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in Seven Industrialized Countries -
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Changes in Inequality of Family Income in Seven Industrialized Countries —
Responses to Growing Earnings Inequality

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I. Introduction

It is now widely recognized that earnings inequality grew rapidly in the U.S. during the 1970's and 1980's.¹ The average earnings of educated workers pulled further apart from those of the less educated and young workers lost relatively to the prime-aged workers.² Not only did inequality increase between groups, but inequality also increased substantially within education and experience groups.³ This increase in within group inequality accounted for the majority of the increase in inequality. Furthermore, the trend to greater within group inequality was nearly universal across all groups, including groups such as professional prime-aged white males, who are often insulated from adverse changes in labor markets.

The increase in earnings inequality was accompanied by a substantial increase in the dispersion of family income in the United States.⁴ Changes in the distribution of other family member's earnings and other private income sources did not change sufficiently to offset the increase in inequality of earnings of heads of households. While the earnings of spouses were mildly equalizing, their impact did not offset the trends in male earnings inequality.⁵ Furthermore, government tax and transfer policies did little to offset the increase in earnings inequality. As a result of the retrenchment in government tax and transfer policy, government policy failed to change the underlying trend toward greater inequality.

¹See Levy and Murnane (1992) for a review of this literature.

²Murphy and Welch (1992b) document that the college premium for new entrants was 1.8 times greater in 1989 than in 1978.

³Moffitt (1990) finds that the standard error in a log earnings equation for white males increased from .843 in 1970 to 1.031 in 1987.

⁴See Danziger and Gottschalk (1992) and Blackburn and Bloom (1990).

⁵See Cancian, Danziger, and Gottschalk (1992)

Inequality of post-transfer income largely reflected the increase in earnings inequality, resulting in poverty rates that were substantially higher in 1987 than in 1973, in spite of substantial growth in mean income over the same period. Thus, changes in the family income distributions in the U.S. were largely driven by changes in the earnings inequality.

How did other countries fare during this period of growing inequality of earnings and family income in the U.S.? Gottschalk and Joyce (1992) show that while the increase in inequality of earnings in the U.S. was larger than in most other industrialized countries, it was by no means unique. Measured either by overall summary statistics, such as the coefficient of variation, or percentile points, inequality grew in Australia, Canada, France, the Netherlands, Sweden, and the U.K. Furthermore, the patterns of growing inequality both within and across groups was widespread. Most countries experienced an increase in the experience premium and an increase in inequality within groups.

Clearly there were powerful economic forces at work tending to increase inequality of labor market earnings. However, rising inequality in the earnings distribution need not translate into increases in inequality of family income. In fact, Hanratty and Blank (1992) show that in spite of similar increases in inequality of market income, Canada managed to supplement the incomes of low income families enough to keep poverty rates from rising.

In this paper we examine how several industrialized countries reacted to the changes in the distribution of market earnings. Did changes in the earnings of other family members mediate the effects of rising inequality of wage rates? Did increases in non-labor market incomes, including government transfers, soften the impact on low income families?

This paper builds on the foundation laid out in Gottschalk and Joyce (1992) by examining the links between the distribution of earnings of the head of household and the final distribution of post-transfer family income in several industrialized countries. We examine which countries had offsetting changes in the earnings of other family members or changes in the distribution of non-labor market income, which offset the changes in labor market earnings of heads.

The remainder of the paper is divided into three parts. The first section reviews the literature on inequality of earnings and family income in the U.S. and the emerging literature on international comparisons of inequality. Section III presents our results. The final section draws conclusions from the data presented.

II. Review of Literature

We start by reviewing the evidence on changes in the distribution of family income and individual earnings in the U.S. We then turn from the U.S. experience to the trends in other industrialized countries.

Studies of the Distribution of Family Income and Individual Earnings in the U.S.

The recent increase in inequality of family income in the U.S. is a departure from the post-war trend. In the most comprehensive review of long-run changes in income inequality, Williamson and Lindert (1980) place the post-World War II stability of inequality in the U.S. into historical perspective. After documenting the dramatic leveling of income differences between the Great Depression and the end of World War II (1929 to 1948) they conclude that

the leveling ceased by 1950. By almost any yardstick, inequality has changed little since the late 1940's. If there has been any trend, it is toward slightly more inequality in pre-fisc income and toward slightly less inequality in post-fisc income. This stability has been extraordinary even by twentieth century standards. (p.92)

However, just as Williamson and Lindert were going to press, the "extraordinary" stability in family income inequality was breaking down. While the Gini coefficient for family income had declined by .013 points over three decades, it jumped by .036 points in the next decade.⁶

Another way to view this increase in inequality is to compare families at different points in the distribution. Growth in mean family income in the U.S. was very rapid and widely shared between 1949 and 1969. The inflation-adjusted income of a family at the 20th percentile grew by 92 percent, while the income of a family at the 80th percentile grew by 82 percent. In contrast, mean income grew very little over the next two decades. Growth was substantial for families at the top of the distribution, while those at the bottom actually lost ground. In 1989, the real income of a family at the 20th percentile was 5 percent below the 1969 level, while that of a family at the 80th percentile was 19 percent higher.

Inequality of family income rose almost continually in the U.S. after 1975. While the sharp increase in inequality between 1979 and 1983 can be attributed to the recessions of the early 1980's, the continued increase during the ensuing recovery was counter to all expectations. As a result, the old conventional wisdom that "a rising tide lifts all boats" was rejected. The cyclical recovery simply did not help all families equally. Those at the bottom stagnated while those already at the top experienced above average increases in family income.

⁶The summary statistics on family income in the U.S. is from the "Editor's Introduction" in Danziger and Gottschalk (1992).

Why did the family income distribution become increasingly unequal? Since labor market income accounts for about 70 percent of family income, changes in the distribution of earnings is potentially a key factor in explaining changes in the distribution of family income. Recent studies of earnings inequality in the U.S. find that wage growth varied dramatically between the upper, middle, and lower tails of the distribution.⁷ Since 1975, the real wages of males at the 90th and 75th percentiles increased ten percent faster than the median. In contrast, the real wages for the 25th and 10th percentiles declined sharply relative to the median.⁸ The increase in inequality in both weekly and hourly wage series indicates that the increase in annual wage dispersion in the U.S. reflects primarily changes in the rate of pay, not changes in the distribution of annual hours worked.

Changes in the dispersion in the overall earnings distribution can be usefully decomposed into changes in between group inequality and within group inequality. The former usually focuses on increases in wage differentials between high school and college graduates and between new entrants and older workers. Within group inequality focuses on increased dispersion in the earnings distribution within education and experience groups.

Part of the observed change in the overall distribution of earnings reflects the large increase in the returns to education. During the 1980's, the returns to experience and

⁷Almost all studies reviewed by Levy and Murnane (1992) use the Current Population Survey (CPS) to examine the distribution of weekly or annual wages for males. In order to concentrate on changes in wages and not changes in hours worked, most of these studies select only persons working full-time and full-year. Since the large changes in labor force participation of women confound labor supply and wage effects, most studies focus on the distribution of earnings of males.

⁸Karoly (1992)

education increased dramatically in the U.S., especially for younger workers. This is in sharp contrast to the decline in the returns to education during the 1970's.

The result of these trends has been a dramatic decline in the relative position of young high school graduates. Juhn, Murphy, and Pierce (1989) illustrate this decline by noting that real wages for 10th percentile of young high school graduates were roughly 18 percent lower in 1987 than wages for the same group some 15 years earlier. The wages of the least skilled workers were rapidly falling away from the rest of the distribution.

In addition to the increased inequality between education and experience groups, studies find a striking increase in wage dispersion within groups defined in terms of education, age, industry, and other demographic characteristics. Persons in the upper percentiles experienced significant growth in real wages while those in the lower part of the conditional distribution experienced slight growth or, in most cases, declines in real wages. In fact, Murphy and Welch (1992) find that the majority of the change in dispersion occurred within groups. They conclude that "deindustrialization", as captured by industrial shifts out of manufacturing and into services, explains only a fraction of the change in inequality. Most of the change occurred within industries for persons of similar age and education. Gottschalk and Joyce (1992) find similar patterns in other industrialized countries.

Studies of the Distribution of Family Income and Earnings in Other Industrialized Countries

With the recent availability of cross country data, researchers are beginning to make cross-national comparisons of earnings and income inequality. Green, Coder, and Ryscavage (1990) examine earnings inequality in eight industrial countries. Their primary emphasis is on ranking the countries in terms of overall levels of inequality and

seeing how the ranking varies with different inequality measures. Several international studies provide pairwise comparisons with the United States. Freeman and Needles (1991) compare the rise in inequality in the United States and Canada; Borland (1992) compares Australia with the U.S.; Katz and Loveman (1990) compare the United States with the United Kingdom and France; while Katz and Revenga (1989) compare the United States and Japan. Country specific studies are also available for Australia (Saunders, Stott and Hobbes, 1991), Germany (Abraham and Houseman, 1992), Italy (Erickson and Ichino, 1992), Korea (Kim and Topel, 1992), and Sweden (Hibbs, 1990 and Edin and Holmlund, 1992).⁹ The broad picture that emerges from these studies is that the U.S. and U.K. led the increase in inequality. Australia, Canada, Japan, and to a lesser extent France and Sweden also experienced increases in inequality. The only European countries to escape the trend in inequality were Italy and Germany.¹⁰

These cross-national studies that have made pairwise comparisons with the United States use selection criteria and data definitions that are most appropriate for their specific cross-national comparisons. Gottschalk and Joyce (1992) follow a different approach by simultaneously comparing changes in earnings inequality in seven industrialized countries using a unique data source, the Luxembourg Income Study (LIS).¹¹ This data set, which we use in this study, was created specifically to try to minimize differences in data across a large number of countries. Table 1, taken from Gottschalk and Joyce, presents the earnings of persons at the 10th, 20th, 80th, and 90th percentile, all measured as log deviations from the earnings of the median person. For example, among full-time workers in the U.S. in 1979, the person at the fiftieth percentile earned 80.8 percent more than the person at the tenth percentile. By 1986 this had increased to 82.9 percent. At

⁹Blackburn and Bloom (1990a) compare changes in the distribution of income sources among married couples.

