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DRAFT**THE LABOR MARKET EXPERIENCE OF PRIME AGE ADULTS
IN THE 1970S AND THE 1980S**Introduction

A number of researchers have documented the labor market difficulties of men in the 1980s, including declining average wage rates and increasing discrepancies between high and low skilled workers. In virtually all of these studies, comparisons between different years have been made without following the same people. Instead, similar points on the earnings scale have been compared--e.g., the 30th percentile of earners in 1979 and the 30th percentile of earners in 1989. If men in the later period at this level have lower earnings, then it has been concluded that the labor market has deteriorated and that men in 1989 are worse off than men in 1979.

The conclusion about individual workers being better or worse off cannot be made on the basis of these numbers because the "earnings trajectories" or "career experiences" of individuals have not been tracked. On the one hand, it would appear that a deteriorating labor market would negatively impact an individual worker's ability to earn more as they aged. Yet, on the other hand, the gap between older and younger workers increased. This implies that individuals could have increased their earnings as they aged and younger workers started at lower earnings than before.

In this study, data from the University of Michigan Survey Research Center's Panel Study on Income Dynamics (PSID) are used to determine prime age adults saw their earnings grow over the course of their careers--one of the central components necessary to fulfill the "American dream." This data source is composed of answers to yearly questionnaires from a nationally representative sample of people, an original 5,000 families, since 1967. So, the labor market experience of prime age adults (those who begin at ages 22 to 46) in two twelve year periods (1967-79 and 1977-89) can be compared to see whether there has been any change over time in "attaining the American dream."

Because annual earnings are a product of hours worked and wage per hour, it is possible that earnings can decline even though wages are rising--because of a decline in hours worked. Each of these three variables--earnings, wages, and hours worked--are tracked separately in this study. In addition, these labor market outcomes are correlated with changes in family income over



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the same periods. An earlier study¹ on this population and time period showed that family incomes of prime age adults tended to rise over time although the percentage of people losing ground increased from 21% in the 1970s to 33% in the 1980s.

In this study, individual labor market events are shown to dominate changes in the family income of prime age adults. Therefore, the increasing number of people who lost ground in terms of family income in the 1980s is reflected in worsening performance of prime age men in the 1980s relative to the 1970s. In particular, the primary findings are:

- * fewer men were able to maintain continued full-time, full-year employment; this was particularly true of blacks, high school dropouts, and lower paid earners;

- * in the 1970s, only 24% of prime age men had lower annual earnings at the end of the decade than at the beginning; this figure rose to 36% in the 1980s; this increase occurred despite the increased number of better educated and younger prime age men, groups with a lower probability of being on declining paths; without these otherwise positive demographic changes, the increase in the percent of losers would have been 40%;

- * the youngest of prime age men (starting at 22-26) who were just beginning their careers had very little chance of moving backwards over 10 years in the 1970s (9%) and a high chance of experiencing a greater than 40% increase in their earnings (62%); in the 1980s, the chance of losing ground over the decade increased to 26% while the probability of strong growth declined to 42%; the only group within this age group to avoid this calamitous shift were those who completed college;

- * there was a big relative decline in the status of black men relative to white men; in the 1970s, nearly three-quarters of black men consistently worked full-time, full-year and nearly two-thirds had their earnings rise over the course of the decade. In the 1980s, only one in two black men worked consistently full-time, full-year, and less than one-half had higher earnings at the end of the decade versus the beginning;

- * the least skilled and lowest paid workers--those with no college, and the bottom two quintiles of earners (based on the average earnings for the entire decade)--were much more likely to have growing earnings and full-time schedules in the 1970s than in the 1980s;

- * the change in male annual earnings was dominated by changes in wages rates;

- * for prime age women, their hours worked in the 1980s were significantly higher than the 1970s; as a result, these women were more likely to have their earnings rise over ten years even though their increase in wage rates did not change between the two decades;

¹ "Declining Family Incomes in the 1980s: New Evidence from Longitudinal Data," Challenge, Nov-Dec 1993, 29-36.



* because of increased female paid work effort, families in the 1980s were able to have higher real incomes when compared with the 1970s;

* the increase of individual family income over 10 years is dominated by male's wage rates: in the 1970s, 29% of married families had their standard of living rise by more than 10% from beginning to the end of the decade because of higher male wage rates; this figure dropped to 17% in the 1980s.

Continuity of Employment

An initial measure of labor market performance is continuity of employment defined as working full-time, full-year over many years. In Tables 1 and 2, "strong continuity" is defined as working at least 1750 hours a year (35 hours times 50 weeks) in at least eight out of ten years and never working fewer than 1000 hours in any year. "Weak continuity" is defined as working at least 1750 hours a year in fewer than three out of ten years and working fewer than 1000 hours a year in at least five out of ten years. "Medium continuity" is defined as those who meet neither of the first two criteria.²

As Table 1 shows, the percentage of men with strong continuity declined from 79% in the 1970s to 71% in the 1980s. This decline affected both younger and older men, although there was no real difference between the decades for those whose ending age was between 44 and 48. There also was a strong racial difference: blacks were only six percentage points behind whites in the 1970s but were twenty points lower in the 1980s. Thus, in the 1980s, roughly five out of ten black men were able to be employed full-time, full-year for most of the decade; in the 1970s this ratio stood at seven out of ten.

With regard to educational attainment, the difference between the experience of the two decades was pronounced. In the 1970s 68% of high school dropouts were able to sustain strong labor market continuity; this figure dropped to 51% in the 1980s. For men with a high school diplomas and some college, but no 4 year degree, the probability of continued full-time, full-year employment declined by about 15 percentage points. Only those with at least a baccalaureate degree had no decline in their probability of strong continuity.

² The choice of these boundaries is somewhat arbitrary. However, the vast majority of people with strong continuity worked all ten of ten years with more than 1750 hours. The addition of those with only 8 or 9 years of full-time, full-year employment added relatively few people while the second cut-off of never working fewer than 1000 hours reduced the growth of this definition of "strong continuity."



Table 1: Male Labor Force Continuity

	Strong	Medium	Weak
1969-79			
ALL	78.6	19.5	1.9
Age in 1979			
34 - 38	75.9	23.1	1.0
39 - 43	81.6	16.9	1.4
44 - 48	80.7	17.3	2.0
49 - 53	81.9	16.2	1.8
54 - 58	72.3	24.2	3.5
Race			
White	79.0	19.4	1.6
Black	73.1	22.1	4.8
Education			
LT 12 Yrs	68.1	26.7	5.2
HS Grad	84.3	14.8	0.9
Some Coll	86.7	13.2	0.2
College +	76.7	22.8	0.5
Average 10 Year Earnings Quintile			
Lowest Q	51.6	39.5	8.9
Fourth Q	76.0	24.0	0.0
Middle Q	81.5	18.5	0.0
Second Q	90.4	9.6	0.0
Top Q	93.6	5.7	0.7
1979 - 1989			
All	69.8	26.3	3.9
Age in 1989			
34 - 38	67.4	27.6	5.1
39 - 43	69.7	28.1	2.2
44 - 48	79.5	18.1	2.4
49 - 53	71.7	24.0	4.3
54 - 58	59.5	33.4	7.1
Race			
White	71.2	25.6	3.2
Black	51.1	36.5	12.4
Education			
LT 12 Yrs	50.7	38.5	10.7
HS Grad	71.5	25.9	2.6
Some Coll	70.0	25.3	4.7
College +	78.9	20.2	0.9
Average 10 Year Earnings Quintile			
Lowest Q	30.4	50.8	18.8
Fourth Q	65.7	33.4	0.9
Middle Q	74.7	25.3	0.0
Second Q	87.3	12.7	0.0
Top Q	90.9	9.1	0.0



In the last series of rows of Table 1, labor force continuity is cross-tabulated with the earnings distribution, with quintiles based on the average earnings over the entire decade (either 1970-79 or 1980-89). Obviously, the greater the likelihood of continued full-time work, the greater the total earnings over 10 years are likely to be. Therefore, there is a strong relationship between continuity of participation and standing among these earnings quintiles. Nonetheless, it is interesting to note that 51% of those in the bottom quintile of earnings for the entire 1970s had strong continuity. In the 1980s this figure dropped to 30% indicating that a substantial component of the decline in earnings of those at the bottom of the earnings scale was due to the inability to maintain continued full-time, full-year employment.

For women, the numbers and the trends are very different: only 11% had strong continuity in the 1970s while this figure jumped 20% in the latter decade. The sharp rise in paid labor force participation was also evident in the decline in those with low continuity, from 59% in the 1970s to 38% in the 1980s.

Table 2: Female Labor Force Continuity

	Strong	Medium	Weak
1969-79			
ALL	10.8	29.9	59.2
Married, husband present			
never	29.3	37.5	33.3
sometimes	13.4	41.9	44.7
always	7.8	25.6	66.6
Age in 1979			
34 - 38	7.9	31.5	60.6
39 - 43	12.2	24.7	63.1
44 - 48	12.0	28.4	59.6
49 - 53	12.3	30.4	57.2
54 - 58	9.6	34.7	55.7
Race			
White	10.4	28.6	61.0
Black	13.4	38.8	47.8
Education			
LT 12 Yrs	7.7	27.4	64.9
HS Grad	12.2	27.6	60.1
Some Coll	14.5	29.4	56.1
College +	8.2	43.7	48.1



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1979-89

ALL	20.2	41.4	38.4
Married, Husband Present			
Never	34.8	45.6	19.5
Sometimes	24.3	49.6	26.1
Always	14.8	36.8	48.4
Age in 1989			
34 - 38	18.5	41.4	40.1
39 - 43	17.5	50.7	31.8
44 - 48	24.1	35.3	40.6
49 - 53	23.9	36.9	39.1
54 - 58	19.4	37.2	43.4
Race			
White	20.0	40.7	39.3
Black	21.7	45.0	33.3
Education			
LT 12 Yrs	12.6	31.3	56.1
HS Grad	21.5	40.6	37.9
Some Coll	24.5	41.0	34.5
College +	19.2	52.0	28.8

With regards to differing characteristics among women, Table 2 shows that women who were never married over 10 years had the greatest continuity of labor force attachment. Black women have historically had greater paid labor force participation than white women. This is reflected in the 1970 data in the larger percentage of black than white women with strong continuity and the smaller percentage with weak continuity. In the 1980s, however, most of this gap was eliminated.

