,438	26,317	24,031	19,016	4,622	3,842
1972	82,153	8,344	5,602	50,580	20,552	26,214	24,020	18,730	4,597	3,845
1973(3)	85,064	8,761	5,765	51,900	20,814	26,411	24,611	18,914	4,594	3,861
1974	86,794	9,125	5,891	51,710	20,959	26,038	24,714	19,346	4,596	3,944
1975	85,846	9,284	5,867	51,530	20,714	25,285	24,647	19,476	4,564	4,044
1976	88,752	9,477	5,946	52,020	20,856	25,059	24,452	19,605	4,563	4,070
1977	92,017	9,651	6,000	52,720	21,036	25,014	24,499	19,794	4,573	4,081
1978	96,048	9,987	5,997	53,360	21,113	25,169	24,625	19,867	4,609	4,097
1979	98,824	10,395	6,075	54,040	21,118	25,507	24,775	20,097	4,667	4,162
1980	99,303	10,708	6,250	54,600	21,127	25,771	24,364	20,378	4,689	4,214
1981	100,397	11,006	6,380	55,060	20,959	25,569	23,048	20,456	4,628	4,207
1982	99,526	10,644	6,385	55,620	20,984	25,100	22,376	20,397	NA	4,201
1983	100,834	10,734	6,292	56,550	20,839	24,690	NA	NA	NA	4,206
1984	105,005	11,000	6,490	56,870	NA	24,649	NA	NA	NA	4,249
AGRICULTURE (4)										
1960	5,572	795	NA	12,800	4,305	3,623	980	6,514	465	544
1965	4,477	694	448	10,500	3,576	2,876	954	5,031	388	421
1970	3,567	604	432	8,490	2,821	2,262	782	3,839	329	314
1971	3,510	607	424	7,840	2,668	2,134	736	3,817	319	300
1972	3,598	575	440	7,310	2,514	2,018	710	3,550	315	287
1973(3)	3,572	573	422	6,810	2,364	1,924	713	3,438	309	276
1974	3,613	579	408	6,540	2,221	1,842	681	3,373	304	264
1975	3,505	564	405	6,380	2,104	1,773	669	3,244	299	261
1976	3,453	561	390	6,210	2,037	1,682	670	3,217	295	254
1977	3,426	553	398	6,110	1,977	1,589	669	3,119	289	248
1978	3,550	574	379	6,100	1,927	1,536	666	3,053	285	250
1979	3,508	590	398	5,860	1,887	1,479	654	2,985	280	242
1980	3,529	583	408	5,510	1,841	1,436	657	2,896	279	237
1981	3,519	598	416	5,330	1,794	1,405	647	2,731	274	237
1982	3,570	558	412	5,250	1,738	1,381	641	2,525	NA	236
1983	3,541	587	416	5,060	1,692	1,372	NA	NA	NA	230
1984	3,469	586	404	NA	NA	1,370	NA	NA	NA	218

CONTINUED ON THE FOLLOWING PAGE.

SUPPLEMENT TO TABLE 8.1. CIVILIAN EMPLOYMENT BY ECONOMIC SECTOR, 1960-84--CONTINUED
(IN THOUSANDS)