¹⁰In contrast, the limited information on less developed countries indicates that they experienced a decline in inequality.

¹¹Fritzell (1992) also uses the LIS data to compare five countries.

the upper end of the distribution, the earnings of a person at the 90th percentile increased from 53.9 percent more than the median to 69.3 percent more.

While there are quantitative differences across countries, Table 1 shows a qualitatively similar pattern across countries.¹² The rise in inequality was the result of both an increase in the earnings of those at the top of the distribution and a decline for those at the bottom— all countries except the Netherlands experienced an increase in the relative earnings of those at the 80th and 90th percentiles. This indicates that the changes in inequality of earnings reflect more than a decline in earnings at the lower end of the distribution. Not only was there a pulling apart of the distribution, the change in earnings was positively related to decile rank— with few exceptions the lower the decile, the larger the decline in earnings (or the smaller the growth).

III Changes in Income Sources in Seven Industrialized Countries

In this section we describe the data set and present our methodology.

Data

We use LIS data on Australia, Canada, France, Netherlands, Sweden, United Kingdom, and the United States¹³. The LIS data is a collection of micro data sets obtained from annual income surveys in various countries.¹⁴ The different surveys are similar in form to the Current Population Survey for the United States and the Survey of Consumer Finances for Canada¹⁵. The advantage of these data is that extensive effort has been

¹²If the U.S. is different, it is not in the pattern but in the magnitude of the increase in earnings of those at the top of the distribution. The 90th percentile (relative to the median) grew by 2.20 percent per year in the US. In contrast, the next largest increase (in the U.K.) is only .91 percent per year and the smallest increase (in Australia) is only .25 percent.

¹³The German data in LIS were not used because the two years of data were obtained from two different surveys, the German Transfer Survey and the German Panel Survey. All other countries had data from the same surveys in the two years.

¹⁴The data is stored in Luxembourg under the sponsorship of the Luxembourg government. See Smeeding (1986) for a detailed description of the data source and methods for accessing the data.

¹⁵Appendix A lists the surveys used in each country

made by country specialists to make the information on income and household characteristics as comparable as possible across countries. There are, however, costs as well as benefits to using LIS. We are forced to use the lowest common denominator to impose consistency. For example, transfer income and private non-labor income cannot be consistently disaggregated since the level of aggregation differs across data sets.

Since we are interested in changes in inequality, we are restricted to the countries with two years of data in LIS. Although the years used were dictated by the years covered for each country in LIS, they represent a roughly similar time period— the first wave of data for each country is from the early 1980's and the second wave is from the mid or late 1980's. For all countries other than Sweden and the Netherlands unemployment rates were higher in the second year than the first year¹⁶.

Methodology

Our general approach is to start from our best measure of changes in the wage distribution as captured by changes in the distribution of earnings of prime age male heads of households who are fully employed. We then move incrementally to the distribution of total family income, adjusted for needs. In essence, we show how adding other male and female heads, adjusting for family size, and adding additional sources of income alters the income distribution. Our primary focus is in contrasting the distribution of labor market incomes with the final distribution of family income.

Our measure of earnings is real annual gross wages and salaries.¹⁷ Since this measure includes the effects of hours as well as wages we start by focusing on male heads who report working full-time, a group for which changes in earnings reflect primarily changes

¹⁶Appendix B provides the country specific unemployment rates between 1975 and 1989.

¹⁷Current dollar values have been inflated to 1988 prices (each in their own currency) using the implicit price deflators from the OECD National Product Accounts.

in the distribution of wage rates and not hours. In order to focus on a group we initially limit our sample to male heads of households between the ages of 25 and 55¹⁸. Where possible we also screen on the full-time variable in LIS.¹⁹ Since no full-time variable is available for France or Canada, we contrast their experiences with comparable data from the U.S. Finally, in order to initially focus solely on labor market income we exclude male heads of households that report any self-employment income.

This initial sample of male heads with a strong attachment to the labor market is designed to capture changes in the distribution of wage rates. It, however, excludes other non-aged male heads and all female heads whose earnings distribution may have changed due to changes in the distribution of hours as well as wages. The next step is, therefore, to include these other male heads and all female heads. This introduces the effects of changes in hours and changes in the gender composition of heads.

Since changes in the distribution of heads earnings may have been offset (or reinforced) by changes in family size we take account of differences in family needs by dividing the earnings of heads by the OECD needs standard²⁰. This yields the distribution of earnings of heads per equivalent units. We then add the earnings of other family members to see the effect of change in other earners labor market outcomes on the distribution of family income. From here we add private non-labor income to see how changes in the distribution of these sources of income change the distribution of total family income. Finally, we measure the change in the distribution when public transfers are added.²¹

United States

¹⁸Studies using the CPS data have found similar patterns of earnings inequality using heads or individuals.

¹⁹The Australian and Netherlands data is for full-time last week rather than for the reference year.

²⁰The OECD needs standard adds .5 for each child and .7 for each adult beyond the head.

²¹Private non-labor income includes self-employment income, property income, alimony, and private pensions. Public transfers consist of social insurance and means tested public programs.

Table 2 presents the basic data on the distribution of earnings and earnings/needs for non-aged heads in the U.S.²² The first two columns show the distribution of the earnings of male heads. The first column shows data for our limited sample of male heads with strong labor force attachment. The data in column 2 adds all other non-aged male heads. These include persons who were not full-time workers, or were younger than 25, or received self-employment income. Column 3 presents data for female heads. Columns 2 and 3 are summarized in column 4, which shows the summary statistics for all non-elderly heads. Columns 5 to 8 replicate the samples in columns 1 to 4 but adjust earnings by family needs, as measured by the OECD equivalence scale. The rows in Table 2 show the percent of persons with zero earnings and the incomes of heads at the 10th, 20th, 80th and 90th percentiles, all measured as proportions of median incomes.

Table 3 shows the impact of additional sources of income used to supplement the heads earnings. Column 1 replicates column 8 of Table 2. It, therefore, shows the distribution of the earnings of heads of households, adjusted for family size. Column 2 adds the earnings of persons other than the head. These include the spouse and other persons in the family. Comparison of columns 1 and 2 therefore shows the impact of changes in the distribution of earnings of other workers in the household.

Column 3 further adds all other private sources of income, including dividends, rents, private non-labor market incomes and private transfers, such as alimony and private pensions. Finally, we include public transfers, including both social insurance and means tested programs. The resulting distribution of total family income is shown in column 4. Differences between columns 3 and 4, therefore, show the impact of changes in the distribution of public transfers.

²²Similar data for the other countries is available on request from the author.

Column 1 of Table 2 shows that the earnings of our selected sample of male heads at the 10th percentile fell (relative to the median) from .446 to .437 between 1979 and 1986, while the earnings of those at the 90th percentile rose from 1.714 to 2.000. As a result, the 90/10 ratio rose by .105 points per year, as shown in the bottom panel of Table 2. Similar increases in inequality are found in the 80/20 ratio. This increase in inequality is consistent with other studies that have found large increases in inequality of wage rates in the U.S. during this period.

Column 1 focuses only on fully-employed male heads in order to gauge the changes in the distribution of wage rates. Many families, however, are not headed by fully-employed male heads. Column 2 therefore adds all other male heads, and column 3 shows similar data for female heads. These data also show declines in the earnings of those at the 10th percentile and increases at the 90th percentile, all measured relative to the median.

As a result of these changes, and changes in the gender composition of heads, the distribution of earnings of all heads, shown in column 4, increased somewhat less than the earnings of our selected sample of male heads when measured by the 90/10 ratio but by roughly the same amount when measured by the 80/20 ratio. Thus, the general conclusion that inequality of earnings grew in the U.S. during the 1980's is generally applicable to all heads in the U.S.

Since we are ultimately interested in changes in the distribution of family income adjusted for family needs, it is necessary to take into account changes in family size. Columns 5 through 8 therefore show the changes in the distribution of heads earnings divided by the family needs standard.

Adjusting for family needs has relatively little impact on the distribution of equivalent income for male-headed households, but has a substantial impact on female-headed households. The resulting change in the distribution of equivalent earnings for all heads is shown in column 8 of Table 2 (and column 1 of Table 3). As a result of substantial increases in the earnings/needs ratio at the 90th percentile and a shift toward female headed households, column 8 shows roughly twice as large an increase in inequality of earnings adjusted for needs than for unadjusted earnings of heads.

We next turn to the impact of adding other income sources to the heads earnings. Comparing columns 1 and 2 of Table 3 shows that the impact of adding the earnings of wives and other family members is somewhat equalizing. This is consistent with the findings in Cancian, Danziger, and Gottschalk (1992). What is particularly important for our focus on changes in the distribution of income is the fact that inequality rose less when these other sources of income are included. The 90/10 differential went up by .168 instead of .215, and the 80/20 differential went up by .045 instead of .081 when earnings is expanded to include the earnings of non-heads. Therefore, in the U.S., the earnings of other family members tended to counteract the increase in inequality of heads' earnings.

Other sources of private income, however, partially offset this equalizing factor. Comparing columns 2 and 3 of Table 3 shows that the change in the 90/10 differential increases from .168 to .198 when these other sources of private income are added.

Finally, turning to the impact of public transfers shows that changes in government transfers further increased inequality. As a result of some cutbacks in programs for the poor and expansion in some programs that also assist high income people, such as social security, the change in the 90/10 differential rose from .198 in column 3 to .246 in column 4.