As for educational attainment, high school dropouts had a much lower probability than other women of working full-time, full-year consistently. Women with more than four years of college did not have higher levels of strong continuity but did have lower levels of weak continuity.

Table 3, average hours worked in the seventies (1970-79) and eighties (1980-89), shows that men's average hours worked fell by approximately 100 hours a year. The relative decline, 4.6%, was smaller than the percentage fall in those with strong continuity, indicating that the decline in average hours worked was concentrated in these men with more years with fewer than 1750 hours.



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Table 3: Average Yearly Hours Worked

Men	1979- 89	1969- 79
All	2158	2263
Age in last year		
34 - 38	2116	2292
39 - 43	2210	2310
44 - 48	2237	2296
49 - 53	2147	2271
54 - 58	2037	2130
Race		
White	2189	2276
Black	1830	2119
Education		
LT 12 Yrs	1938	2146
HS Grad	2150	2292
Some Coll	2163	2337
College +	2283	2295
Average Decade Earnings Quintile		
Lowest Q	1683	2003
Fourth Q	2203	2225
Middle Q	2202	2287
Second Q	2258	2340
Top Q	2445	2458
Women	1979- 89	1969-79
All	1243	870
Marital status		
never	1577	1337
sometimes	1454	1138
always	1069	737
Age at final year		
34 - 38	1236	831
39 - 43	1331	855
44 - 48	1212	873
49 - 53	1252	913
54 - 58	1132	875
Race		
White	1237	844
Black	1288	1048
Education		
LT 12 Yrs	947	797
HS Grad	1255	865
Some Coll	1322	883
College +	1391	1017

Consistent with the results from Table 1, Table 3 shows that the decline in average hours was much greater for black than white men. Regarding men with different levels of decade-wide earnings, those in the bottom quintile averaged 2000 hours per



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year in the 1970s and less than 1700 hours annually in the 1980s (a 15% decline). Because the hours decline for the rest of male earners was quite modest, the fall in average yearly hours for men was driven by the large declines of low earners.

By contrast, prime-age women increased their annual work effort by 43%. Each sub-group of women worked longer with the largest percentage increases being among whites and younger women.

Changes in Total Labor Earnings

Career paths represent a trajectory from an original starting point. In this study, the sign of the rate of change is used to separate "gainers" from "losers." for example, a person whose earnings fall from \$50,000 to \$40,000 a year is categorized as being on a declining path, while one whose earnings rise from \$10,000 to \$12,000 a year (a 20% gain in earnings) would be in the rising category. As will be shown below, however, most of the losers are concentrated among the low rather than high earners.

Very few trajectories are smooth--raises are not given in regular yearly increments, job changes can occur at irregular intervals and be associated with changing earnings, some years there are bonuses and overtime, etc. This paper follows the practice of the earlier work on family income change and compares the differences between the 3 year average earnings at the beginning and ends of the two twelve year periods: 1967-69 to 1977-79 for the 1970s and 1977-79 to 1987-89 for the 1980s. In this way, it is possible to obtain multiple year averages which minimize the effect of a single unusually positive or negative year. The data are then reported in interval groupings of losers, little change--plus or minus 5%, gainers, and large gainers (greater than 40% increase over 10 years).³

In Table 4, the number of prime age men with declining real earning paths jumps from 24% in the 1970s to 36% in the 1980s. As is evident in both periods, there is a very strong age effect within prime age men: younger men are much more likely to be gainers and not losers.

³ Simple 12 year time series OLS regression coefficients were also computed for each of these two periods. The size and sign of these coefficients were strongly correlated with the percent changes from beginning 3 year average to end three year average reported in the tables in the paper.



Table 4: Change in 3 Year Annual Earnings for Men

	Loss (<-5%)	No Gain (+/- 5%)	Gain (5-40%)	Large Gain (GT 40%)
1967-69 to 1977-79				
All	24.4	9.6	32.7	33.3
Age in 1979				
34 - 38	9.3	5.5	22.8	62.1
39 - 43	16.9	7.0	36.9	39.2
44 - 48	27.5	7.3	35.4	29.9
49 - 53	30.7	11.7	39.3	18.3
54 - 58	38.7	17.0	29.0	15.3
Race				
White	24.5	10.2	33.1	32.2
Black	30.5	5.3	22.4	41.8
Education				
LT 12 Yrs	30.7	8.0	31.9	29.4
HS Grad	25.4	10.7	33.3	30.6
Some Coll	27.1	10.4	30.6	31.8
College +	15.1	9.0	34.5	41.4
1969-79 Average Earnings Quintile				
Lowest Q	47.2	7.1	24.5	21.2
Fourth Q	24.0	10.0	31.3	34.8
Middle Q	18.4	11.2	33.9	36.6
Second Q	16.0	11.3	36.6	36.1
Top Q	16.8	8.3	37.2	37.6
1977-79 to 1987-89				
ALL	36.0	8.1	28.2	27.8
Age in 1989				
34 - 38	26.3	6.1	25.9	41.7
39 - 43	32.3	6.7	27.8	33.2
44 - 48	34.6	11.5	30.4	23.6
49 - 53	43.4	11.2	31.9	13.5
54 - 58	57.4	7.5	26.7	8.3
Race				
White	34.8	8.3	28.1	28.8
Black	47.2	6.4	26.9	19.5
Education				
LT 12 Yrs	50.3	11.4	24.6	13.7
HS Grad	42.3	9.7	31.9	16.0
Some Coll	39.3	6.9	25.5	28.3
College +	19.6	6.0	28.9	45.5
1969-79 Average Earnings Quintile				
Lowest Q	63.6	5.4	17.5	13.5
Fourth Q	45.1	11.1	25.7	18.2
Middle Q	31.4	12.3	29.4	26.8
Second Q	26.6	6.9	35.9	30.7
Top Q	13.8	4.7	32.1	49.5

Regarding education attainment, only a college degree seemed to distinguish the distribution among career trajectories in the



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1970s; even 61% of high school dropouts had their earnings grow over the decade. However, in the 1980s it was very difficult for high school dropouts to have increasing earnings over time. For men with a high school degree (with and without some years of college but no 4-year college degree) had trouble with earnings growth in this decade. Only those with a college degree had virtually identical chances of moving ahead over time in the both the 1970s and the 1980s.

In the 1980s the entry of the baby boomers into prime age meant that the share of the younger age groups (34-44 year old) within prime age men jumped from 39% in the 1970s to 55% in the 1980s, and the education levels of prime age men increased. Since higher education and younger age within prime age were associated with strong earnings growth in the 1970s, these two demographic shifts should have caused a decrease in the percent on declining paths. But these shifts obviously were overwhelmed by economic forces that led to a rise in the number of losers.

An interesting exercise is to estimate the distribution of winners and losers in the absence of these positive demographic shifts. This can be done by dividing the prime age male population into separate age-education cells: five age groups and four educational levels creating 20 separate cells. For each cell in the 1980s, the percent of earnings losers can be weighted by the 1970s rather than the 1980s population distribution, resulting in an estimate of earnings changes for the 1980s on the basis of the age-education mix of the 1970s. The percent of prime age men on declining earnings paths from this hypothetical combination would have had 39.7% rather than the 36%. By artificially keeping age and education levels fixed at their 1970s levels, this exercise shows that the probability that a prime age male of similar demographic characteristics would have a 63% higher probability (from 24 to almost 40%) of being on a declining earnings path in the 1980s compared with the 1970s.

The change in earnings history of young men just beginning their careers is particularly striking. In the 1970s, only 9% of those ending the decade at ages 34-38 had lower earnings at the end of the decade than at the beginning. This figure nearly tripled to 26% in the 1980s. At the other end of the success scale, 62% of this group had earnings increase by over 40% in the 1970s. This figure dropped to 42% in the 1980s. Therefore, there appears to have been a dramatic turn for the worse for these men during the take-off stage of their careers.

Once again the experience of blacks relative to whites deteriorated. The proportion of white men on declining earnings trajectories increased 11 percentage points, from 24% in the 1970s to 35% in the 1980s. For black men, the increase was 16 percentage points, from 31% in the 1970s to 47% in the 1980s. Given the small number of black men on stable earnings paths,



only 46% of black prime-age men had positive career advancement in the 1980s.

Table 5 presents the changing earnings of prime aged women. The higher labor force attachment of the 1980s documented in Table 2 is reflected in increasing numbers being on positive career tracks. The age effect on women's earnings trajectories is different from men, presumably because of child-bearing. Generally, as women age from the early twenties to the early thirties, many reduce their labor market attachment to care for their young children. Therefore, there is a relatively high number of women aged 34-38 with earnings losses. The percentage of earnings losers decline through the mid-40s until rising again as women cut back towards the end of their careers.