YEAR	UNITED STATES	CANADA	AUS-TRALIA	JAPAN	FRANCE	GERMANY	GREAT BRITAIN (1)	ITALY	NETHERLANDS (2)	SWEDEN
INDUSTRY (5)										
1960	21,995	1,906	NA	12,380	6,976	11,912	11,184	6,855	1,617	1,420
1965	24,311	2,233	1,653	15,010	7,637	12,501	11,117	7,174	1,769	1,553
1970	26,080	2,360	1,886	17,880	7,917	12,465	10,531	7,586	1,750	1,456
1971	25,182	2,383	1,916	18,140	7,948	12,530	10,171	7,613	1,730	1,424
1972	25,828	2,439	1,898	18,290	7,978	12,315	9,962	7,472	1,657	1,396
1973(3)	27,258	2,586	1,945	19,210	8,097	12,348	10,142	7,466	1,635	1,401
1974	27,213	2,688	1,963	19,020	8,123	11,941	10,112	7,634	1,606	1,434
1975	25,302	2,613	1,870	18,370	7,853	11,243	9,672	7,663	1,549	1,449
1976	26,310	2,701	1,866	18,520	7,775	11,042	9,394	7,561	1,507	1,416
1977	27,343	2,675	1,845	18,510	7,739	10,944	9,377	7,662	1,479	1,375
1978	28,810	2,750	1,767	18,550	7,611	10,958	9,372	7,626	1,466	1,328
1979	29,797	2,884	1,779	18,740	7,489	11,086	9,344	7,641	1,470	1,326
1980	29,136	2,931	1,809	19,180	7,412	11,146	8,948	7,767	1,449	1,327
1981	28,995	2,983	1,826	19,300	7,203	10,887	×8,028	7,722	1,377	1,286
1982	27,070	2,702	1,772	19,210	×7,057	×10,473	×7,567	7,594	NA	1,237
1983	27,016	2,622	1,654	19,470	×6,850	×10,110	NA	NA	NA	1,223
1984	28,617	2,722	1,675	NA	NA	×10,006	NA	NA	NA	1,228
MANUFACTURING										
1960	17,149	1,471	NA	9,430	5,250	8,907	8,874	4,813	1,193	1,120
1965	19,190	1,636	1,207	11,450	5,532	9,483	8,666	4,894	1,270	1,206
1970	20,746	1,768	1,340	13,750	5,661	9,779	8,465	5,293	1,241	1,064
1971	19,606	1,766	1,358	13,820	5,726	9,835	8,181	5,329	1,231	1,054
1972	19,943	1,823	1,344	13,810	5,778	9,652	7,908	5,223	1,181	1,046
1973(3)	21,054	1,927	1,374	14,420	5,892	9,697	7,954	5,270	1,162	1,066
1974	21,025	1,978	1,380	14,250	5,942	9,479	7,995	5,438	1,159	1,120
1975	19,457	1,871	1,275	13,430	5,780	9,010	7,616	5,447	1,118	1,138
1976	20,261	1,921	1,289	13,440	5,721	8,807	7,373	5,435	1,072	1,100
1977	20,889	1,888	1,281	13,350	5,697	8,770	7,420	5,473	1,043	1,060
1978	21,784	1,956	1,199	13,220	5,612	8,751	7,382	5,420	1,018	1,023
1979	22,459	2,071	1,215	13,290	5,515	8,810	7,297	5,409	1,008	1,026
1980	21,942	2,111	1,242	13,630	5,445	8,849	6,929	5,485	997	1,025
1981	21,817	2,122	1,251	13,800	5,269	8,597	×6,160	5,384	966	984
1982	20,286	1,930	1,213	13,740	NA	×8,313	×5,819	5,277	NA	946
1983	19,946	1,886	1,147	14,010	NA	NA	NA	NA	NA	941
1984	20,995	1,968	1,148	NA	NA	NA	NA	NA	NA	953

CONTINUED ON THE FOLLOWING PAGE.

SUPPLEMENT TO TABLE 8A. CIVILIAN EMPLOYMENT BY ECONOMIC SECTOR, 1960-84--CONTINUED
(IN THOUSANDS)

YEAR	UNITED STATES	CANADA	AUS- TRALIA	JAPAN	FRANCE	GERMANY	GREAT BRITAIN (1)	ITALY	NETHER- LANDS (2)	SWEDEN
SERVICES (6)										
1960	38,212	3,264	NA	18,190	7,314	10,419	11,496	6,696	2,010	1,550
1965	42,301	3,934	2,514	20,690	8,327	11,041	12,711	7,005	2,255	1,699
1970	49,031	4,955	3,070	23,770	9,605	11,442	13,071	7,656	2,522	2,066
1971	50,675	5,114	3,178	24,510	9,822	11,653	13,124	7,584	2,573	2,118
1972	52,727	5,330	3,265	24,980	10,060	11,881	13,348	7,709	2,625	2,162
1973(3)	54,234	5,602	3,399	25,880	10,353	12,139	13,755	8,009	2,650	2,185
1974	55,968	5,858	3,520	26,140	10,615	12,255	13,921	8,339	2,686	2,246
1975	57,039	6,108	3,592	26,770	10,757	12,269	14,306	8,568	2,716	2,334
1976	58,989	6,215	3,690	27,290	11,044	12,335	14,388	8,828	2,761	2,400
1977	61,248	6,424	3,757	28,100	11,320	12,481	14,453	9,012	2,803	2,458
1978	63,688	6,661	3,851	28,720	11,575	12,675	14,587	9,187	2,858	2,519
1979	65,519	6,920	3,898	29,440	11,742	12,942	14,778	9,471	2,917	2,594
1980	66,638	7,194	4,032	29,910	11,874	13,189	14,760	9,715	2,961	2,650
1981	67,883	7,425	4,137	30,430	11,962	13,277	*14,373	10,003	2,977	2,684
1982	68,886	7,385	4,201	31,160	*12,189	*13,246	*14,168	10,277	NA	2,728
1983	70,277	7,525	4,222	32,020	*12,297	*13,208	NA	NA	NA	2,753
1984	72,919	7,692	4,411	NA	NA	*13,273	NA	NA	NA	2,792

NA = NOT AVAILABLE.

* = PRELIMINARY.

(1) INCLUDING NORTHERN IRELAND.

(2) MEASURED IN MAN-YEARS.

(3) FROM 1973 ONWARDS, JAPAN INCLUDES OKINAWA.

(4) AGRICULTURE, FORESTRY, HUNTING, AND FISHING.

(5) MANUFACTURING, MINING, AND CONSTRUCTION.

(6) TRANSPORTATION, COMMUNICATION, PUBLIC UTILITIES, TRADE, FINANCE, PUBLIC ADMINISTRATION, PRIVATE HOUSEHOLD SERVICES, AND MISCELLANEOUS SERVICES.