Figure 1b shows these changes by graphing the 90/10 differential for the three earnings concepts shown in Table 3. As we have seen, inequality increased by all three measures. While inequality in the distribution of total earnings rose less than inequality of the earnings of the head, this was more than offset by increased inequality of non-labor market incomes, leaving the increase in total family income inequality slightly larger than the rise in inequality of heads' earnings. Thus, for the United States, the changes in the labor market ended up being largely reflected in changes in the distribution of total family income. Government transfers did little to counter the effects of changes in private markets.

Other Industrialized Countries

Table 1 showed that the seven industrialized countries used in this study also experienced increases in inequality of wage rates (as measured by the earnings of our selected sample of male heads). In this section we present data which shows that these increases in wage inequality were accompanied by very different changes in family income inequality in these countries.

The countries we study can be broken down into three broad groups. The first group, which includes the United Kingdom and Canada, experienced only slightly smaller increases in inequality of wage rates than that experienced in the United States. The second group, consisting of the Netherlands, France, and Australia, had increases in wage inequality roughly a third as large as in the United States. The final country, Sweden, experienced by far the smallest increase in inequality of earnings of full-time workers. We turn to each group in turn.

United Kingdom and Canada

Figures 2a and 2b replicate the bar graphs for the United States, shown in Figures 1a and 1b, and present the comparable graphs for the United Kingdom.²³ The first pair of bar graphs in Figure 2a illustrate that the increase in inequality of earnings of our selected male heads was roughly two-thirds as large in the U.K. as in the U.S. However, in the U.K. the increase in inequality of the earnings to needs ratio for all heads was roughly as large as the increase in inequality of earnings for the selected male heads. This is in sharp contrast to the United States which experienced a considerably larger increase in the inequality of heads earnings when all male and female heads are included. As a result, the increase in inequality of the earnings/needs ratios of all heads was substantially smaller in the U.K. than in the U.S.

Figure 2b shows the impact of adding other income sources. Two facts stand out from this figure. First, the earnings of other family members tended to increase inequality in the U.K. rather than decreasing inequality, as in the U.S. As a result, the distribution of total earnings rose roughly as much in the United Kingdom as in the United States. Second, inequality of private non-labor income rose sharply, leading to a substantially larger increase in inequality of pre-transfer in the U.K. than in the U.S. This was largely offset by changes in transfers with the result that the United States and the United Kingdom experienced roughly the same increases in inequality of total family income.

Thus, if one focuses only on the initial and final changes in earnings and income, the United Kingdom is a country which experienced changes similar to those in the United States. Labor market earnings of full-time workers increased substantially in both countries and total family income divided by needs rose even more. The major differences are that in the U.S. transfers had little impact on the change in inequality,

²³Since the LIS data for the United Kingdom includes information on full-time workers, we show the data for the earnings of selected male heads imposing the full-time cut for both the U.S. and the U.K.

while in the U.K. transfers offset a large increase in inequality arising from the change in the distribution of private non-labor income.

Canada offers a stark contrast. Figure 3a shows that while inequality of the earnings of selected male heads increased slightly less in Canada than the United States, the earnings to needs ratio of all heads increased more in Canada than in the U.S. Therefore, Canada started with an even greater increase in inequality as measured by the distribution of the earnings to needs ratios of all heads.

Figure 3b shows that each additional source of income tended to reduce inequality in Canada. Like in the U.S., the earnings of other family members tended to offset the increase in inequality of heads earnings. Non-labor market income, both public and private, substantially reduced the rise in inequality of total family income. This is consistent with both Hanratty and Blank's (1992) and Blackburn and Bloom's (1990) conclusion that government transfers in Canada rose sufficiently to offset the increase in inequality of pre-transfer income.

The Netherlands, France, and Australia

The next three countries we examine all experienced increases in wage inequality roughly a third as large as in the United States. As we will show in this section, not only did they experience lower increases in inequality, but the increase in inequality of total family income was even smaller than the already small increase in earnings inequality they experienced. Thus, the combination of changes in private and public sources of income managed to largely offset even the small rise in inequality of wage rates.

Like in the U.S., all three countries experienced larger increases in inequality of earnings to needs ratios of all heads than in the inequality of earnings of the selected male heads,

whose incomes reflect mostly changes in wage rates. However, all three countries still experienced increases in inequality roughly a third as large as the United States, even after including the earnings of all heads and dividing by the needs standards.

However, Figures 4b through 6b show that family income inequality increased even less than earnings inequality. In all three countries changes in the distribution of the earnings of other family members and the distribution of non-labor market incomes reduced the already small rise in inequality of heads earnings.

As a result of these changes, the 90/10 ratio of total family income divide by needs rose by only .031 in the Netherlands and by .011 in France. In Australia, the 90/10 ratio for total family income actually fell by .057 percent. In contrast, the 90/10 ratio in the United States increased by .222.

Sweden

Sweden had even smaller increases in inequality of earnings among selected males. This suggests that the distribution of wage rates in Sweden increased much less than in the other countries, especially compared to the United States. The top panel of Figure 7, however, shows that changes in the labor market incomes of other heads led to a rather sharp increase in inequality of earnings among all heads. This largely reflects a change in the distribution of part-time work.

Figure 7b shows that the increase in inequality among earnings of heads in Sweden was, in fact, larger than in the United States. Like in the United States, the earnings of other family members tended to reduce the rise in inequality, but Sweden still experienced a larger increase in inequality of total earnings than in the United States. However, after other private sources of income are included, the rise in inequality is smaller in Sweden

than in the United States. The inclusion of government transfers further offsets the increase of earnings, leading to an actual decline in inequality of family income to needs ratios.

Thus, once again changes in other sources of unearned income more than offset the rise in inequality. While the increase in inequality of earnings of heads was roughly the same as in the United States, other sources of income had more than offset the increase in inequality in Sweden, while these other sources had little effect in the U.S.

IV. Conclusions

This paper has used a unique data set which allows a comparison of income distributions across a wide variety of countries. These data show that while the rise in earnings inequality among full-time workers in the United States is larger than in other countries, it is by no means unique. Only Canada and the U.K. experienced comparable increases but all countries experienced some increase in inequality of our measure of wage rates.

The distribution of family income is, however, not solely determined by the distribution of the earnings of heads. Earnings of other family members and other sources of unearned income may mitigate changes in inequality of earnings among heads. The data in this paper has shown that while inequality of earnings of heads and inequality of total family income rose about equally in the U.S., this was not the case in most other countries. Only the U.K. followed the U.S. pattern. Most other countries managed to supplement the sources of income of those at the bottom in order to narrow the post-transfer distribution of family income.

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Appendix A

Household Surveys in the LIS Database

Country	Survey	Sample Size
United States	March Current Population Survey	1979-15,225 1986-13,707
Australia	The Income and Housing Survey	1981-15,985 1985-7,560
Canada	Survey of Consumer Finance	1981-15,136 1987-10,999
France	The Survey of Individual Income Tax Returns	1979-11044 1984-12693
Netherlands	The Survey of Income and Program Users	1983-4833 1987-4190
Sweden	The Swedish Income Distribution Survey	1981-9625 1987-9421
United Kingdom	The Family Expenditure Survey	1979-6888 1986-7178

Appendix B

Unemployment Rates by Country* 1975-1989

	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89
U.S.	8.5	7.7	7.1	6.0	<u>5.8</u>	7.1	7.6	9.7	9.6	7.5	7.2	<u>7.0</u>	6.2	5.5	5.3
Australia	4.4	4.6	5.6	6.3	6.2	6.1	<u>5.8</u>	7.2	10	9.0	<u>8.2</u>	8.1	8.1	7.2	6.4
Canada	6.9	7.1	8.1	8.4	7.5	7.5	<u>7.6</u>	11	11.9	11.3	10.5	9.6	<u>8.9</u>	7.8	7.5
France	4.0	4.4	5.1	5.5	<u>6.3</u>	6.8	7.4	8.2	8.5	<u>10</u>	10.2	10.4	10.5	10.0	9.4
Netherlands	5.0	5.1	5.9	9.0	12.6	<u>17.1</u>	17.2	15.7	14.7	<u>14</u>	6.4	5.7
Sweden	1.6	1.6	1.8	2.2	2.1	..	<u>2.5</u>	3.2	3.5	3.1	2.8	2.7	<u>1.9</u>	1.6	1.4
U.K.	3.9	5.3	5.8	5.7	<u>5.4</u>	8.8	10.6	9.8	10.7	11.1	11.3	<u>11.4</u>	10.1	8.1	6.3

Source: OECD Main Economic Indicators

*Underlined values are for LIS survey years.

TABLE 1

Log Percentile Differentials
Real Annual Wages and Salaries
Males 25-54

Full-time workers				
Australia	<u>10-50</u>	<u>20-50</u>	<u>80-50</u>	<u>90-50</u>
1981	-.477	-.287	.283	.446
1985	-.502	-.290	.302	.476
yearly Δ	-.0063	-.0008	.0048	.0075
Netherlands	<u>10-50</u>	<u>20-50</u>	<u>80-50</u>	<u>90-50</u>
1983	-.327	-.236	.320	.517
1987	-.351	-.233	.314	.549
yearly Δ	-.0060	.0008	-.0015	.0080
Sweden	<u>10-50</u>	<u>20-50</u>	<u>80-50</u>	<u>90-50</u>
1981	-.311	-.188	.240	.433
1987	-.324	-.196	.286	.460
yearly Δ	-.0022	-.0013	.0077	.0045
United Kingdom	<u>10-50</u>	<u>20-50</u>	<u>80-50</u>	<u>90-50</u>
1979	-.422	-.267	.301	.506
1986	-.521	-.337	.372	.581
yearly Δ	-.0141	-.0100	.0101	.0107
United States	<u>10-50</u>	<u>20-50</u>	<u>80-50</u>	<u>90-50</u>
1979	-.808	-.498	.356	.539
1986	-.829	-.511	.470	.693
yearly Δ	-.0030	-.0019	.0163	.0220
All Workers				
Canada	<u>10-50</u>	<u>20-50</u>	<u>80-50</u>	<u>90-50</u>
1981	-.864	-.445	.325	.497
1987	-1.04	-.511	.365	.530
yearly Δ	-.0293	-.0110	.0067	.0055
France	<u>10-50</u>	<u>20-50</u>	<u>80-50</u>	<u>90-50</u>
1979	-.484	-.306	.377	.636
1984	-.567	-.360	.382	.670
yearly Δ	-.0166	-.0108	.0010	.0068
United States	<u>10-50</u>	<u>20-50</u>	<u>80-50</u>	<u>90-50</u>
1979	-.893	-.529	.380	.563
1986	-1.038	-.613	.465	.734
yearly Δ	-.0290	-.0120	.0121	.0244