Table 5: Change in 3 Year Annual Earnings for Women

1967-69 to 1977-79

ALL	38.0 Loss ($<-5\%$)	2.9 No Gain ($+/- 5\%$)	12.8 Gain ($5-40\%$)	46.3 Large Gain ($GT 40\%$)
Age in 1979				
34 - 38	42.4	1.5	9.8	46.2
39 - 43	28.5	4.1	10.2	57.2
44 - 48	36.0	3.2	10.4	50.5
49 - 53	35.7	3.5	19.3	41.4
54 - 58	47.1	2.7	14.1	36.1
Race				
White	38.2	2.8	12.3	46.8
Black	40.0	2.9	14.3	42.8
Education				
LT 12 Yrs	39.5	3.8	12.2	44.5
HS Grad	40.9	2.7	14.0	42.4
Some Coll	25.6	2.5	7.2	64.7
College +	35.5	2.7	14.5	47.3
1969-79 Average Earnings Quintile				
Lowest Q	68.4	0.7	4.4	26.5
Fourth Q	42.3	2.5	4.8	50.4
Middle Q	31.4	5.5	13.7	49.4
Second Q	20.3	4.4	23.7	51.5
Top Q	7.0	6.2	35.2	51.6

1977-79 to 1987-89

ALL	29.9	4.3	18.2	47.7
Age in 1989				
34 - 38	32.7	3.2	14.8	49.3
39 - 43	27.0	3.8	18.7	50.5
44 - 48	19.5	7.1	19.7	53.7
49 - 53	29.8	4.8	22.3	43.1
54 - 58	41.3	3.5	17.8	37.4



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Race				
White	30.1	4.0	17.4	48.5
Black	29.8	6.0	22.6	41.6
Education				
LT 12 Yrs	38.9	6.2	11.4	43.5
HS Grad	31.2	3.4	20.1	45.3
Some Coll	26.4	4.8	17.1	51.6
College +	25.5	3.8	20.2	50.5
1979-89 Average Earnings Quintile				
Lowest Q	87.1	0.0	3.1	9.8
Fourth Q	59.4	1.3	3.5	35.8
Middle Q	45.3	1.8	5.5	47.5
Second Q	24.9	5.0	17.6	52.5
Top Q	17.2	3.8	22.2	56.8

As opposed to prime age men, there were no racial differences among women in either the 1970s or 1980s. As for educational attainment, women with some college, but not a degree, seemed to have done better than other women in the 1970s. In the 1980s, however, women high school dropouts stood out with more losers and fewer winners; all other women showed no progress.

Table 6 presents a comparison of men's average earnings during the 1970s and 1980s. As has been shown with single year studies, men's earnings over the 1980s as a whole were 4% lower than comparably aged men in the 1970s. The gap between whites and blacks increased substantially from the 1970s to 1980s as white men had their average earnings only decline by 2% versus a 17% fall for black men. The differential associated with years of schooling increased, as all groups excluding those with a college degree or more lost significant ground.⁴

In terms of the "rich" versus "poor" comparison, the combined 10 year average earnings quintiles show that only the top quintile of male earners experienced higher average earnings in the 1980s than in the 1970s. The combined ten year experience of those in the bottom quintile of male earners was devastating. Their average yearly earnings declined by 26% in the 1980s versus the 1970s. In the early period their earnings alone would have been enough to lift a family of four above the poverty line; in the 1980s, they would not have succeeded supporting a family of three on their earnings alone above poverty.

⁴It may seem odd that all men lost 4% of their average earnings while all but college finishers lost more than 10%. These figures are consistent because the distribution within prime age men shifted to more years of schooling.



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Table 6: Ten Year Average Male Earnings

	1969-79	1979-89	% Change
All	38916	37354	-4.0
Race			
White	39359	38617	-1.9
Black	27289	22708	-16.8
Education			
LT 12 Yrs	27390	22029	-19.6
HS Grad	34733	30719	-11.6
Some Coll	42295	35211	-16.7
College +	54227	53378	-1.6
10 Year Average Earnings Quintile			
Lowest Q	16088	11928	-25.9
Fourth Q	27610	23936	-13.3
Middle Q	34828	32756	-5.9
Second Q	43685	42787	-2.1
Top Q	72460	75413	4.1

Changes in Real Wage Rates

Table 7 presents how wage rates, rather than total earnings, have changed for men between the two decades. Although there is some change in the number of hours in the two decades, it is relatively small. Therefore, the numbers in this table are very similar to those in Table 4 on annual earnings: the number of losers increased by about ten percentage points.

The patterns found in the earnings data for men is reproduced here, with the data revealing that:

- * Black men had the same wage rate experience as white men in the 1970s, but did worse than white men in the 1980s; only 51.5% were on increasing wage rate paths in this latter decade, a figure slightly better than the total earnings gainers;

- * wage rate changes over ten years were very similar for men with different levels of education in the 1970s. But only college educated men (with at least 4 year degrees) had as few losers in the 1980s as the 1970s; the deterioration in the wage growth prospects for high school dropouts was particularly sharp.

- * looking at men on the basis of their ten year average earnings shows a large deterioration for those in the bottom 40%; all quintiles in the 1970s had more than one-half on increasing wage rate paths; in the 1980s, only 29% of the bottom quintile had their wage levels increase while 44% of the second quintile were on rising paths.



Table 7: Men's Changing Wage Rates over 10 years

	Loss < -5%	Stable +/- 5%	Gain 5-40%	Big Gain >40%
1967-69 to 1977-79				
All	21.5	7.5	36.0	35.0
Age in 1969				
34 - 38	15.9	4.4	24.9	54.8
39 - 43	20.3	2.1	39.3	38.3
44 - 48	20.6	9.5	41.9	28.1
49 - 53	25.9	7.8	39.4	26.9
54 - 58	24.0	13.6	35.2	27.1
Race				
White	21.8	7.8	35.9	34.4
Black	20.0	2.6	37.0	40.4
Education				
LT 12 Yrs	23.8	6.5	36.2	33.6
HS Grad	19.6	7.4	40.6	32.5
Some Coll	18.4	9.9	36.2	35.4
College +	22.7	7.5	29.5	40.4
Average 10 Year Earnings Quintile				
Lowest Q	39.2	6.6	31.7	22.6
Fourth Q	24.1	11.6	33.4	30.9
Middle Q	17.7	5.3	38.1	38.9
Second Q	11.6	9.3	41.2	37.9
Top Q	16.8	4.7	35.2	43.3
1977-79 to 1987-89				
All	34.0	10.2	28.1	27.7
Age in 1989				
34 - 38	28.7	7.1	24.6	39.7
39 - 43	31.1	9.4	27.0	32.5
44 - 48	34.2	11.8	31.8	22.2
49 - 53	39.2	11.0	32.4	17.4
54 - 58	46.4	15.9	28.1	9.6
Race				
White	33.2	10.6	27.7	28.5
Black	42.7	5.8	29.2	22.3
Education				
LT 12 Yrs	49.8	12.2	23.5	14.5
HS Grad	39.7	11.9	31.6	16.8
Some Coll	34.8	9.2	27.2	28.9
College +	20.5	8.8	27.8	43.0
Average 10 Year Earnings Quintile				
Lowest Q	62.4	9.0	16.5	12.1
Fourth Q	45.6	10.3	25.2	18.9
Middle Q	30.7	11.6	27.4	30.3
Second Q	20.4	10.4	38.4	30.7
Top Q	14.0	9.7	31.6	44.7



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As Table 8 shows, women's change in wage levels does not mirror their earnings story with respect to the changes between the 1970s and the 1980s. Rather than having the number of losers go down in the later period, this figure remains constant (appearing to inch up, but not a statistically significant change). This result suggests that the increase in women's earnings trajectories in the 1980s (as shown in Table 5) seems to be driven by increased work effort rather than higher wage rates.

Table 8: Women's Wage Rate Change

	LOSS	STABLE	GAIN
1967-69 to 1977-7			
All	28.9	7.6	63.5
Age			
34 - 38	29.3	8.4	62.2
39 - 43	30.8	10.8	58.4
44 - 48	27.6	6.7	65.7
49 - 53	25.3	8.3	66.4
54 - 58	32.7	2.6	64.7
Race			
White	28.9	7.5	63.6
Black	26.9	8.4	64.7
Education			
LT 12 Yrs	30.7	8.5	60.8
HS Grad	25.2	7.7	67.1
Some Coll	30.4	4.9	64.7
College +	31.3	8.0	60.7
1977-79 to 1987-89			
All	31.4	7.3	61.3
Age			
34 - 38	32.1	5.7	62.2
39 - 43	32.1	7.4	60.5
44 - 48	30.5	8.7	60.8
49 - 53	29.6	7.3	63.0
54 - 58	31.6	8.6	59.8
Race			
White	31.6	6.9	61.5
Black	30.1	9.0	60.9
Education			
LT 12 Yrs	40.8	7.3	51.8
HS Grad	32.5	8.7	58.8
Some Coll	31.7	6.8	61.5
College +	24.6	5.8	69.5

In terms of wage rate changes, there were basically no significant differences based on age or race. However, educational attainment differences did become a factor in the 1980s while they had not been in the 1970s. In the 1980s 41% of female dropouts saw their wage rates decline. By contrast, women



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who graduated from college had a smaller share on declining wage rate paths in the 1980s as compared with the 1970s.

Family Income Change

An earlier work using the same data source, time periods, and age ranges tracked changes in real family incomes adjusted for inflation and family size. This study showed that the percentage on declining standard of living trajectories jumped from 21% in the 1970s to 33% in the 1980s (Table 9). Living standards in the 1980s were higher than in the 1970s because of small productivity advances and the increased paid working time of women: the decade average family income was 14% higher in the latter decade. If prime age women in the 1980s had worked the same number of hours that comparably aged women did in the 1970s, then family incomes would have grown by only 7%.