NOTE: DATA HAVE NOT BEEN FULLY ADJUSTED FOR COMPARABILITY WITH U.S. DEFINITIONS. ALSO, SOME EMPLOYMENT COULD NOT BE DISTRIBUTED BY ECONOMIC SECTOR. BECAUSE OF ROUNDING, SUBTOTALS MAY NOT ADD TO TOTALS.

SUPPLEMENT TO TABLE 8B. PERCENT DISTRIBUTION OF EMPLOYMENT BY ECONOMIC SECTOR, 1960-84

YEAR	UNITED STATES	CANADA	AUS-TRALIA	JAPAN	FRANCE	GERMANY	GREAT BRITAIN (1)	ITALY	NETHERLANDS (2)	SWEDEN
CIVILIAN EMPLOYMENT										
EACH YEAR	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
AGRICULTURE (3)										
1960	8.5	13.3	NA	29.5	23.2	14.0	4.1	32.5	11.4	15.5
1965	6.3	10.1	9.7	22.7	18.3	10.9	3.8	26.2	8.8	11.5
1970	4.5	7.6	8.0	16.9	13.9	8.6	3.2	20.1	7.2	8.2
1971	4.4	7.5	7.7	15.5	13.1	8.1	3.1	20.1	6.9	7.8
1972	4.4	6.9	7.8	14.4	12.2	7.7	3.0	19.0	6.8	7.5
1973(4)	4.2	6.5	7.3	13.1	11.4	7.3	2.9	18.2	6.7	7.1
1974	4.2	6.4	6.9	12.6	10.6	7.1	2.8	17.4	6.6	6.7
1975	4.1	6.1	6.9	12.4	10.2	7.0	2.7	16.7	6.6	6.5
1976	3.9	5.9	6.6	11.9	9.8	6.7	2.7	16.4	6.5	6.2
1977	3.7	5.7	6.6	11.6	9.4	6.4	2.7	15.8	6.3	6.1
1978	3.7	5.7	6.3	11.4	9.1	6.1	2.7	15.4	6.2	6.1
1979	3.6	5.7	6.6	10.8	8.9	5.8	2.6	14.9	6.0	5.8
1980	3.6	5.4	6.5	10.1	8.7	5.6	2.7	14.2	6.0	5.6
1981	3.5	5.4	6.5	9.7	8.6	5.5	2.8	13.4	5.9	5.6
1982	3.6	5.2	6.4	9.4	8.3	5.5	2.9	12.4	NA	5.6
1983	3.5	5.5	6.6	8.9	8.1	5.6	NA	NA	NA	5.5
1984	3.3	5.3	6.2	NA	NA	5.6	NA	NA	NA	5.2
INDUSTRY (5)										
1960	33.4	32.0	NA	28.5	37.5	45.9	47.3	34.2	39.5	40.4
1965	34.2	32.5	35.8	32.5	39.1	47.3	44.9	37.4	40.1	42.3
1970	33.1	29.8	35.0	35.7	38.9	47.6	43.2	39.8	38.0	38.0
1971	31.7	29.4	34.7	35.9	38.9	47.6	42.3	40.0	37.4	37.1
1972	31.4	29.2	33.9	36.2	38.8	47.0	41.5	39.9	36.0	36.3
1973(4)	32.0	29.5	33.7	37.0	38.9	46.8	41.2	39.5	35.6	36.3
1974	31.4	29.5	33.3	36.8	38.8	45.9	40.9	39.5	34.9	36.4

CONTINUED ON THE FOLLOWING PAGE.