TABLE 2
Distribution of Head's Earnings
by Gender of Head

	Earnings/Needs							
	1	2	3	4	5	6	7	8
	Male Heads 25-54, Working Full Time, Not Self Employed	All Male Heads	All Female Heads	All	Male Heads 25-54, Working Full Time, Not Self Employed	All Male Heads	All Female Heads	All
US 1979								
Pct Zero	0.000	0.110	0.200	0.130	0.000	0.110	0.200	0.130
10/50th %	0.446	0.372	0.207	0.286	0.427	0.384	0.170	0.312
20/50th %	0.608	0.563	0.441	0.500	0.599	0.567	0.356	0.528
80/50th %	1.429	1.492	1.621	1.571	1.627	1.652	1.892	1.681
90/50th %	1.714	1.813	2.082	1.929	2.154	2.174	2.550	2.223
US 1986								
Pct Zero	0.000	0.130	0.220	0.150	0.000	0.130	0.220	0.150
10/50th %	0.437	0.334	0.183	0.296	0.386	0.326	0.182	0.287
20/50th %	0.600	0.522	0.423	0.495	0.574	0.523	0.386	0.488
80/50th %	1.600	1.601	1.769	1.721	1.763	1.788	2.072	1.832
90/50th %	2.000	2.022	2.183	2.140	2.400	2.447	2.726	2.475
Annual Abs								
Change in								
Pct Zero	0.000	0.003	0.003	0.003	0.000	0.003	0.003	0.003
90/10	0.105	0.169	0.263	0.069	0.167	0.262	0.000	0.215
80/20	0.045	0.059	0.073	0.048	0.051	0.072	0.006	0.081

TABLE 3
Distribution of Alternative
Income/Needs Measure

	1	2	3	4
	Earnings of Head	Total Earnings	Pre-Transfer Income	Post-Transfer Income
US 1979				
Pct Zero	0.130	0.080	0.040	0.010
10/50th %	0.312	0.278	0.326	0.325
20/50th %	0.528	0.495	0.530	0.522
80/50th %	1.681	1.658	1.652	1.653
90/50th %	2.223	2.115	2.106	2.102
US 1986				
Pct Zero	0.150	0.090	0.050	0.010
10/50th %	0.287	0.260	0.291	0.278
20/50th %	0.488	0.482	0.509	0.497
80/50th %	1.832	1.766	1.752	1.762
90/50th %	2.475	2.290	2.282	2.281
Annual Abs				
Change in				
Pct Zero	0.003	0.001	0.001	0.000
90/10	0.215	0.168	0.198	0.246
80/20	0.081	0.045	0.047	0.055

FIGURE 1

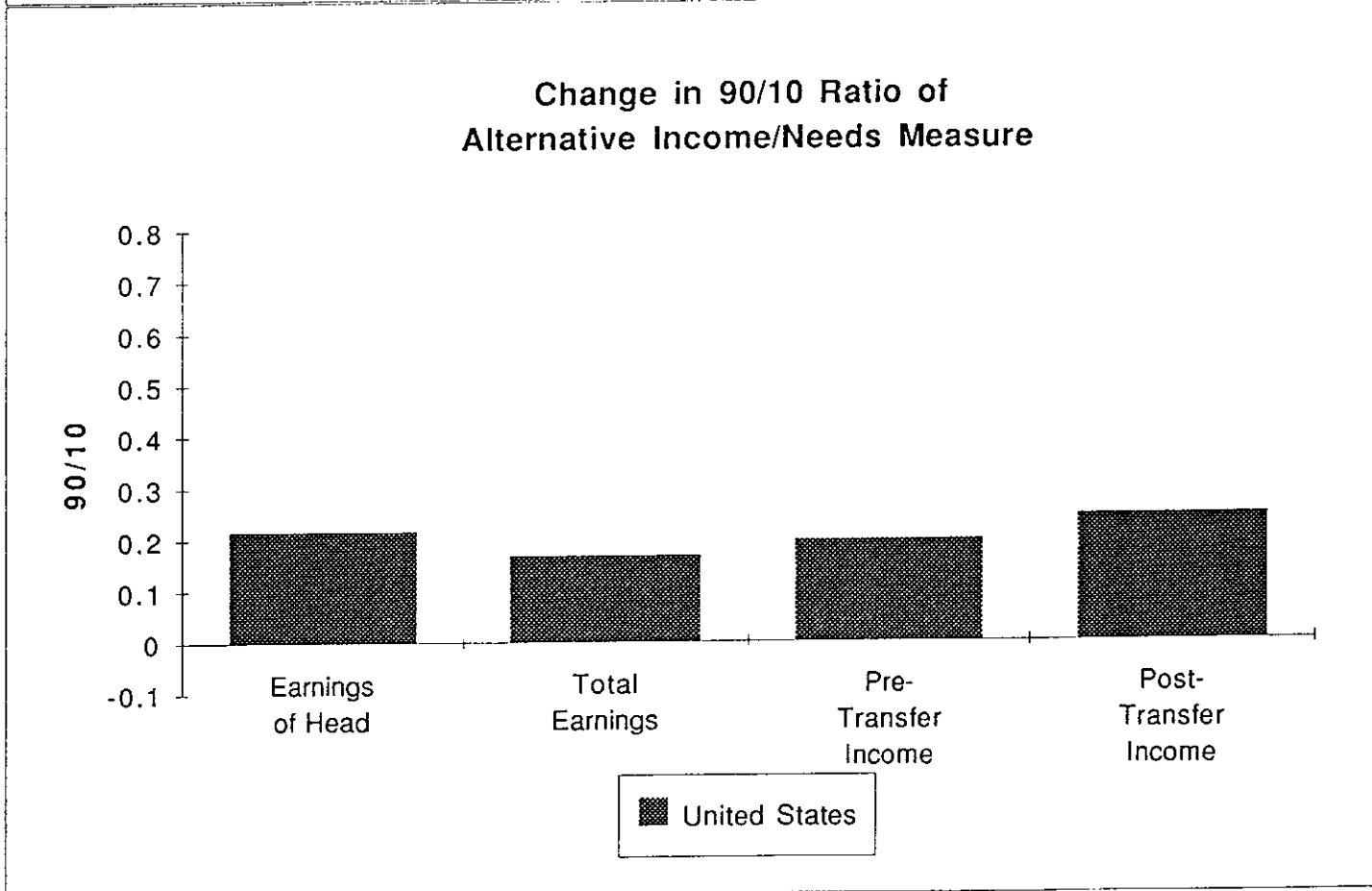
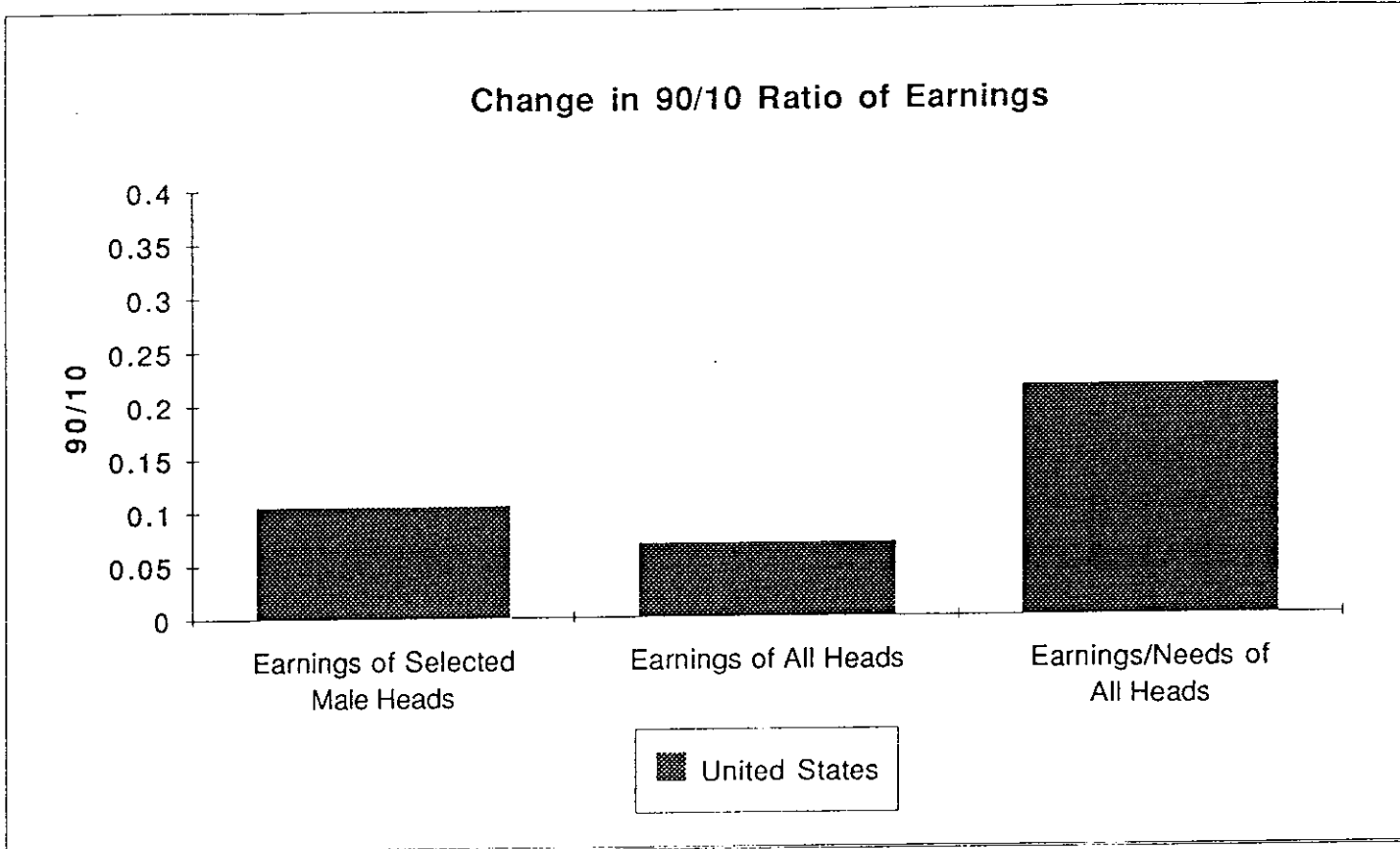