Table 9: Distribution of Income Changes for Prime-Age Adults

	<u>Loss</u>	<u>Normal Gain*</u>	<u>Large Gain</u>
1970s	21	44	35
1980s	33	43	24

* Normal gain defined as growth of real adjusted family income between 0 and 70 percent over ten years.

The change in family income over time can be caused by changes in asset, transfer and/or labor market income. Earnings can be decomposed further into the activity of other family members and separate wages and hours effects for husbands and wives. Table 10 shows what drives family income change between 1977-79 and 1987-89: a "big contribution" means that the factor is responsible for at least 50% of the change in family income. The range for "some contribution" is 30 to 50 percent of the change.

Table 10: Sources of Family Income Change, 1977-79 to 1987-89, For Families whose Incomes Changed by more than 10%

	All	Loss	Gain
ALL	93.0	29.1	63.9
Transfers			
some contribution	2.4	0.8	1.6
big contribution	5.2	1.9	3.3
Asset Income			
some contribution	7.4	1.1	6.3



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big contribution	9.6	2.2	7.4
Earnings			
some contribution	11.1	2.1	9.0
big contribution	54.9	18.6	36.3

In 93% of families, there was a family income change of more than 10% over the course of the decade. As can be seen, earnings changes play a big role in 60% of these changes (55 out of 93). By contrast, changes in asset and transfer income play the dominant role in changes in family income in relatively few cases.

In Table 11, the focus is narrowed to those who were married in all six years of the studied periods. In addition, wages and hours effects of husbands and wives are each separately computed; only if the change in one of these variables is responsible for at least 50% of the family's income change is it labelled the cause of the change.

The percent of losers increases from 14% in the 1970s to 25% in the 1980s while the share of gainers declines from 72 to 59 percent. Virtually, all of this change can be explained by the decreased percent of cases in which increasing husband's wages drove family income higher. In both decades, increased work effort by wives over the course of ten years drove family income higher. This represents just the change from beginning to end; throughout the entire 1980s, prime age women worked many more hours than they did in the 1970s.

Table 11: Source of Family Income Change in always Married People, 1970s and 1980s

Cause of Change	loss	+/- 10 %	Gain
1967-69 to 1977-79	14.4	13.5	72.0
Husband's Wage	4.1		29.2
Husband's Hours	4.6		4.3
Wife's Wage	0.7		3.1
Wife's Hours	0.6		9.0
No One Source	4.4		26.4
1977-79 to 1987-89	24.9	16.3	58.8
Husband's Wage	9.4		17.6
Husband's Hours	4.6		6.5
Wife's Wage	2.1		5.4
Wife's Hours	1.5		9.6
No One Source	7.2		19.7

On the other side of the ledger, the percent of families on declining family income paths increased from 14.4 to 24.9%. Just over one-half of this rise was due to the increased number of families that lost ground because of declining husband's wages.



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Conclusion

This study confirms other analyses based on comparisons of Census surveys in different years which showed that the 1980s were a period when many more men had worse labor market experiences. The number of losers increased, and only the most educated and highest paid avoided declining earnings. For blacks, high school dropouts, and low earners (demographic groups that overlap, but not entirely), the ability to keep full-time, full-year work declined dramatically. Combined with the declining wage levels, this caused their earnings to decline dramatically.

Another group that fared much worse in the 1980s than in the 1970s was the youngest group of prime age men. During the take-off period of their careers, all but those with a four year college degree did much worse. This obviously bodes poorly for their future earnings prospects and their future family incomes.



THE WHITE HOUSE
WASHINGTON

May 1, 1994
Draft

FYI. Please
Comment.

MEMORANDUM FOR BILL GALSTON AND GENE SPERLING

FROM: PAUL DIMOND *PD*
SUBJECT: ANALOGIES BETWEEN BROWN AND GOALS 2000
CC: BO CUTTER AND SHERYLL CASHIN

Background. At the meeting of our Education, Training and Reemployment Working Group last Thursday, I offered analogies between Brown and Goals 2000. Much as I used the analogies to challenge our DoEd and DoL friends to think harder about the potential meaning, impact, and strategies for implementing goals 2000, Bill now challenges me to think harder about whether the analogies really work and, if so, where they might lead us.

This is a first stab at doing so. Please view this draft as an initial dipping of the mental candle in another of our joint enterprises that might lead us, once again, to a worthy destination. This draft begins with an elaboration of the three analogies offered at our ETR meeting and then proposes another analogy more directly related to learning. The draft closes with a tentative discussion of three possible destinations that we might think about pursuing if these analogies merit further discussion:

- the President's commemoration of the fortieth anniversary of Brown on May 17
- the core element of the national campaign for youth
- a launching pad for increasing learning for all Americans to levels we can now barely imagine

I. The Analogies of Values, Implementation Responsibilities and Impact

A. Values. Brown posited a constitutional value, perhaps the most important articulated by the Court in the twentieth century, to inform the exercise of state and local authority -- and personal opportunity and responsibility -- with a new national norm and set of expectations. Goals 2000 posits, in its own way, a similarly broad national value to inform states localities, communities, and firms -- and personal opportunity and responsibility -- with a new national norm and set of expectations. Brown, of course, issued from the Court, while Goals 2000 was enacted by the Congress at the President's request. What is perhaps most important -- and surprising -- about the analogy with respect to values is that the Congressional enactment of Goals 2000 is almost as broad and open-ended as the Court's

declaration of a constitutional value in Brown. As a result, Goals 2000 may be understood as at least as unique in the history of modern congressional enactments for the breadth of its potential sweep in our time, as Brown was for judicial decrees in its time.

B. Implementation Responsibilities. The Warren Court delegated realization of Brown's national value largely to the political process -- including particularly, to states and local school districts (and, in subsequent *per curiam* decisions concerning other public facilities, all government entities). Goals 2000 also delegates realization of its value largely to the political process, including the states, local school districts and localities (and private firms), but under the guidance and leadership of the federal executive. As a result, compared to Brown, the burden of responsibility -- and the opportunity -- for realizing the value is shared more directly with the federal executive for Goals 2000. It is, of course, hardly surprising that the Congress acted to give President Clinton some authority for realizing Goals 2000 as the Congress acted pursuant to the President's request; in contrast, President Eisenhower hardly asked the Court (or anyone else, with the possible exception of sending federal troops to Central High in Little Rock) for a major leadership role in helping the nation realize the value in Brown. What is surprising is the extent to which the Congress vested discretion in the Administration to catalyze, inspire, and lead the wide-ranging process which will shape and seek to realize the value in Goals 2000.

C. Impact. If viewed narrowly as an important decision about the value of desegregating public elementary and secondary schools, the impact of Brown, although significant, is limited. Little actual school desegregation was achieved from 1954 through 1969; a substantial amount of school desegregation in many formerly dual school systems and some other school districts was achieved from 1970-1980; and not much additional school desegregation occurred thereafter. Although a significant achievement in these terms, the flinty difficulties of school desegregation in the context of the substantial and continuing racial ghettoization in housing in many metropolitan areas made realization of this specific value extremely difficult.

If viewed narrowly as an important school and labor market reform effort to raise student achievement in schools and to set occupational skills standards to help workers and firms make informed choices, Goals 2000 has the **potential** to be a far greater success. Of course, that's relatively easy to say about the potential of any new declaration. There should be no mistaking, however, the flinty difficulties for improving schooling and labor markets in a meaningful way: past experience with reform efforts in schools and labor markets does not offer many precedents for substantial progress on a systemic and sustained basis. In fact, since making the common school universal at the beginning of the century, the best evidence that such change is possible may be the substantial increase in educational attainment and job incomes achieved by African-Americans in the generation between 1954 and 1979. Desegregation, anti-discrimination enforcement, voluntary compliance, and concerted public and private action increased opportunities, and many African-Americans succeeded in taking responsibility for advancing. Unfortunately, as you know, the systemic pattern of progress in this area has ceased if not reversed, beginning in the 1980's. This concern mirrors Belle Sawhill's question at our ETR meeting Thursday night: how can we meet our burden of responsibility to influence the process of implementing Goals 2000 in ways that will achieve

progress in student achievement and in the functioning of labor markets on a systemic and sustained basis, at least for an entire generation. This is, surely, not a matter of command, control and calibrated measurement but requires a truly reinvented enterprise of unprecedented cooperation, inspiration and incentives. From the federal perspective, rather than calling for heavy rowing by all in unison with a steady drumbeat over calm water, we need to consider catalyzing many to try unprecedented steering and agile, even adventuresome sailing across turbulent seas in strong winds. The course to sustained and systemic progress on these seas is not yet obvious, at least to me.

If viewed broadly as a national call to end a caste system of Jim Crow subordination, however, Brown and its progeny marked an historic turning point for America in the twentieth century. Indeed, Brown may yet still provide the continuing catalyst of a constitutional promise always calling out to be fulfilled. As a result, beginning in 1954 and continuing to various degrees at various times to this day, uplifting political, moral, and private forces and voices have been given the shelter and protection of a constitutional claim on conscience, while the baser instincts of prejudice and caste subordination are called into public question. As a result, in the generation that followed Brown, the basic national social contract for all Americans was transformed, and the removal of the shackles of Jim Crow from the South and the Southwest also enabled these two regions to join and to create main streams of growth in the national economy and progressive policies in the national political debate. This promise of Brown yet resonates in public life today -- most noticeably in the transformation of the race, color, national origin, and gender of those who serve in Congress, state legislatures, statehouses, city councils, school boards, courts and executive agencies across the country.