SUPPLEMENT TO TABLE 8B. PERCENT DISTRIBUTION OF EMPLOYMENT BY ECONOMIC SECTOR, 1960-84--CONTINUED

YEAR	UNITED STATES	CANADA	AUS-TRALIA	JAPAN	FRANCE	GERMANY	GREAT BRITAIN (1)	ITALY	NETHERLANDS (2)	SWEDEN
INDUSTRY (5)										
1975	29.5	28.1	31.9	35.6	37.9	44.4	39.2	39.4	33.9	35.8
1976	29.6	28.5	31.4	35.6	37.3	44.1	38.4	38.6	33.0	34.8
1977	29.7	27.7	30.8	35.1	36.8	43.8	38.3	38.7	32.3	33.7
1978	30.0	27.5	29.5	34.8	36.0	43.5	38.1	38.4	31.8	32.4
1979	30.2	27.7	29.3	34.7	35.5	43.5	37.7	38.0	31.5	31.9
1980	29.3	27.4	28.9	35.1	35.1	43.2	36.7	38.1	30.9	31.5
1981	28.9	27.1	28.6	35.0	34.4	42.6	*34.8	37.8	29.8	30.6
1982	27.2	25.4	27.8	34.5	*33.6	*41.7	*33.8	37.2	NA	29.4
1983	26.8	24.4	26.3	34.4	*32.9	*41.0	NA	NA	NA	29.1
1984	27.2	24.8	25.8	NA	NA	*40.6	NA	NA	NA	29.0
MANUFACTURING										
1960	26.1	24.7	NA	21.7	28.2	34.3	37.5	24.0	29.2	31.9
1965	27.0	23.8	26.2	24.8	28.3	35.9	35.0	25.5	28.8	32.8
1970	26.4	22.3	24.9	27.4	27.8	37.4	34.7	27.7	27.0	27.7
1971	24.7	21.8	24.6	27.4	28.0	37.4	34.0	28.0	26.6	27.4
1972	24.3	21.8	24.0	27.3	28.1	36.8	32.9	27.9	25.7	27.2
1973(4)	24.8	22.0	23.8	27.8	28.3	36.7	32.3	27.9	25.3	27.6
1974	24.2	21.7	23.4	27.6	28.4	36.4	32.4	28.1	25.2	28.4
1975	22.7	20.2	21.7	26.1	27.9	35.6	30.9	28.0	24.5	28.1
1976	22.8	20.3	21.7	25.8	27.4	35.2	30.2	27.7	23.5	27.0
1977	22.7	19.6	21.4	25.3	27.1	35.1	30.3	27.6	22.8	26.0
1978	22.7	19.6	20.0	24.8	26.6	34.8	30.0	27.3	22.1	25.0
1979	22.7	19.9	20.0	24.6	26.1	34.5	29.4	26.9	21.6	24.6
1980	22.1	19.7	19.9	25.0	25.8	34.3	28.4	26.9	21.3	24.3
1981	21.7	19.3	19.6	25.1	25.1	33.6	*26.7	26.3	20.9	23.4
1982	20.4	18.1	19.0	24.7	NA	*33.1	*26.0	25.9	NA	22.5
1983	19.8	17.6	18.2	24.8	NA	NA	NA	NA	NA	22.4
1984	20.0	17.9	17.7	NA	NA	NA	NA	NA	NA	20.5

CONTINUED ON THE FOLLOWING PAGE.

SUPPLEMENT TO TABLE 8B. PERCENT DISTRIBUTION OF EMPLOYMENT BY ECONOMIC SECTOR, 1960-84--CONTINUED

YEAR	UNITED STATES	CANADA	AUS-TRALIA	JAPAN	FRANCE	GERMANY	GREAT BRITAIN (1)	ITALY	NETHERLANDS (2)	SWEDEN
SERVICES (6)										
1960	58.1	54.7	NA	41.9	39.3	40.1	48.6	33.4	49.1	44.1
1965	59.5	57.3	54.5	44.8	42.6	41.8	51.3	36.5	51.1	46.3
1970	62.3	62.6	57.0	47.4	47.2	43.7	53.6	40.1	54.8	53.9
1971	63.8	63.1	57.6	48.6	48.1	44.3	54.6	39.9	55.7	55.1
1972	64.2	63.9	58.3	49.4	48.9	45.3	55.6	41.2	57.1	56.2
1973(4)	63.8	63.9	59.0	49.9	49.7	46.0	55.9	42.3	57.7	56.6
1974	64.5	64.2	59.8	50.6	50.6	47.1	56.3	43.1	58.4	56.9
1975	66.4	65.8	61.2	52.0	51.9	48.5	58.0	44.0	59.5	57.7
1976	66.5	65.6	62.0	52.5	53.0	49.2	58.8	45.0	60.5	59.0
1977	66.6	66.6	62.6	53.3	53.8	49.9	59.0	45.5	61.3	60.2
1978	66.3	66.7	64.2	53.8	54.8	50.4	59.2	46.2	62.0	61.5
1979	66.3	66.6	64.2	54.5	55.6	50.7	59.6	47.1	62.5	62.3
1980	67.1	67.2	64.5	54.8	56.2	51.2	60.6	47.7	63.1	62.9
1981	67.6	67.5	64.8	55.3	57.1	51.9	*62.4	48.9	64.3	63.8
1982	69.2	69.4	65.8	56.0	*58.1	*52.8	*63.3	50.4	NA	64.9
1983	69.7	70.1	67.1	56.6	*59.0	*53.5	NA	NA	NA	65.4
1984	69.4	69.9	68.0	NA	NA	*53.8	NA	NA	NA	65.9

NA = NOT AVAILABLE.

* = PRELIMINARY.

(1) INCLUDING NORTHERN IRELAND.

(2) MEASURED IN MAN-YEARS.

(3) AGRICULTURE, FORESTRY, HUNTING, AND FISHING.

(4) FROM 1973 ONWARDS, JAPAN INCLUDES OKINAWA.

(5) MANUFACTURING, MINING, AND CONSTRUCTION.

(6) TRANSPORTATION, COMMUNICATION, PUBLIC UTILITIES, TRADE, FINANCE, PUBLIC ADMINISTRATION, PRIVATE HOUSEHOLD SERVICES, AND MISCELLANEOUS SERVICES.