FIGURE 2

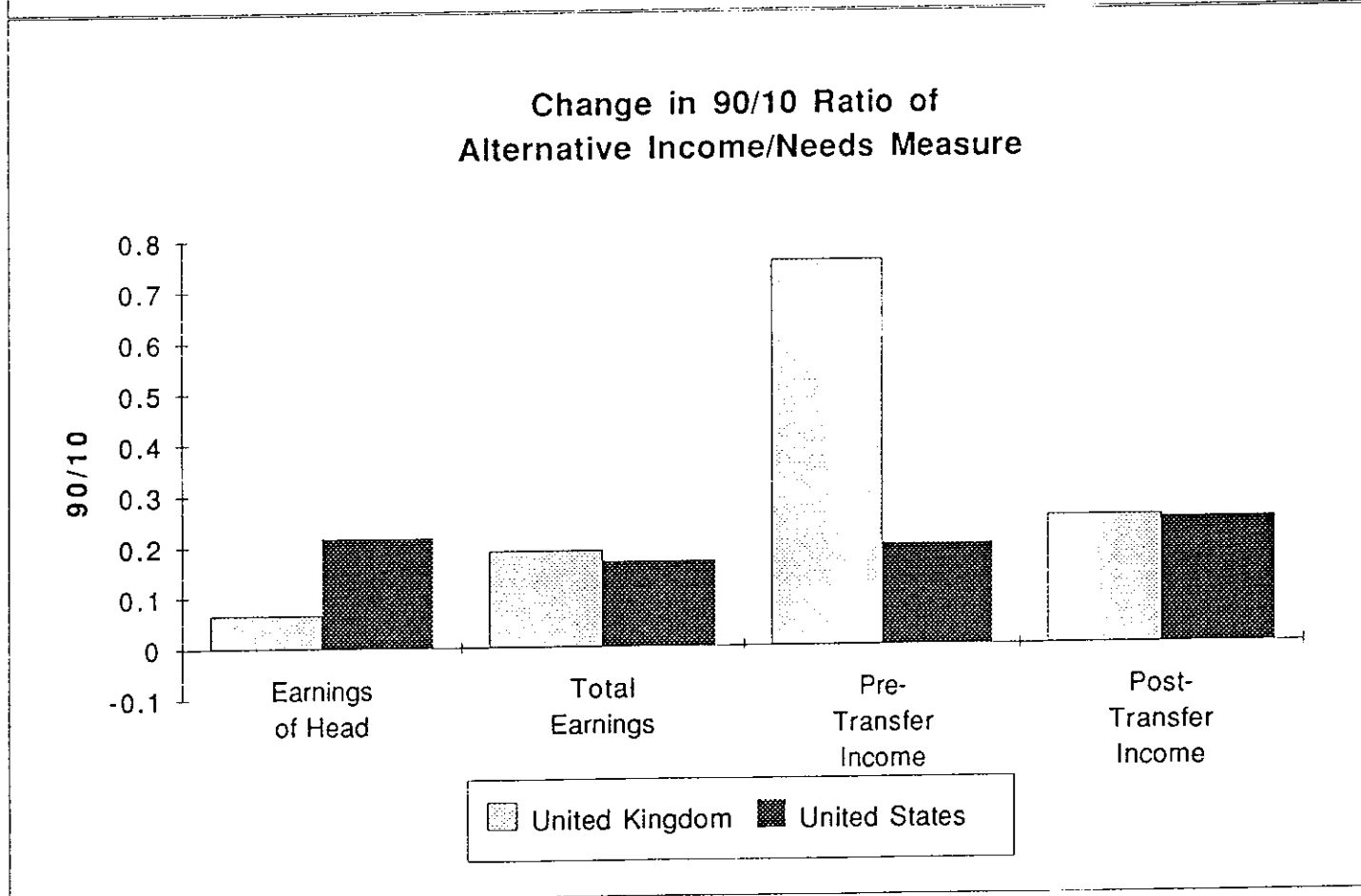
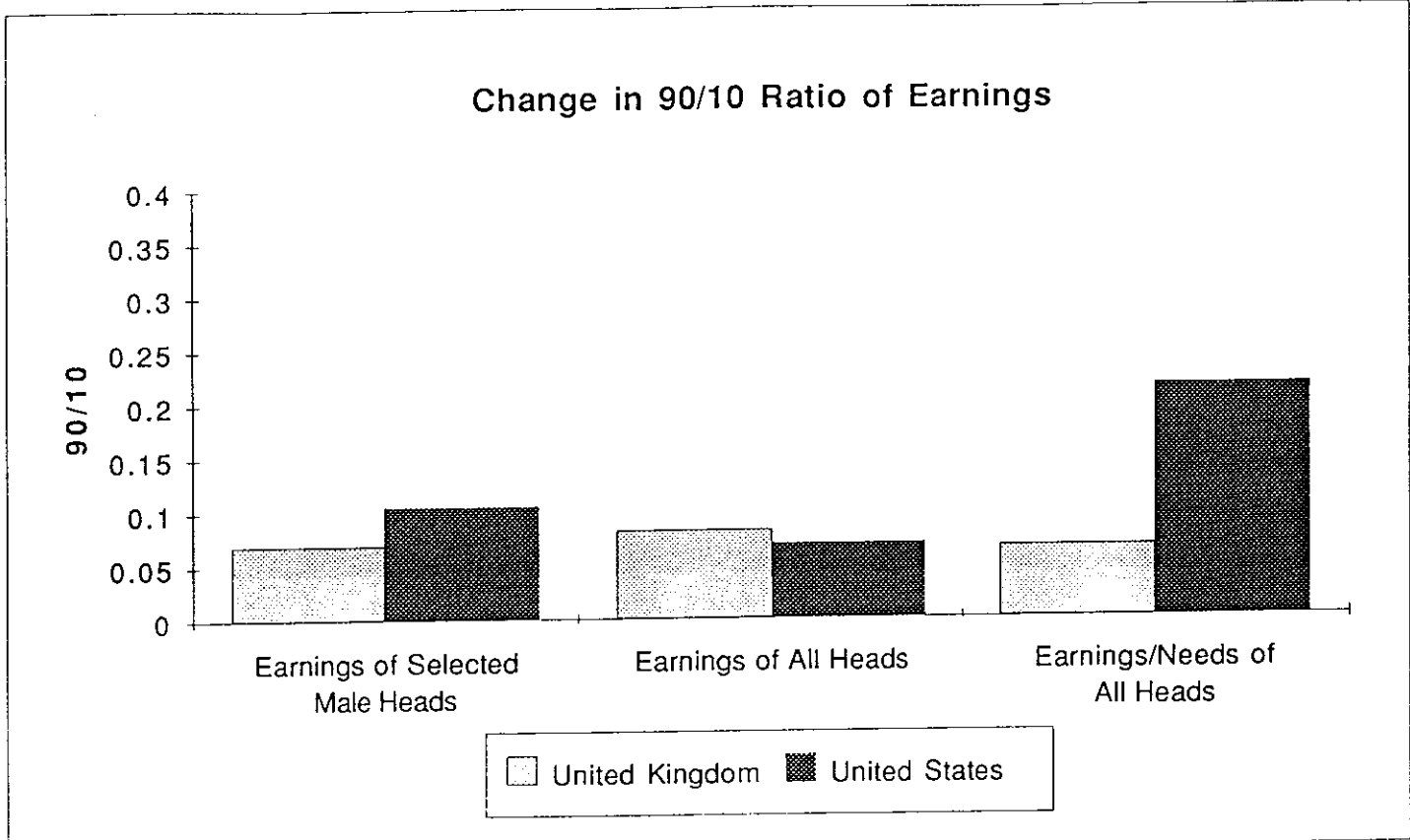