Goals 2000 has the potential to transform just as broadly: a continuing national call to all American students, workers and firms to prepare, not just for meeting -- but for embracing fully -- the challenges and opportunities of the historic crossing into the twenty-first century. Mike Cohen began to explore this possibility in our ETR meeting Thursday: use Goals 2000 as a catalyst for inspiring coalitions of students, parents, teachers, schools, firms, districts, colleges, universities, governors, and legislatures bent on transforming their schools, their learning, their firms, and their labor markets in order to respond in kind. Mike also described several examples of the political forces and inertia that may stand in the way of such an effort: but surely, these restraining forces are nothing compared to the obstacles that seemed to block the paths of Thurgood Marshall, Martin Luther King and the millions of Americans who sought to transform the basic social contract of the nation -- and the soul of each person -- in response to Brown's call. The political challenge in implementing Goals 2000 is to build groundswells of sustained support, to celebrate small triumphs along the way, to find the means always to keep in the forefront its unfulfilled, but potentially transforming promise of a substantially better future.

At our Thursday ETR meeting, I offered an additional insight: the eight Goals 2000, and the standards yet to be established, can be used to set our national sights on benchmarks that will enable us to reach for such a transforming national call. Key to success in reaching for such an impact is **not** setting our sights too low. In this regard, the initial strategy for implementing Goals 2000 is right on the mark: avoid making any of the standards a high

stakes game before the first standards are adopted. This will enable leading reformers, cognitive theorists, educators, and business leaders to set the initial standards at a level and at a plane that will not only support but materially assist in implementing the national call to make such an historic crossing. In contrast, if the stakes for failing to meet standards were high at the outset, the political forces and inertia would likely move toward establishing standards at the lowest common denominator that most could now be expected to achieve. Although this opening strategy leaves many questions yet to be asked and resolved, it at least keeps open the possibility of a transforming impact, just as the Court's decision in Brown II refused to narrow the sights of the nation with any specific, limiting remedial decree.

II. A New Learning Analogy for Youth.

In terms of its enduring constitutional value, Brown is generally and properly understood as a discrimination case not as a case about education *per se*. Its historic significance and potential impact were, however, both heightened and given deeper meaning because the case involved children and education. As Chief Justice Warren noted in his opinion for the unanimous Court, education had grown from a privilege for a few at the time of ratification of the fourteenth amendment in 1868 into "perhaps the most important function of state and local governments....[Education] is required in the performance of the most basic public responsibilities, even service in the armed forces. It is the very foundation of good citizenship. Today, it is a principal instrument in awakening the child to cultural values, in preparing for later professional training, in helping to adjust...[to the world] environment. In these days, it is doubtful that any child may reasonably be expected to succeed in life if he or she is denied the opportunity of an education." The Chief proceeded to state the terms for decision in precisely these terms: "Such an opportunity, where the State has undertaken to provide it, must be made available to all on equal terms." In perhaps his most remembered line, Warren focussed on the enduring harm to the personal motivation of the plaintiff schoolchildren: "To separate them from others of similar age and qualifications solely because of their race generates a feeling of inferiority as to their status in the community that may affect their hearts and minds in a way unlikely ever to undone." Despite its potential independent significance, the national value of learning has never been declared a constitutional right by the Court.

Goals 2000, of course, fills this gap: it seeks to make learning just such a transforming principle, the fundamental wellspring for a new national social compact with the future. What each person earns and contributes, what each firm makes and serves, what our country offers in living standards for our families, in values for our people, and in leadership for the future is increasingly a function of what we learn. This is the lesson of the new global economy and democratic aspirations for the benefits of enterprise around the world. Learning is the way to make a successful crossing to the twenty-first century, to seize the opportunities and to meet the challenges that lie ahead. And, it is our children and youth today who will carry this burden far into the twenty-first century, long after we have departed our responsibility on this earth.

In this sense, Goals 2000 may find a reflection in Chief Justice Warren's opinion for the Court in Brown: the importance of learning to the lifechances of children and, writ large, to

the future of the nation.

III. Three Possible Destinations.

A. Fortieth Anniversary of Brown. I won't belabor the analogies between Goals 2000 and Brown much further. Suffice it to say, there is substantial grist here if a decision is made to use the commemoration of the transforming significance of Brown as a platform for the President to discuss a transforming, new call under Goals 2000: to form a new national social compact with the future based on learning. Gene has also written about the transforming public and private values which the President can commemorate on May 17. Those same values, and the President's own insights and experience, would provide a moving, personal way for the President to explain both the national reach of the promise of Goals 2000 and the personal responsibility that each American must accept if are to answer this call to embrace the future -- including each young person, whose own motivation is so central to learning.

I recognize that there may be risks in raising the bar for Goals 2000 by even speaking of it in the same breath as Brown. I leave assessment of those risks to another day. My earlier suggestion for the President to reflect on the Court's ruling in Brown from the steps of the Capitol, flanked by the reflection of America that now sits in Congress and this Administration, provides an appropriate platform to discuss a new national value in Goals 2000, one that has its roots in Brown but offers a promise yet to be fulfilled: to use learning as the means to join with all of our children in making the historic crossing to the twenty-first century.

B. National Campaign for Youth. Again, I won't belabor the obvious: The National Campaign for Youth provides an important approach for making, for mobilizing support for, and for responding meaningfully to a such a national call for learning. The analogies between Brown and Goals 2000 also provide another way of supporting the launch of the National Campaign for Youth. And, the call to learning of Goals 2000 is, perhaps, the central element of any National Campaign for Youth.

C. A Launching Pad for Improving Learning to Higher Levels. As you know, I have been asking how we can think about improving the productivity of learning from my first day here: it is amazing that it takes about the same time in classrooms today to learn what it did one or even two hundred years ago; in fact, lots of schools and classrooms don't look all that much different today than they did fifty years ago. Unless learning is forever doomed to Senator Moynihan's dire vision of stagnant productivity in our expanding service sector -- a vision which has already been proven quite short-sighted in many old and new service industries over the past two decades -- we need to find new approaches to learning that offer more promise. Consider two:

- Leverage the 90% of time that children spend out of school between ages 0 and 18 for learning with the 10% of time they are in school.
- Use emerging interactive, multi-media technology with rich, engaging, and diverse

learning content to provide a variety of self-motivated pathways for children of all ages to learn on their own and with their friends, coaches, parents, and even peers and co-workers on networks around the globe.

The first approach may provide another means to implement the narrower vision of Goals 2000 discussed at the beginning of Part IC above: by engaging more time of children and youth (and, by analogy, incumbent workers) in learning, they will learn more. This, of course, is the point made by new report, Prisoners of Time. It also provides a reason to think much harder about the importance of linking schools to homes, to community resources and to user-friendly information networks and multi-media libraries. But we also need to think harder about how children and youth can learn out of school on their own: it is the learner, after all, who does the work of learning. The 90% of the time each child spends out of school is, therefore, also an **independent** source of time for learning. The challenge is to find means of learning that will motivate children to use this "spare" time for learning. Active learning games and play, which are engaging and fun for individual and groups, children and parents -- might not be a bad place to start the search.

The second approach may provide a means to build off of the first **and** to realize a more transforming vision of Goals 2000: if the NII connects schools and homes, and if engaging learning content can be played by children, friends, parents, learning coaches and peers all across the emerging, interactive telecommunication network, then each child may begin to find his or her own pathways to learning. In fact, Goals 2000 specifically directs us to determine how such levers for learning -- the information, communication, and interactive multi-media technology that is emerging all around us -- can be applied to improve the productivity of learning far beyond what we could ever before imagine. And, not unlike Brown, such a transforming result for children **might** contribute in ways we can't begin to imagine to an even more transforming and wide-ranging revolution for the rest of the country.

Our ETR sub-group on learning productivity will begin to examine both approaches in earnest at our first inter-agency seminar, sponsored by DoD, this month. The Defense Department has already begun to reap substantial rewards from its early investments in engaging more time of the learners in learning and in more effectively engaging all learners through simulations, interactive games, and distance learning. We will follow up the opening seminar with a number of Tiger Teams that can provide insights into how we can expand our grasp to meet the reach of a Goals 2000 call to make learning a new compact for all Americans with the future.

DRAFT**THE LABOR MARKET EXPERIENCE OF PRIME AGE ADULTS
IN THE 1970S AND THE 1980S**Introduction

A number of researchers have documented the labor market difficulties of men in the 1980s, including declining average wage rates and increasing discrepancies between high and low skilled workers. In virtually all of these studies, comparisons between different years have been made without following the same people. Instead, similar points on the earnings scale have been compared--e.g., the 30th percentile of earners in 1979 and the 30th percentile of earners in 1989. If men in the later period at this level have lower earnings, then it has been concluded that the labor market has deteriorated and that men in 1989 are worse off than men in 1979.

The conclusion about individual workers being better or worse off cannot be made on the basis of these numbers because the "earnings trajectories" or "career experiences" of individuals have not been tracked. On the one hand, it would appear that a deteriorating labor market would negatively impact an individual worker's ability to earn more as they aged. Yet, on the other hand, the gap between older and younger workers increased. This implies that individuals could have increased their earnings as they aged and younger workers started at lower earnings than before.

In this study, data from the University of Michigan Survey Research Center's Panel Study on Income Dynamics (PSID) are used to determine prime age adults saw their earnings grow over the course of their careers--one of the central components necessary to fulfill the "American dream." This data source is composed of answers to yearly questionnaires from a nationally representative sample of people, an original 5,000 families, since 1967. So, the labor market experience of prime age adults (those who begin at ages 22 to 46) in two twelve year periods (1967-79 and 1977-89) can be compared to see whether there has been any change over time in "attaining the American dream."

Because annual earnings are a product of hours worked and wage per hour, it is possible that earnings can decline even though wages are rising--because of a decline in hours worked. Each of these three variables--earnings, wages, and hours worked--are tracked separately in this study. In addition, these labor market outcomes are correlated with changes in family income over



the same periods. An earlier study¹ on this population and time period showed that family incomes of prime age adults tended to rise over time although the percentage of people losing ground increased from 21% in the 1970s to 33% in the 1980s.