NOTE: DATA HAVE NOT BEEN FULLY ADJUSTED FOR COMPARABILITY WITH U.S. DEFINITIONS. ALSO, SOME EMPLOYMENT COULD NOT BE DISTRIBUTED BY ECONOMIC SECTOR. BECAUSE OF ROUNDING, SUBTOTALS MAY NOT ADD TO TOTALS.

SUPPLEMENT TO TABLE 10. UNEMPLOYMENT RATES (CIVILIAN LABOR FORCE BASIS) BY AGE, 1980-84

AGE GROUP	UNITED STATES	CANADA	AUS-TRALIA	JAPAN	FRANCE (1)	GER-MANY (1)	GREAT BRITAIN (2)	ITALY	SWEDEN
1980									
ALL WORKING AGES	7.1	7.5	6.1	2.0	6.1	2.7	6.6	3.9	2.0
TEENAGERS (3)	17.8	16.2	17.1	4.2	25.9	3.5	15.7	18.4	7.7
20-24 YEARS	11.5	11.0	8.9	3.3	13.0	3.5	10.3	12.1	3.7
25 YEARS AND OVER	5.1	5.4	3.7	1.8	4.3	2.4	4.9	1.7	1.4
1981									
ALL WORKING AGES	7.6	7.5	5.8	2.2	7.0	3.6	10.1	4.3	2.5
TEENAGERS (3)	19.6	16.2	15.6	5.6	29.1	4.3	21.1	20.9	9.6
20-24 YEARS	12.3	11.2	8.2	3.7	15.1	5.1	15.9	13.0	4.9
25 YEARS AND OVER	5.4	5.6	3.7	2.0	5.0	3.3	7.9	1.9	1.8
1982									
ALL WORKING AGES	9.7	11.0	7.1	2.4	7.8	5.3	11.8	4.8	3.1
TEENAGERS (3)	23.2	21.9	18.5	5.6	31.3	6.9	24.1	23.7	10.9
20-24 YEARS	14.9	16.8	10.4	4.0	17.3	8.0	18.0	14.2	6.0
25 YEARS AND OVER	7.4	8.4	4.7	2.1	5.6	4.8	9.3	2.1	2.3
1983									
ALL WORKING AGES	9.6	11.9	9.9	2.7	8.0	(4)	11.6	5.3	3.5
TEENAGERS (3)	22.4	22.2	23.6	6.4	30.7	(4)	23.4	26.6	10.6
20-24 YEARS	14.5	18.5	14.6	4.1	18.8	(4)	18.2	15.6	7.0
25 YEARS AND OVER	7.5	9.4	6.9	2.4	5.8	(4)	9.1	2.5	2.6
1984									
ALL WORKING AGES	7.5	11.3	9.0	2.8	(4)	(4)	11.6	(4)	3.1
TEENAGERS (3)	18.9	20.0	22.3	6.9	(4)	(4)	22.8	(4)	5.0
20-24 YEARS	11.5	16.8	12.9	4.6	(4)	(4)	18.8	(4)	6.7
25 YEARS AND OVER	5.8	9.3	6.3	2.5	(4)	(4)	9.1	(4)	2.6

- (1) FRENCH DATA ARE FOR MARCH 1980, 1981, AND 1983 AND APRIL-MAY 1982 AND GERMAN DATA ARE FOR APRIL 1980 AND 1982 AND MAY 1981.
- (2) DATA NOT ADJUSTED TO U.S. CONCEPTS. FIGURES FOR 1983 ARE NOT COMPARABLE TO THE EARLIER FIGURES BECAUSE OF A CHANGE IN THE SYSTEM OF COUNTING THE UNEMPLOYED FROM REGISTRATIONS TO CLAIMANTS. THE 1983 FIGURES ARE SLIGHTLY UNDERSTATED FOR COMPARISON WITH EARLIER YEARS.
- (3) 16-TO 19-YEAR-OLDS IN THE UNITED STATES, FRANCE, GREAT BRITAIN, AND SWEDEN; 15-TO 19-YEAR-OLDS IN CANADA, AUSTRALIA, JAPAN, AND GERMANY; AND 14-TO 19-YEAR-OLDS IN ITALY.
- (4) NOT AVAILABLE.
- (5) PRELIMINARY ESTIMATE.