FIGURE 3

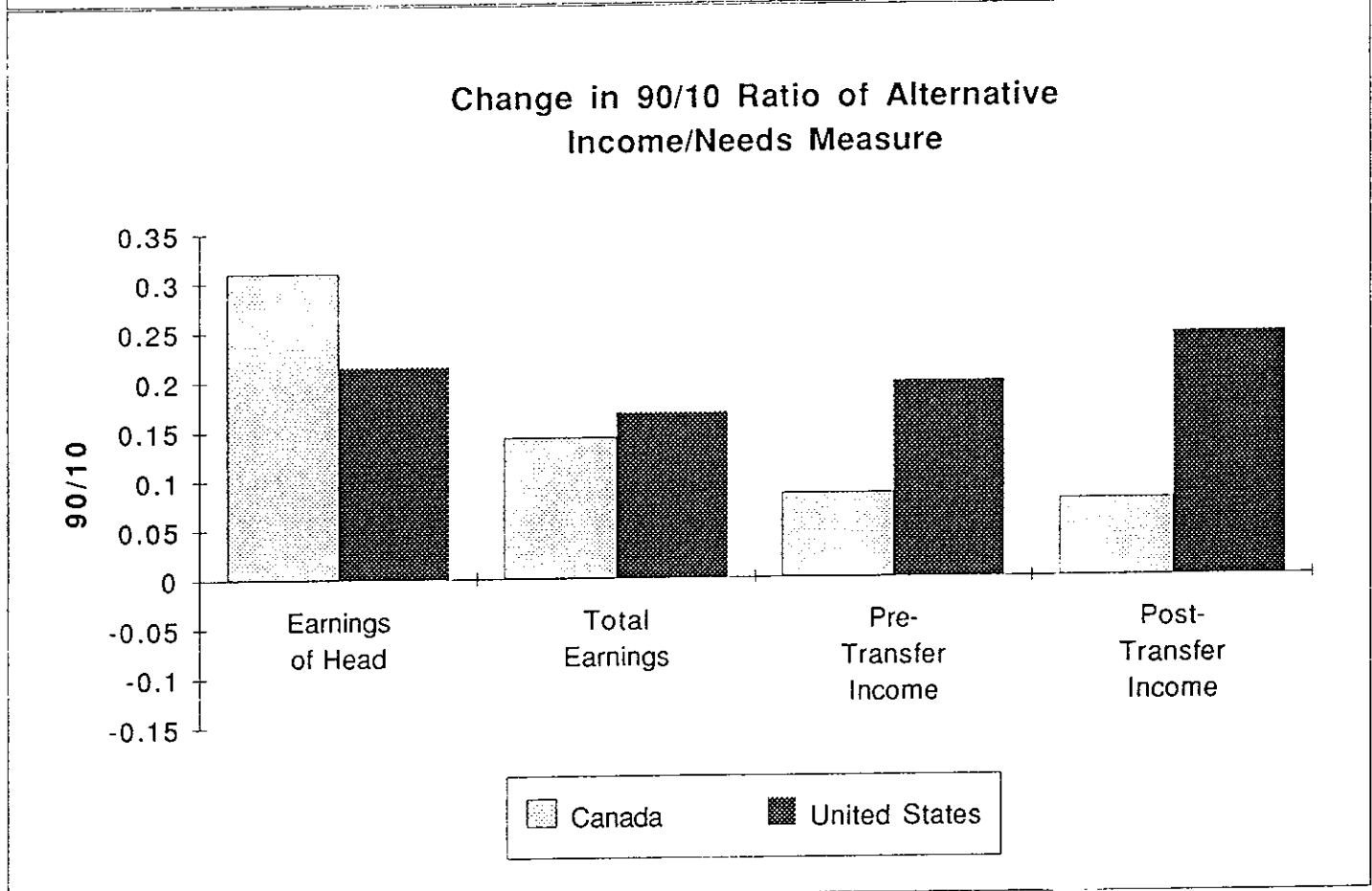
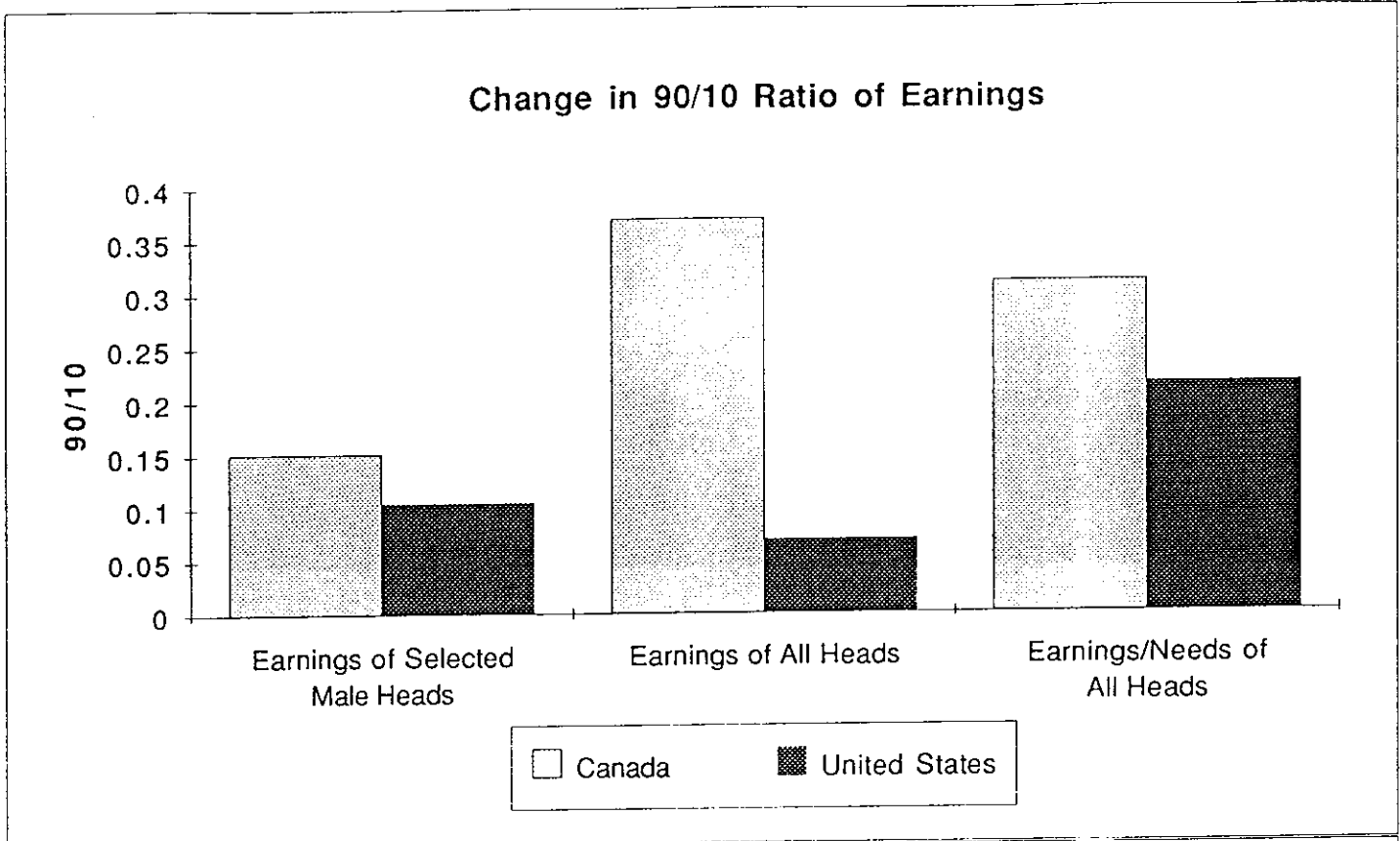