In this study, individual labor market events are shown to dominate changes in the family income of prime age adults. Therefore, the increasing number of people who lost ground in terms of family income in the 1980s is reflected in worsening performance of prime age men in the 1980s relative to the 1970s. In particular, the primary findings are:

- * fewer men were able to maintain continued full-time, full-year employment; this was particularly true of blacks, high school dropouts, and lower paid earners;

- * in the 1970s, only 24% of prime age men had lower annual earnings at the end of the decade than at the beginning; this figure rose to 36% in the 1980s; this increase occurred despite the increased number of better educated and younger prime age men, groups with a lower probability of being on declining paths; without these otherwise positive demographic changes, the increase in the percent of losers would have been 40%;

- * the youngest of prime age men (starting at 22-26) who were just beginning their careers had very little chance of moving backwards over 10 years in the 1970s (9%) and a high chance of experiencing a greater than 40% increase in their earnings (62%); in the 1980s, the chance of losing ground over the decade increased to 26% while the probability of strong growth declined to 42%; the only group within this age group to avoid this calamitous shift were those who completed college;

- * there was a big relative decline in the status of black men relative to white men; in the 1970s, nearly three-quarters of black men consistently worked full-time, full-year and nearly two-thirds had their earnings rise over the course of the decade. In the 1980s, only one in two black men worked consistently full-time, full-year, and less than one-half had higher earnings at the end of the decade versus the beginning;

- * the least skilled and lowest paid workers--those with no college, and the bottom two quintiles of earners (based on the average earnings for the entire decade)--were much more likely to have growing earnings and full-time schedules in the 1970s than in the 1980s;

- * the change in male annual earnings was dominated by changes in wages rates;

- * for prime age women, their hours worked in the 1980s were significantly higher than the 1970s; as a result, these women were more likely to have their earnings rise over ten years even though their increase in wage rates did not change between the two decades;

¹ "Declining Family Incomes in the 1980s: New Evidence from Longitudinal Data," Challenge, Nov-Dec 1993, 29-36.



* because of increased female paid work effort, families in the 1980s were able to have higher real incomes when compared with the 1970s;

* the increase of individual family income over 10 years is dominated by male's wage rates: in the 1970s, 29% of married families had their standard of living rise by more than 10% from beginning to the end of the decade because of higher male wage rates; this figure dropped to 17% in the 1980s.

Continuity of Employment

An initial measure of labor market performance is continuity of employment defined as working full-time, full-year over many years. In Tables 1 and 2, "strong continuity" is defined as working at least 1750 hours a year (35 hours times 50 weeks) in at least eight out of ten years and never working fewer than 1000 hours in any year. "Weak continuity" is defined as working at least 1750 hours a year in fewer than three out of ten years and working fewer than 1000 hours a year in at least five out of ten years. "Medium continuity" is defined as those who meet neither of the first two criteria.²

As Table 1 shows, the percentage of men with strong continuity declined from 79% in the 1970s to 71% in the 1980s. This decline affected both younger and older men, although there was no real difference between the decades for those whose ending age was between 44 and 48. There also was a strong racial difference: blacks were only six percentage points behind whites in the 1970s but were twenty points lower in the 1980s. Thus, in the 1980s, roughly five out of ten black men were able to be employed full-time, full-year for most of the decade; in the 1970s this ratio stood at seven out of ten.

With regard to educational attainment, the difference between the experience of the two decades was pronounced. In the 1970s 68% of high school dropouts were able to sustain strong labor market continuity; this figure dropped to 51% in the 1980s. For men with a high school diplomas and some college, but no 4 year degree, the probability of continued full-time, full-year employment declined by about 15 percentage points. Only those with at least a baccalaureate degree had no decline in their probability of strong continuity.

² The choice of these boundaries is somewhat arbitrary. However, the vast majority of people with strong continuity worked all ten of ten years with more than 1750 hours. The addition of those with only 8 or 9 years of full-time, full-year employment added relatively few people while the second cut-off of never working fewer than 1000 hours reduced the growth of this definition of "strong continuity."



Table 1: Male Labor Force Continuity

	Strong	Medium	Weak
1969-79			
ALL	78.6	19.5	1.9
Age in 1979			
34 - 38	75.9	23.1	1.0
39 - 43	81.6	16.9	1.4
44 - 48	80.7	17.3	2.0
49 - 53	81.9	16.2	1.8
54 - 58	72.3	24.2	3.5
Race			
White	79.0	19.4	1.6
Black	73.1	22.1	4.8
Education			
LT 12 Yrs	68.1	26.7	5.2
HS Grad	84.3	14.8	0.9
Some Coll	86.7	13.2	0.2
College +	76.7	22.8	0.5
Average 10 Year Earnings Quintile			
Lowest Q	51.6	39.5	8.9
Fourth Q	76.0	24.0	0.0
Middle Q	81.5	18.5	0.0
Second Q	90.4	9.6	0.0
Top Q	93.6	5.7	0.7
1979 - 1989			
All	69.8	26.3	3.9
Age in 1989			
34 - 38	67.4	27.6	5.1
39 - 43	69.7	28.1	2.2
44 - 48	79.5	18.1	2.4
49 - 53	71.7	24.0	4.3
54 - 58	59.5	33.4	7.1
Race			
White	71.2	25.6	3.2
Black	51.1	36.5	12.4
Education			
LT 12 Yrs	50.7	38.5	10.7
HS Grad	71.5	25.9	2.6
Some Coll	70.0	25.3	4.7
College +	78.9	20.2	0.9
Average 10 Year Earnings Quintile			
Lowest Q	30.4	50.8	18.8
Fourth Q	65.7	33.4	0.9
Middle Q	74.7	25.3	0.0
Second Q	87.3	12.7	0.0
Top Q	90.9	9.1	0.0



In the last series of rows of Table 1, labor force continuity is cross-tabulated with the earnings distribution, with quintiles based on the average earnings over the entire decade (either 1970-79 or 1980-89). Obviously, the greater the likelihood of continued full-time work, the greater the total earnings over 10 years are likely to be. Therefore, there is a strong relationship between continuity of participation and standing among these earnings quintiles. Nonetheless, it is interesting to note that 51% of those in the bottom quintile of earnings for the entire 1970s had strong continuity. In the 1980s this figure dropped to 30% indicating that a substantial component of the decline in earnings of those at the bottom of the earnings scale was due to the inability to maintain continued full-time, full-year employment.

For women, the numbers and the trends are very different: only 11% had strong continuity in the 1970s while this figure jumped 20% in the latter decade. The sharp rise in paid labor force participation was also evident in the decline in those with low continuity, from 59% in the 1970s to 38% in the 1980s.

Table 2: Female Labor Force Continuity

	Strong	Medium	Weak
1969-79			
ALL	10.8	29.9	59.2
Married, husband present			
never	29.3	37.5	33.3
sometimes	13.4	41.9	44.7
always	7.8	25.6	66.6
Age in 1979			
34 - 38	7.9	31.5	60.6
39 - 43	12.2	24.7	63.1
44 - 48	12.0	28.4	59.6
49 - 53	12.3	30.4	57.2
54 - 58	9.6	34.7	55.7
Race			
White	10.4	28.6	61.0
Black	13.4	38.8	47.8
Education			
LT 12 Yrs	7.7	27.4	64.9
HS Grad	12.2	27.6	60.1
Some Coll	14.5	29.4	56.1
College +	8.2	43.7	48.1



1979-89

ALL	20.2	41.4	38.4
Married, Husband Present			
Never	34.8	45.6	19.5
Sometimes	24.3	49.6	26.1
Always	14.8	36.8	48.4
Age in 1989			
34 - 38	18.5	41.4	40.1
39 - 43	17.5	50.7	31.8
44 - 48	24.1	35.3	40.6
49 - 53	23.9	36.9	39.1
54 - 58	19.4	37.2	43.4
Race			
White	20.0	40.7	39.3
Black	21.7	45.0	33.3
Education			
LT 12 Yrs	12.6	31.3	56.1
HS Grad	21.5	40.6	37.9
Some Coll	24.5	41.0	34.5
College +	19.2	52.0	28.8

With regards to differing characteristics among women, Table 2 shows that women who were never married over 10 years had the greatest continuity of labor force attachment. Black women have historically had greater paid labor force participation than white women. This is reflected in the 1970 data in the larger percentage of black than white women with strong continuity and the smaller percentage with weak continuity. In the 1980s, however, most of this gap was eliminated.

As for educational attainment, high school dropouts had a much lower probability than other women of working full-time, full-year consistently. Women with more than four years of college did not have higher levels of strong continuity but did have lower levels of weak continuity.

Table 3, average hours worked in the seventies (1970-79) and eighties (1980-89), shows that men's average hours worked fell by approximately 100 hours a year. The relative decline, 4.6%, was smaller than the percentage fall in those with strong continuity, indicating that the decline in average hours worked was concentrated in these men with more years with fewer than 1750 hours.