SUPPLEMENT TO TABLE 12. LABOR FORCE PARTICIPATION RATES (CIVILIAN LABOR FORCE BASIS) BY SEX, 1960-84

YEAR	UNITED STATES	CANADA	AUSTRALIA	JAPAN	FRANCE	GERMANY	GREAT BRITAIN	ITALY	NETHERLANDS	SWEDEN
BOTH SEXES										
1960	59.4	(1)56.2	(2)	67.9	60.9	60.0	62.3	55.8	(2)	66.7
1961	59.3	(1)56.2	(2)	67.8	60.2	59.9	62.5	55.5	(2)	66.8
1962	58.8	(1)56.0	(2)	66.9	59.1	59.6	62.4	54.5	(2)	66.4
1963	58.7	(1)55.9	(2)	65.7	58.1	59.4	62.5	53.0	(2)	65.3
1964	58.7	(1)56.2	59.4	64.8	58.3	59.0	62.4	52.3	(2)	64.5
1965	58.9	(1)56.5	59.9	64.5	57.6	58.7	62.5	51.2	(2)	64.1
1966	59.2	57.3	60.6	64.6	57.8	58.2	62.5	49.8	(2)	64.2
1967	59.6	57.6	61.2	64.8	57.5	57.0	62.1	50.0	(2)	63.3
1968	59.6	57.6	61.2	64.9	57.6	56.9	61.8	49.5	(2)	63.8
1969	60.1	57.9	61.4	64.6	58.1	57.0	61.5	49.1	(2)	63.8
1970	60.4	57.8	62.1	64.5	57.5	56.9	61.2	48.8	(2)	64.0
1971	60.2	58.1	62.2	64.2	57.3	56.6	60.9	48.5	(2)	64.2
1972	60.4	58.6	62.3	63.8	57.1	55.9	61.3	47.5	(2)	64.2
1973	60.8	59.7	62.6	64.0	57.2	55.8	62.9	47.4	(3)49.8	64.1
1974	61.2	60.5	63.0	63.0	57.1	55.1	62.7	47.5	(2)	64.9
1975	61.2	61.1	63.2	62.4	56.7	54.4	63.1	47.5	(3)49.7	65.9
1976	61.6	61.1	62.7	62.4	56.9	53.8	63.2	47.8	(2)	66.0
1977	62.3	61.6	62.7	62.5	57.0	53.4	63.2	48.0	(3)49.4	65.9
1978	63.2	62.7	62.0	62.8	57.1	53.3	63.3	47.7	(2)	66.1
1979	63.7	63.4	61.7	62.7	57.0	53.3	63.2	47.8	(3)49.8	66.6
1980	63.8	64.1	62.2	62.6	56.7	53.2	63.2	48.0	(2)	67.0
1981	63.9	64.8	62.0	62.6	56.5	52.9	62.2	48.0	(3)51.5	66.8
1982	64.0	64.1	61.8	62.7	56.7	52.5	(4)61.9	47.4	(2)	66.8
1983	64.0	64.4	61.5	63.1	56.1	52.8	(4)62.2	47.2	(3)52.4	(4)66.9
1984	64.4	64.8	(4)61.5	62.7	(4)56.3	(4)53.1	(4)62.7	(4)47.5	(2)	(4)67.0

CONTINUED ON THE FOLLOWING PAGE.

SUPPLEMENT TO TABLE 12. LABOR FORCE PARTICIPATION RATES (CIVILIAN LABOR FORCE BASIS) BY SEX,
1960-84--CONTINUED

YEAR	UNITED STATES	CANADA	AUSTRALIA	JAPAN	FRANCE	GERMANY	GREAT BRITAIN	ITALY	NETHERLANDS	SWEDEN
MALE										
1960	83.3	(1)82.8	(2)	84.2	(5)85.1	82.7	88.1	82.0	(2)	(2)
1961	82.9	(1)81.8	(2)	84.3	(2)	82.7	87.6	81.5	(2)	87.1
1962	82.0	(1)81.1	(2)	83.6	(5)84.6	82.2	86.9	80.4	(2)	85.4
1963	81.4	(1)80.5	(2)	82.5	(5)84.3	81.8	86.9	79.1	(2)	83.7
1964	81.0	(1)80.1	85.3	81.5	(5)83.2	81.4	86.0	78.5	(2)	83.0
1965	80.7	(1)79.9	85.1	81.1	(5)82.4	80.8	85.5	77.3	(2)	82.2
1966	80.4	79.8	85.4	81.1	(5)82.1	80.5	85.0	75.7	(2)	81.6
1967	80.4	79.3	84.9	81.0	(5)80.6	79.3	84.9	75.9	(2)	80.4
1968	80.1	78.6	84.5	81.7	(5)79.0	79.0	83.9	74.9	(2)	80.1
1969	79.8	78.3	84.2	81.5	(5)78.3	79.0	83.2	74.2	(2)	79.1
1970	79.7	77.8	84.1	81.5	78.3	78.7	82.3	73.5	(2)	78.5
1971	79.1	77.3	83.8	81.9	78.0	77.8	81.5	73.2	(2)	78.0
1972	79.0	77.5	83.6	81.9	77.0	76.1	81.4	71.8	(2)	77.3
1973	78.8	78.2	83.2	81.9	76.5	75.3	82.8	71.0	(3)73.9	76.8
1974	78.7	78.7	82.7	81.6	75.8	74.1	81.3	70.8	(2)	76.7
1975	77.9	78.4	82.2	81.2	74.4	73.1	81.4	70.4	(3)73.1	77.0
1976	77.5	77.6	81.5	81.0	74.4	72.1	81.3	70.2	(2)	76.5
1977	77.7	77.7	81.0	80.4	74.0	71.6	80.8	69.2	(3)71.8	75.6
1978	77.9	78.1	79.8	80.1	73.8	71.3	80.3	68.5	(2)	75.1
1979	77.8	78.5	79.5	79.9	73.0	71.1	79.7	68.1	(3)70.4	75.1
1980	77.4	78.4	79.2	79.6	72.4	70.4	79.5	67.7	(2)	74.9
1981	77.0	78.4	78.9	79.6	71.8	69.6	78.6	67.5	(3)70.0	73.9
1982	76.6	77.0	78.4	79.3	71.3	68.8	(4)77.7	66.6	(2)	73.5
1983	76.4	76.7	77.7	79.2	69.5	68.8	(4)77.0	65.9	(3)69.8	(4)73.1
1984	76.4	76.6	(4)77.3	78.5	(2)	(2)	(2)	(2)	(2)	(4)72.7