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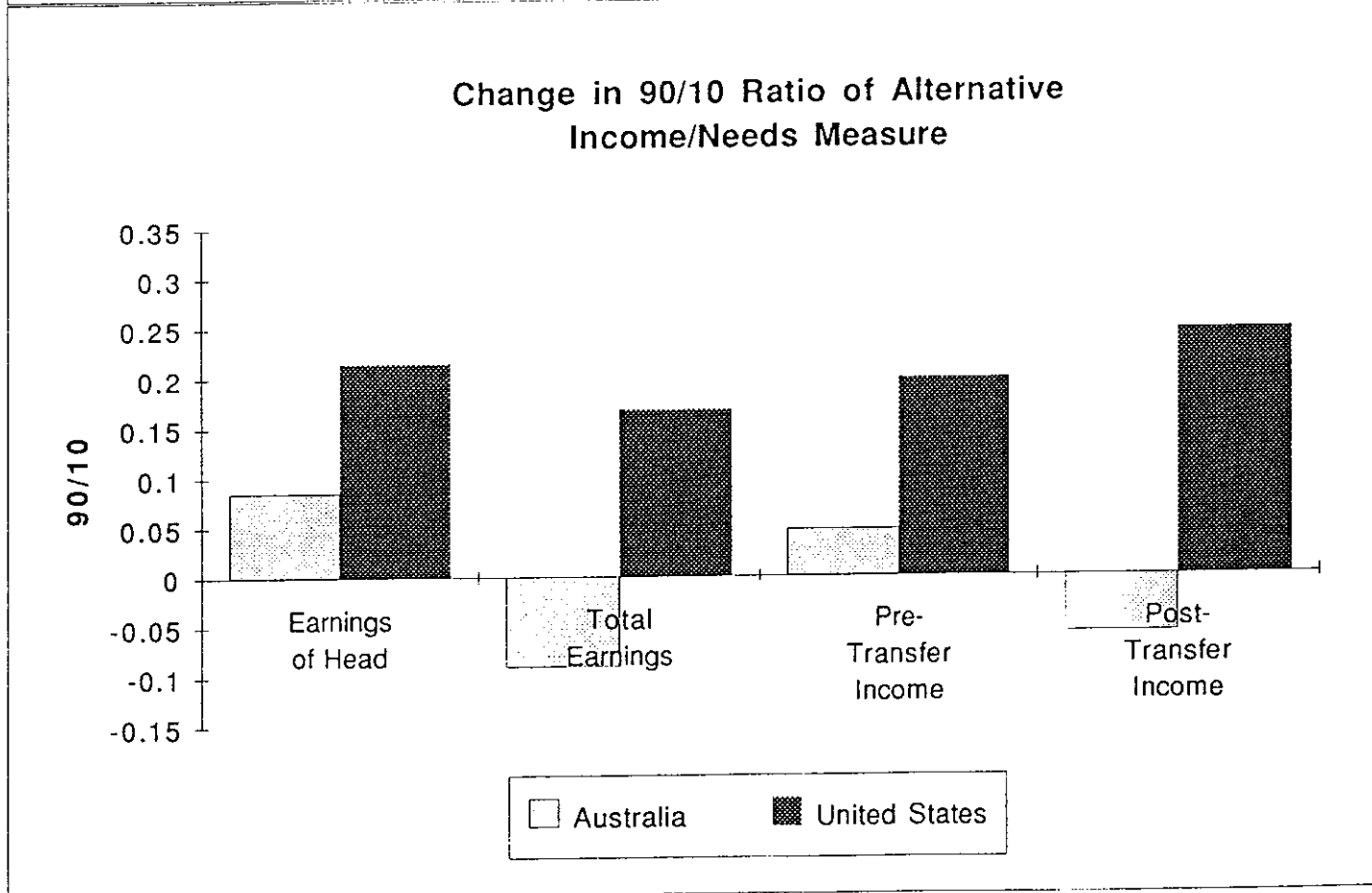
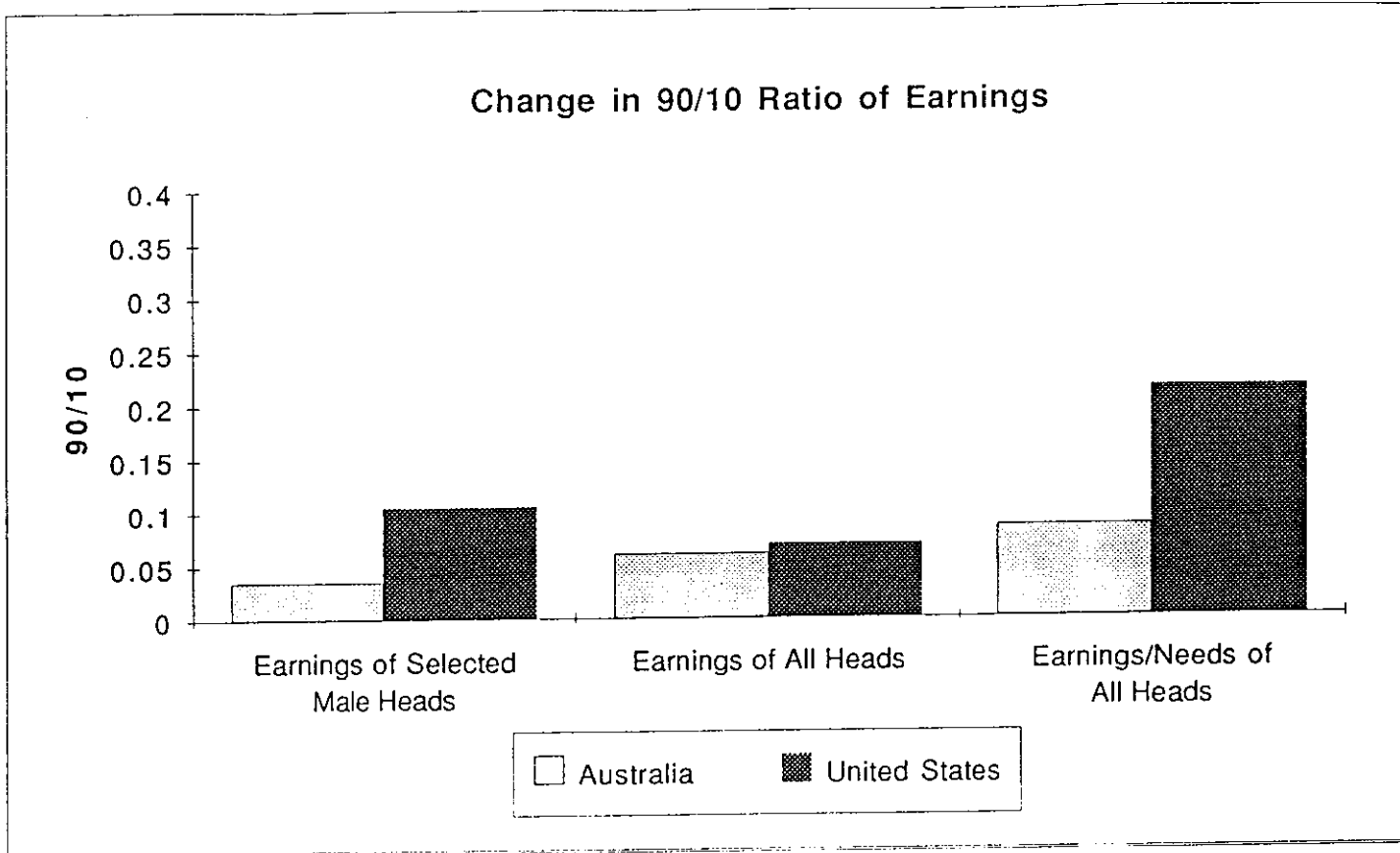


FIGURE 5

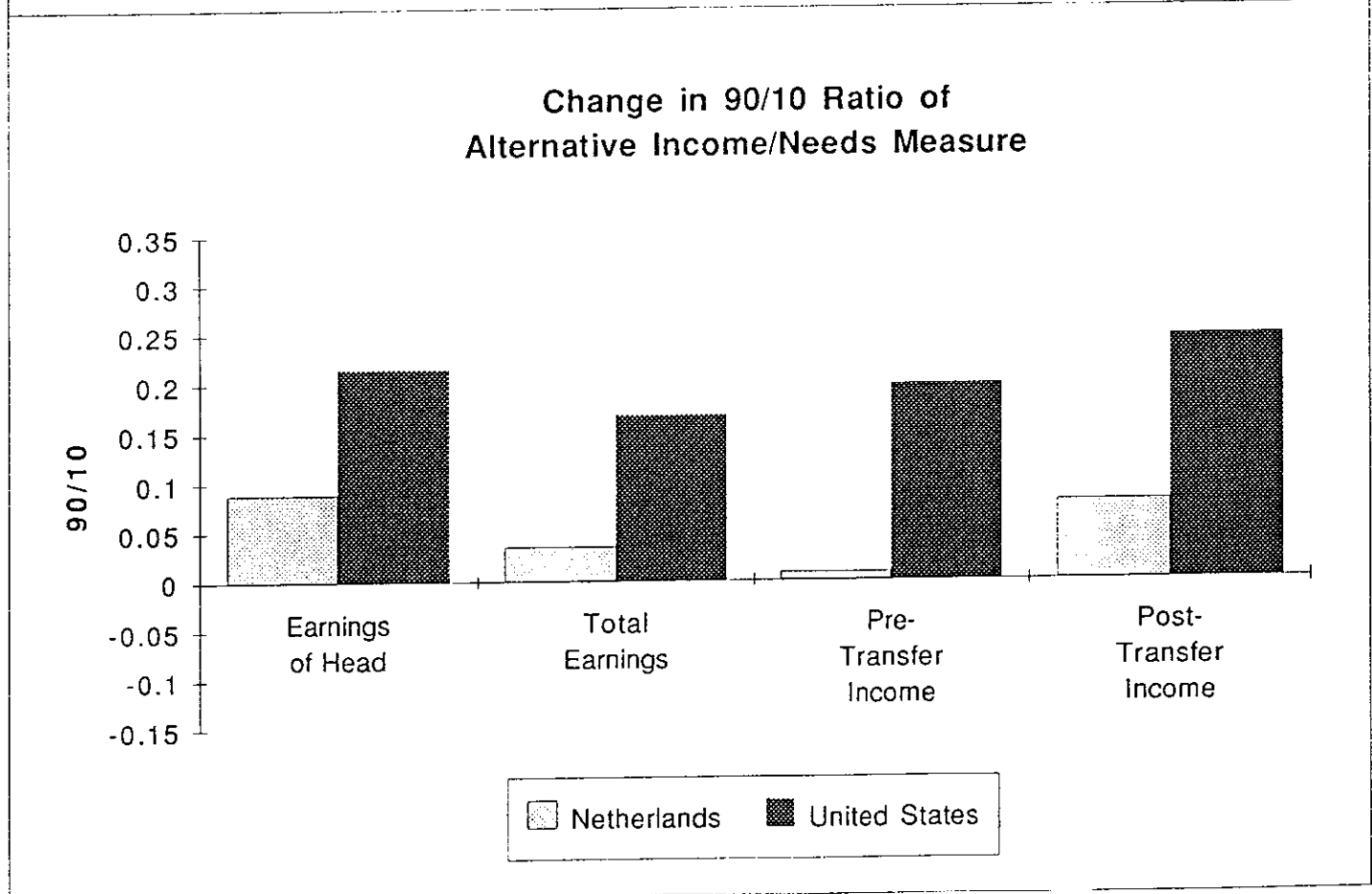
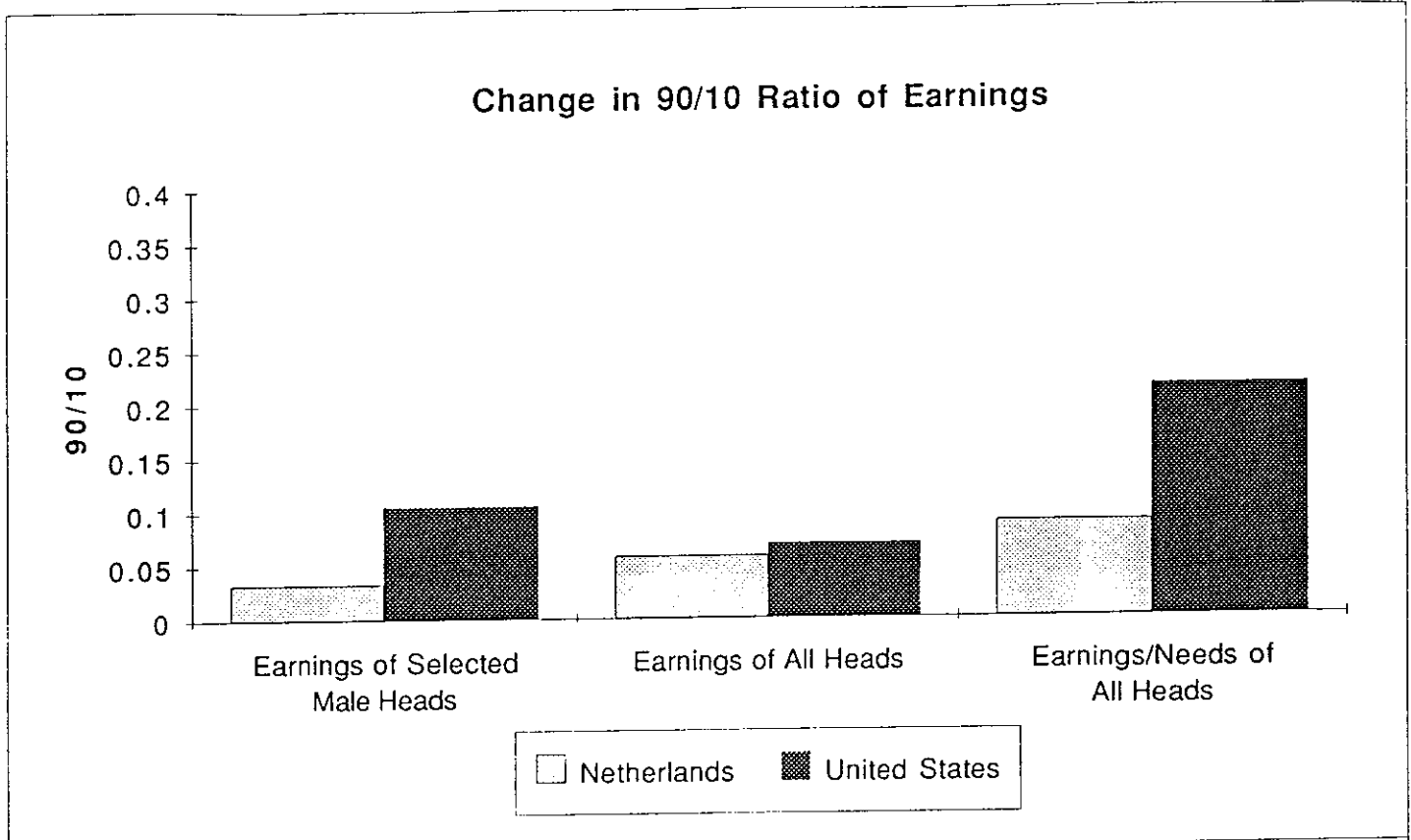