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Table 3: Average Yearly Hours Worked

Men	1979- 89	1969- 79
All	2158	2263
Age in last year		
34 - 38	2116	2292
39 - 43	2210	2310
44 - 48	2237	2296
49 - 53	2147	2271
54 - 58	2037	2130
Race		
White	2189	2276
Black	1830	2119
Education		
LT 12 Yrs	1938	2146
HS Grad	2150	2292
Some Coll	2163	2337
College +	2283	2295
Average Decade Earnings Quintile		
Lowest Q	1683	2003
Fourth Q	2203	2225
Middle Q	2202	2287
Second Q	2258	2340
Top Q	2445	2458
Women	1979- 89	1969-79
All	1243	870
Marital status		
never	1577	1337
sometimes	1454	1138
always	1069	737
Age at final year		
34 - 38	1236	831
39 - 43	1331	855
44 - 48	1212	873
49 - 53	1252	913
54 - 58	1132	875
Race		
White	1237	844
Black	1288	1048
Education		
LT 12 Yrs	947	797
HS Grad	1255	865
Some Coll	1322	883
College +	1391	1017

Consistent with the results from Table 1, Table 3 shows that the decline in average hours was much greater for black than white men. Regarding men with different levels of decade-wide earnings, those in the bottom quintile averaged 2000 hours per



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year in the 1970s and less than 1700 hours annually in the 1980s (a 15% decline). Because the hours decline for the rest of male earners was quite modest, the fall in average yearly hours for men was driven by the large declines of low earners.

By contrast, prime-age women increased their annual work effort by 43%. Each sub-group of women worked longer with the largest percentage increases being among whites and younger women.

Changes in Total Labor Earnings

Career paths represent a trajectory from an original starting point. In this study, the sign of the rate of change is used to separate "gainers" from "losers." for example, a person whose earnings fall from \$50,000 to \$40,000 a year is categorized as being on a declining path, while one whose earnings rise from \$10,000 to \$12,000 a year (a 20% gain in earnings) would be in the rising category. As will be shown below, however, most of the losers are concentrated among the low rather than high earners.

Very few trajectories are smooth--raises are not given in regular yearly increments, job changes can occur at irregular intervals and be associated with changing earnings, some years there are bonuses and overtime, etc. This paper follows the practice of the earlier work on family income change and compares the differences between the 3 year average earnings at the beginning and ends of the two twelve year periods: 1967-69 to 1977-79 for the 1970s and 1977-79 to 1987-89 for the 1980s. In this way, it is possible to obtain multiple year averages which minimize the effect of a single unusually positive or negative year. The data are then reported in interval groupings of losers, little change--plus or minus 5%, gainers, and large gainers (greater than 40% increase over 10 years).³

In Table 4, the number of prime age men with declining real earning paths jumps from 24% in the 1970s to 36% in the 1980s. As is evident in both periods, there is a very strong age effect within prime age men: younger men are much more likely to be gainers and not losers.

³ Simple 12 year time series OLS regression coefficients were also computed for each of these two periods. The size and sign of these coefficients were strongly correlated with the percent changes from beginning 3 year average to end three year average reported in the tables in the paper.



Table 4: Change in 3 Year Annual Earnings for Men

	Loss (<-5%)	No Gain (+/- 5%)	Gain (5-40%)	Large Gain (GT 40%)
1967-69 to 1977-79				
All	24.4	9.6	32.7	33.3
Age in 1979				
34 - 38	9.3	5.5	22.8	62.4
39 - 43	16.9	7.0	36.9	39.2
44 - 48	27.5	7.3	35.4	29.9
49 - 53	30.7	11.7	39.3	18.3
54 - 58	38.7	17.0	29.0	15.3
Race				
White	24.5	10.2	33.1	32.2
Black	30.5	5.3	22.4	41.8
Education				
LT 12 Yrs	30.7	8.0	31.9	29.4
HS Grad	25.4	10.7	33.3	30.6
Some Coll	27.1	10.4	30.6	31.8
College +	15.1	9.0	34.5	41.4
1969-79 Average Earnings Quintile				
Lowest Q	47.2	7.1	24.5	21.2
Fourth Q	24.0	10.0	31.3	34.8
Middle Q	18.4	11.2	33.9	36.6
Second Q	16.0	11.3	36.6	36.1
Top Q	16.8	8.3	37.2	37.6
1977-79 to 1987-89				
ALL	36.0	8.1	28.2	27.8
Age in 1989				
34 - 38	26.3	6.1	25.9	41.7
39 - 43	32.3	6.7	27.8	33.2
44 - 48	34.6	11.5	30.4	23.6
49 - 53	43.4	11.2	31.9	13.5
54 - 58	57.4	7.5	26.7	8.3
Race				
White	34.8	8.3	28.1	28.8
Black	47.2	6.4	26.9	19.5
Education				
LT 12 Yrs	50.3	11.4	24.6	13.7
HS Grad	42.3	9.7	31.9	16.0
Some Coll	39.3	6.9	25.5	20.3
College +	19.6	6.0	28.9	45.5
1969-79 Average Earnings Quintile				
Lowest Q	63.6	5.4	17.5	13.5
Fourth Q	45.1	11.1	25.7	18.2
Middle Q	31.4	12.3	29.4	26.8
Second Q	26.6	6.9	35.9	30.7
Top Q	13.8	4.7	32.1	49.5

Regarding education attainment, only a college degree seemed to distinguish the distribution among career trajectories in the



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1970s; even 61% of high school dropouts had their earnings grow over the decade. However, in the 1980s it was very difficult for high school dropouts to have increasing earnings over time. For men with a high school degree (with and without some years of college but no 4-year college degree) had trouble with earnings growth in this decade. Only those with a college degree had virtually identical chances of moving ahead over time in the both the 1970s and the 1980s.

In the 1980s the entry of the baby boomers into prime age meant that the share of the younger age groups (34-44 year old) within prime age men jumped from 39% in the 1970s to 55% in the 1980s, and the education levels of prime age men increased. Since higher education and younger age within prime age were associated with strong earnings growth in the 1970s, these two demographic shifts should have caused a decrease in the percent on declining paths. But these shifts obviously were overwhelmed by economic forces that led to a rise in the number of losers.

An interesting exercise is to estimate the distribution of winners and losers in the absence of these positive demographic shifts. This can be done by dividing the prime age male population into separate age-education cells: five age groups and four educational levels creating 20 separate cells. For each cell in the 1980s, the percent of earnings losers can be weighted by the 1970s rather than the 1980s population distribution, resulting in an estimate of earnings changes for the 1980s on the basis of the age-education mix of the 1970s. The percent of prime age men on declining earnings paths from this hypothetical combination would have had 39.7% rather than the 36%. By artificially keeping age and education levels fixed at their 1970s levels, this exercise shows that the probability that a prime age male of similar demographic characteristics would have a 63% higher probability (from 24 to almost 40%) of being on a declining earnings path in the 1980s compared with the 1970s.

The change in earnings history of young men just beginning their careers is particularly striking. In the 1970s, only 9% of those ending the decade at ages 34-38 had lower earnings at the end of the decade than at the beginning. This figure nearly tripled to 26% in the 1980s. At the other end of the success scale, 62% of this group had earnings increase by over 40% in the 1970s. This figure dropped to 42% in the 1980s. Therefore, there appears to have been a dramatic turn for the worse for these men during the take-off stage of their careers.

Once again the experience of blacks relative to whites deteriorated. The proportion of white men on declining earnings trajectories increased 11 percentage points, from 24% in the 1970s to 35% in the 1980s. For black men, the increase was 16 percentage points, from 31% in the 1970s to 47% in the 1980s. Given the small number of black men on stable earnings paths,



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only 46% of black prime-age men had positive career advancement in the 1980s.

Table 5 presents the changing earnings of prime aged women. The higher labor force attachment of the 1980s documented in Table 2 is reflected in increasing numbers being on positive career tracks. The age effect on women's earnings trajectories is different from men, presumably because of child-bearing. Generally, as women age from the early twenties to the early thirties, many reduce their labor market attachment to care for their young children. Therefore, there is a relatively high number of women aged 34-38 with earnings losses. The percentage of earnings losers decline through the mid-40s until rising again as women cut back towards the end of their careers.

Table 5: Change in 3 Year Annual Earnings for Women

1967-69 to 1977-79

ALL	38.0	2.9	12.8	46.3
	Loss	No Gain	Gain	Large Gain
	(<-5%)	(+/- 5%)	(5-40%)	(GT 40%)
Age in 1979				
34 - 38	42.4	1.5	9.8	46.2
39 - 43	28.5	4.1	10.2	57.2
44 - 48	36.0	3.2	10.4	50.5
49 - 53	35.7	3.5	19.3	41.4
54 - 58	47.1	2.7	14.1	36.1
Race				
White	38.2	2.8	12.3	46.8
Black	40.0	2.9	14.3	42.8
Education				
LT 12 Yrs	39.5	3.8	12.2	44.5
HS Grad	40.9	2.7	14.0	42.4
Some Coll	25.6	2.5	7.2	64.7
College +	35.5	2.7	14.5	47.3
1969-79 Average Earnings Quintile				
Lowest Q	68.4	0.7	4.4	26.5
Fourth Q	42.3	2.5	4.8	50.4
Middle Q	31.4	5.5	13.7	49.4
Second Q	20.3	4.4	23.7	51.5
Top Q	7.0	6.2	35.2	51.6

1977-79 to 1987-89

ALL	29.9	4.3	18.2	47.7
Age in 1989				
34 - 38	32.7	3.2	14.8	49.3
39 - 43	27.0	3.8	18.7	50.5
44 - 48	19.5	7.1	19.7	53.7
49 - 53	29.8	4.8	22.3	43.1
54 - 58	41.3	3.5	17.8	37.4



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Race				
White	30.1	4.0	17.4	48.5
Black	29.8	6.0	22.6	41.6
Education				
LT 12 Yrs	38.9	6.2	11.4	43.5
HS Grad	31.2	3.4	20.1	45.3
Some Coll	26.4	4.8	17.1	51.6
College +	25.5	3.8	20.2	50.5
1979-89 Average Earnings Quintile				
Lowest Q	87.1	0.0	3.1	9.8
Fourth Q	59.4	1.3	3.5	35.8
Middle Q	45.3	1.8	5.5	47.5
Second Q	24.9	5.0	17.6	52.5
Top Q	17.2	3.8	22.2	56.8

As opposed to prime age men, there were no racial differences among women in either the 1970s or 1980s. As for educational attainment, women with some college, but not a degree, seemed to have done better than other women in the 1970s. In the 1980s, however, women high school dropouts stood out with more losers and fewer winners; all other women showed no progress.