CONTINUED ON THE FOLLOWING PAGE.

SUPPLEMENT TO TABLE 12. LABOR FORCE PARTICIPATION RATES (CIVILIAN LABOR FORCE BASIS) BY SEX,
1960-84--CONTINUED

YEAR	UNITED STATES	CANADA	AUSTRALIA	JAPAN	FRANCE	GERMANY	GREAT BRITAIN	ITALY	NETHERLANDS	SWEDEN
FEMALE										
1960	37.7	(1)30.1	(2)	52.7	(5)40.5	41.2	39.8	32.2	(2)	(2)
1961	38.1	(1)31.0	(2)	52.4	(2)	41.0	40.3	32.3	(2)	46.1
1962	37.9	(1)31.3	(2)	51.3	(5)40.2	40.7	40.6	31.4	(2)	47.1
1963	38.3	(1)31.9	(2)	50.0	(5)38.4	40.7	40.9	29.6	(2)	47.5
1964	38.7	(1)32.9	33.8	49.3	(5)39.0	40.3	41.3	28.6	(2)	46.8
1965	39.3	(1)33.8	34.8	48.8	(5)38.2	40.0	41.8	27.6	(2)	46.6
1966	40.3	35.4	36.3	49.2	(5)38.9	39.4	42.2	26.3	(2)	47.3
1967	41.1	36.5	37.8	49.6	(5)38.4	38.4	42.1	26.4	(2)	46.8
1968	41.6	37.1	38.3	49.2	(5)38.7	38.5	42.0	26.3	(2)	48.0
1969	42.7	38.0	39.0	48.8	(5)38.8	38.5	42.1	26.4	(2)	48.8
1970	43.3	38.3	40.4	49.3	39.0	38.4	42.3	26.2	(2)	50.0
1971	43.4	39.4	41.0	47.7	38.8	38.5	42.4	26.1	(2)	50.9
1972	43.9	40.2	41.2	46.8	39.3	38.6	43.2	25.4	(2)	51.5
1973	44.7	41.9	42.4	47.3	39.8	38.9	45.0	25.9	(3)26.4	51.7
1974	45.7	43.0	43.5	45.7	40.3	38.8	46.1	26.3	(2)	53.3
1975	46.3	44.4	44.5	44.8	40.8	38.4	46.6	26.6	(3)26.9	55.2
1976	47.3	45.2	44.3	44.8	41.1	38.2	46.9	27.5	(2)	55.8
1977	48.4	46.0	44.8	45.7	41.8	37.8	47.4	28.6	(3)27.6	56.7
1978	50.0	47.9	44.5	46.4	42.1	37.8	48.0	28.6	(2)	57.5
1979	50.9	49.0	44.3	46.6	42.6	37.9	48.2	29.2	(3)29.1	58.5
1980	51.5	50.4	45.5	46.6	42.6	38.2	48.3	29.9	(2)	59.3
1981	52.1	51.7	45.5	46.7	42.8	38.3	47.8	30.1	(3)32.9	60.1
1982	52.6	51.7	45.4	47.0	43.5	38.4	(4)47.5	30.0	(2)	60.5
1983	52.9	52.6	45.5	48.0	44.0	38.8	(4)47.8	30.1	(3)34.8	(4)61.0
1984	53.6	53.5	(4)46.2	47.8	(2)	(2)	(2)	(2)	(2)	(4)61.5

CONTINUED ON THE FOLLOWING PAGE.

SUPPLEMENT TO TABLE 12. LABOR FORCE PARTICIPATION RATES (CIVILIAN LABOR FORCE BASIS) BY SEX,
1960-84--CONTINUED

- (1) ESTIMATES BY BLS BASED ON NEW SURVEY DEFINITIONS. STATISTICS CANADA REVISED THE DATA FOR 1966 ONWARD ON THE NEW SURVEY BASIS.
- (2) NOT AVAILABLE.
- (3) DATA ARE FOR MARCH-MAY.
- (4) PRELIMINARY ESTIMATE.
- (5) BLS ESTIMATE.