FIGURE 6

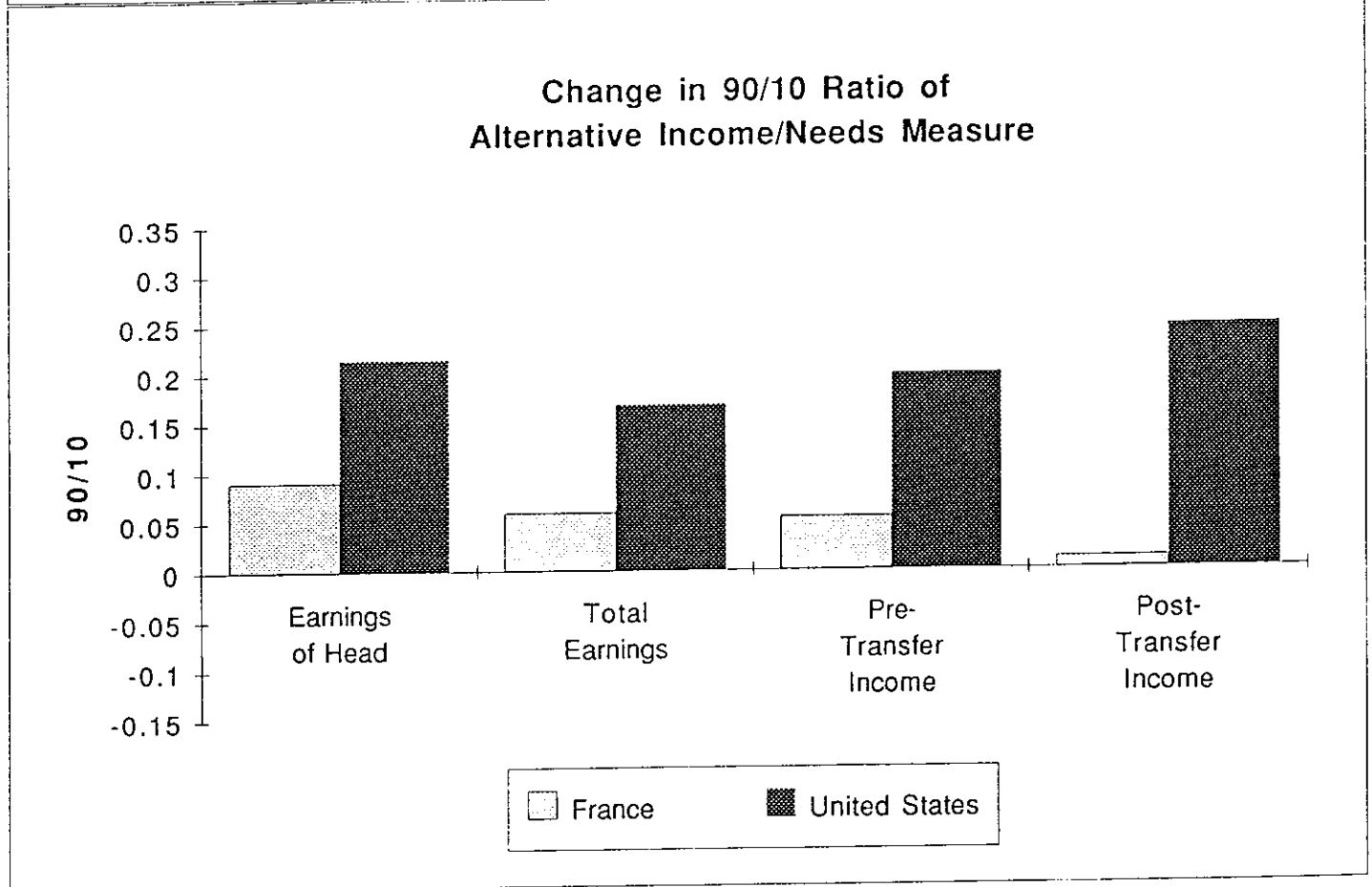
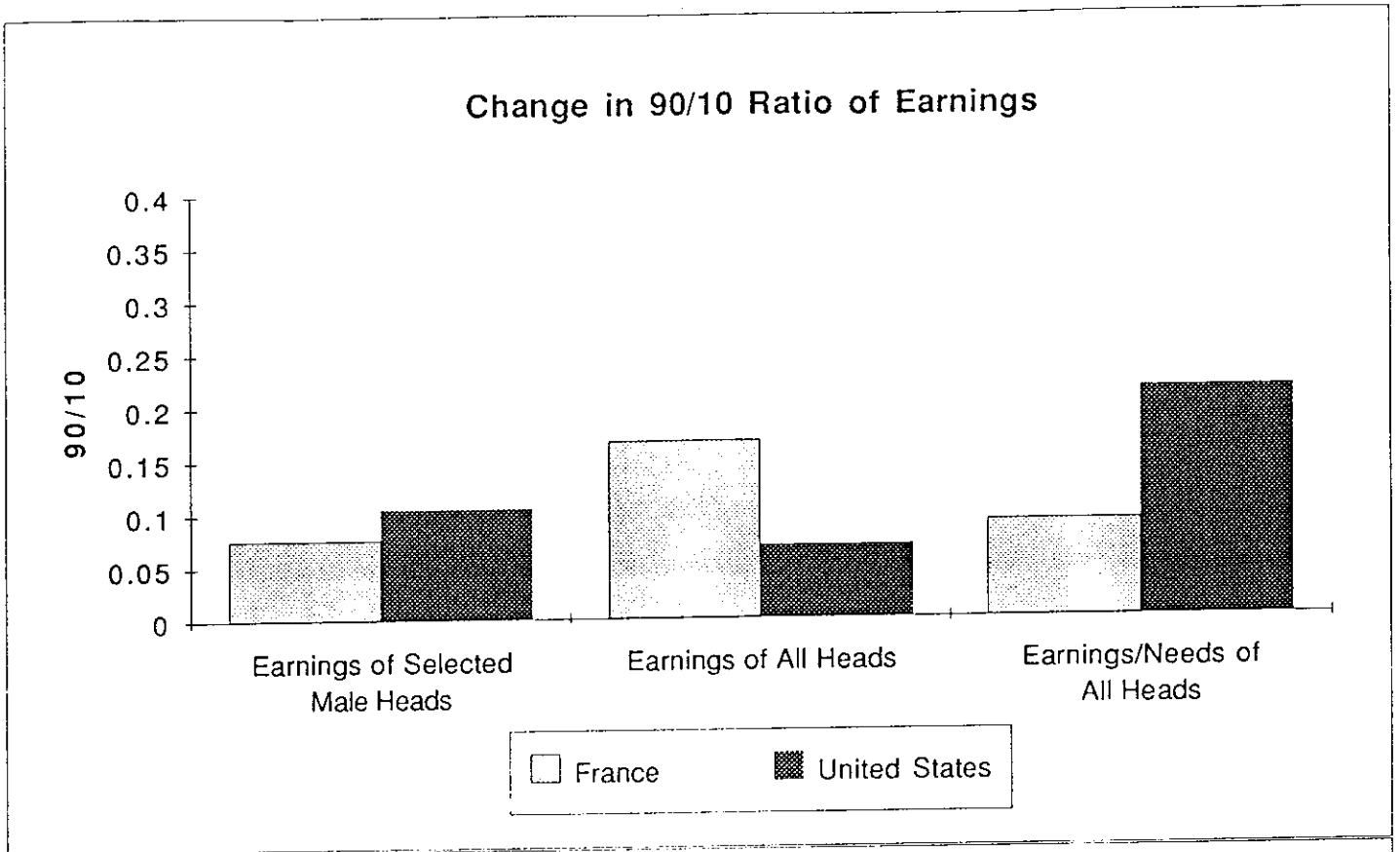


FIGURE 7