NOTE: DATA RELATE TO THE CIVILIAN LABOR FORCE APPROXIMATING U.S. CONCEPTS AS A PERCENT OF THE CIVILIAN NONINSTITUTIONALIZED WORKING AGE POPULATION. WORKING AGE IS DEFINED AS 16-YEAR-OLDS AND OVER IN THE UNITED STATES, FRANCE, AND SWEDEN; 15-YEAR-OLDS AND OVER IN AUSTRALIA, CANADA, GERMANY, AND JAPAN; AND 14-YEAR-OLDS AND OVER IN ITALY. FOR GREAT BRITAIN, THE LOWER AGE LIMIT WAS RAISED FROM 15 TO 16 IN 1973. FOR THE NETHERLANDS, THE LOWER AGE LIMIT WAS RAISED FROM 14 TO 15 IN 1975. THE INSTITUTIONALIZED WORKING AGE POPULATION IS INCLUDED IN JAPAN AND GERMANY.

SUPPLEMENT TO TABLE 13. EMPLOYMENT-POPULATION RATIOS (CIVILIAN EMPLOYMENT BASIS) (1), 1960-84

YEAR	UNITED STATES	CANADA	AUSTRALIA	JAPAN	FRANCE	GERMANY	GREAT BRITAIN	ITALY	NETHERLANDS	SWEDEN
1960	56.1	(2)52.6	(3)	66.7	59.9	59.4	61.0	54.0	(3)	65.6
1961	55.4	(2)52.4	(3)	66.8	59.4	59.6	61.3	54.0	(3)	65.8
1962	55.5	(2)52.9	(3)	66.0	58.3	59.3	60.8	53.2	(3)	65.4
1963	55.4	(2)53.1	(3)	64.8	57.4	59.2	60.6	51.9	(3)	64.2
1964	55.7	(2)53.8	58.6	64.1	57.5	58.8	60.9	51.1	(3)	63.5
1965	56.2	(2)54.5	59.1	63.6	56.8	58.6	61.2	49.6	(3)	63.3
1966	56.9	55.4	59.6	63.7	56.8	58.0	61.1	48.1	(3)	63.2
1967	57.3	55.4	60.0	64.0	56.5	56.3	60.2	48.5	(3)	62.0
1968	57.5	55.0	60.0	64.1	56.2	56.2	59.9	47.9	(3)	62.4
1969	58.0	55.3	60.2	63.9	56.8	56.6	59.7	47.6	(3)	62.6
1970	57.4	54.5	61.1	63.8	56.1	56.6	59.4	47.4	(3)	63.1
1971	56.6	54.5	61.1	63.4	55.8	56.2	58.6	47.1	(3)	62.6
1972	57.0	54.9	60.6	62.9	55.5	55.5	58.7	45.9	(3)	62.4
1973	57.8	56.4	61.2	63.2	55.6	55.4	60.9	45.8	46.4	62.5
1974	57.8	57.3	61.3	62.2	55.5	54.2	60.8	46.2	46.4	63.6
1975	56.1	56.9	60.1	61.2	54.3	52.5	60.3	46.1	46.6	64.8
1976	56.8	56.7	59.7	61.1	54.3	52.0	59.5	46.1	46.5	64.9
1977	57.9	56.6	59.2	61.2	54.3	51.6	59.3	46.3	46.5	64.8
1978	59.3	57.5	58.1	61.3	54.1	51.5	59.4	45.9	46.3	64.6
1979	59.9	58.7	57.9	61.4	53.6	51.7	59.8	45.9	46.4	65.3
1980	59.2	59.3	58.4	61.3	53.1	51.6	58.9	46.1	46.9	65.6
1981	59.0	59.9	58.4	61.2	52.3	50.7	55.8	45.9	46.5	65.1
1982	57.8	57.0	57.3	61.2	51.9	49.4	(4)54.6	45.2	(4)45.4	64.7
1983	57.9	56.7	55.4	61.4	51.3	48.8	(4)54.2	44.7	(4)44.8	(4)64.6
1984	59.5	57.4	(4)56.0	61.0	(4)50.6	(4)48.9	(4)54.6	(4)44.8	(4)44.5	(4)64.9

- (1) CIVILIAN EMPLOYMENT APPROXIMATING U.S. CONCEPTS AS A PERCENT OF THE CIVILIAN NONINSTITUTIONAL WORKING AGE POPULATION. THE DATA RELATE TO PERSONS 16 AND OVER IN THE UNITED STATES, FRANCE, AND SWEDEN; 15 AND OVER IN CANADA, AUSTRALIA, JAPAN, AND GERMANY; AND 14 AND OVER IN ITALY. THE LOWER AGE LIMIT WAS RAISED FROM 15 TO 16 IN 1973 FOR GREAT BRITAIN AND FROM 14 TO 15 IN 1975 FOR THE NETHERLANDS. THE INSTITUTIONALIZED WORKING AGE POPULATION IS INCLUDED IN JAPAN AND GERMANY.
- (2) ESTIMATES BY BLS BASED ON NEW SURVEY DEFINITIONS. STATISTICS CANADA REVISED THE DATA FOR 1966 ONWARD ON THE NEW SURVEY BASIS.
- (3) NOT AVAILABLE.
- (4) PRELIMINARY ESTIMATE.

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