Table 6 presents a comparison of men's average earnings during the 1970s and 1980s. As has been shown with single year studies, men's earnings over the 1980s as a whole were 4% lower than comparably aged men in the 1970s. The gap between whites and blacks increased substantially from the 1970s to 1980s as white men had their average earnings only decline by 2% versus a 17% fall for black men. The differential associated with years of schooling increased, as all groups excluding those with a college degree or more lost significant ground.'

In terms of the "rich" versus "poor" comparison, the combined 10 year average earnings quintiles show that only the top quintile of male earners experienced higher average earnings in the 1980s than in the 1970s. The combined ten year experience of those in the bottom quintile of male earners was devastating. Their average yearly earnings declined by 26% in the 1980s versus the 1970s. In the early period their earnings alone would have been enough to lift a family of four above the poverty line; in the 1980s, they would not have succeeded supporting a family of three on their earnings alone above poverty.

'It may seem odd that all men lost 4% of their average earnings while all but college finishers lost more than 10%. These figures are consistent because the distribution within prime age men shifted to more years of schooling.



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Table 6: Ten Year Average Male Earnings

	1969-79	1979-89	% Change
All	38916	37354	-4.0
Race			
White	39359	38617	-1.9
Black	27289	22708	-16.8
Education			
LT 12 Yrs	27390	22029	-19.6
HS Grad	34733	30719	-11.6
Some Coll	42295	35211	-16.7
College +	54227	53378	-1.6
10 Year Average Earnings Quintile			
Lowest Q	16088	11928	-25.9
Fourth Q	27610	23936	-13.3
Middle Q	34828	32756	-5.9
Second Q	43685	42787	-2.1
Top Q	72460	75413	4.1

Changes in Real Wage Rates

Table 7 presents how wage rates, rather than total earnings, have changed for men between the two decades. Although there is some change in the number of hours in the two decades, it is relatively small. Therefore, the numbers in this table are very similar to those in Table 4 on annual earnings: the number of losers increased by about ten percentage points.

The patterns found in the earnings data for men is reproduced here, with the data revealing that:

- * Black men had the same wage rate experience as white men in the 1970s, but did worse than white men in the 1980s; only 51.5% were on increasing wage rate paths in this latter decade, a figure slightly better than the total earnings gainers;

- * wage rate changes over ten years were very similar for men with different levels of education in the 1970s. But only college educated men (with at least 4 year degrees) had as few losers in the 1980s as the 1970s; the deterioration in the wage growth prospects for high school dropouts was particularly sharp.

- * looking at men on the basis of their ten year average earnings shows a large deterioration for those in the bottom 40%; all quintiles in the 1970s had more than one-half on increasing wage rate paths; in the 1980s, only 29% of the bottom quintile had their wage levels increase while 44% of the second quintile were on rising paths.



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Table 7: Men's Changing Wage Rates over 10 years

	Loss < -5%	Stable +/- 5%	Gain 5-40%	Big Gain >40%
1967-69 to 1977-79				
All	21.5	7.5	36.0	35.0
Age in 1969				
34 - 38	15.9	4.4	24.9	54.8
39 - 43	20.3	2.1	39.3	38.3
44 - 48	20.6	9.5	41.9	28.1
49 - 53	25.9	7.8	39.4	26.9
54 - 58	24.0	13.6	35.2	27.1
Race				
White	21.8	7.8	35.9	34.4
Black	20.0	2.6	37.0	40.4
Education				
LT 12 Yrs	23.8	6.5	36.2	33.6
HS Grad	19.6	7.4	40.6	32.5
Some Coll	18.4	9.9	36.2	35.4
College +	22.7	7.5	29.5	40.4
Average 10 Year Earnings Quintile				
Lowest Q	39.2	6.6	31.7	22.6
Fourth Q	24.1	11.6	33.4	30.9
Middle Q	17.7	5.3	38.1	38.9
Second Q	11.6	9.3	41.2	37.9
Top Q	16.8	4.7	35.2	43.3
1977-79 to 1987-89				
All	34.0	10.2	28.1	27.7
Age in 1989				
34 - 38	28.7	7.1	24.6	39.7
39 - 43	31.1	9.4	27.0	32.5
44 - 48	34.2	11.8	31.8	22.2
49 - 53	39.2	11.0	32.4	17.4
54 - 58	46.4	15.9	28.1	9.6
Race				
White	33.2	10.6	27.7	28.5
Black	42.7	5.8	29.2	22.3
Education				
LT 12 Yrs	49.8	12.2	23.5	14.5
HS Grad	39.7	11.9	31.6	16.8
Some Coll	34.8	9.2	27.2	28.9
College +	20.5	8.8	27.8	43.0
Average 10 Year Earnings Quintile				
Lowest Q	62.4	9.0	16.5	12.1
Fourth Q	45.6	10.3	25.2	18.9
Middle Q	30.7	11.6	27.4	30.3
Second Q	20.4	10.4	38.4	30.7
Top Q	14.0	9.7	31.6	44.7



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As Table 8 shows, women's change in wage levels does not mirror their earnings story with respect to the changes between the 1970s and the 1980s. Rather than having the number of losers go down in the later period, this figure remains constant (appearing to inch up, but not a statistically significant change). This result suggest that the increase in women's earnings trajectories in the 1980s (as shown in Table 5) seems to be driven by increased work effort rather than higher wage rates.

Table 8: Women's Wage Rate Change

	LOSS	STABLE	GAIN
1967-69 to 1977-7			
All	28.9	7.6	63.5
Age			
34 - 38	29.3	8.4	62.2
39 - 43	30.8	10.8	58.4
44 - 48	27.6	6.7	65.7
49 - 53	25.3	8.3	66.4
54 - 58	32.7	2.6	64.7
Race			
White	28.9	7.5	63.6
Black	26.9	8.4	64.7
Education			
LT 12 Yrs	30.7	8.5	60.8
HS Grad	25.2	7.7	67.1
Some Coll	30.4	4.9	64.7
College +	31.3	8.0	60.7
1977-79 to 1987-89			
All	31.4	7.3	61.3
Age			
34 - 38	32.1	5.7	62.2
39 - 43	32.1	7.4	60.5
44 - 48	30.5	8.7	60.8
49 - 53	29.6	7.3	63.0
54 - 58	31.6	8.6	59.8
Race			
White	31.6	6.9	61.5
Black	30.1	9.0	60.9
Education			
LT 12 Yrs	40.8	7.3	51.8
HS Grad	32.5	8.7	58.8
Some Coll	31.7	6.8	61.5
College +	24.6	5.8	69.5

In terms of wage rate changes, there were basically no significant differences based on age or race. However, educational attainment differences did become a factor in the 1980s while they had not been in the 1970s. In the 1980s 41% of female dropouts saw their wage rates decline. By contrast, women



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who graduated from college had a smaller share on declining wage rate paths in the 1980s as compared with the 1970s.

Family Income Change

An earlier work using the same data source, time periods, and age ranges tracked changes in real family incomes adjusted for inflation and family size. This study showed that the percentage on declining standard of living trajectories jumped from 21% in the 1970s to 33% in the 1980s (Table 9). Living standards in the 1980s were higher than in the 1970s because of small productivity advances and the increased paid working time of women: the decade average family income was 14% higher in the latter decade. If prime age women in the 1980s had worked the same number of hours that comparably aged women did in the 1970s, then family incomes would have grown by only 7%.

Table 9: Distribution of Income Changes for Prime-Age Adults

	<u>Loss</u>	<u>Normal Gain*</u>	<u>Large Gain</u>
1970s	21	44	35
1980s	33	43	24

* Normal gain defined as growth of real adjusted family income between 0 and 70 percent over ten years.

The change in family income over time can be caused by changes in asset, transfer and/or labor market income. Earnings can be decomposed further into the activity of other family members and separate wages and hours effects for husbands and wives. Table 10 shows what drives family income change between 1977-79 and 1987-89: a "big contribution" means that the factor is responsible for at least 50% of the change in family income. The range for "some contribution" is 30 to 50 percent of the change.

Table 10: Sources of Family Income Change,
1977-79 to 1987-89, For Families whose
Incomes Changed by more than 10%

	All	Loss	Gain
ALL	93.0	29.1	63.9
Transfers			
some contribution	2.4	0.8	1.6
big contribution	5.2	1.9	3.3
Asset Income			
some contribution	7.4	1.1	6.3



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big contribution	9.6	2.2	7.4
Earnings			
some contribution	11.1	2.1	9.0
big contribution	54.9	18.6	36.3

In 93% of families, there was a family income change of more than 10% over the course of the decade. As can be seen, earnings changes play a big role in 60% of these changes (55 out of 93). By contrast, changes in asset and transfer income play the dominant role in changes in family income in relatively few cases.

In Table 11, the focus is narrowed to those who were married in all six years of the studied periods. In addition, wages and hours effects of husbands and wives are each separately computed; only if the change in one of these variables is responsible for at least 50% of the family's income change is it labelled the cause of the change.

The percent of losers increases from 14% in the 1970s to 25% in the 1980s while the share of gainers declines from 72 to 59 percent. Virtually, all of this change can be explained by the decreased percent of cases in which increasing husband's wages drove family income higher. In both decades, increased work effort by wives over the course of ten years drove family income higher. This represents just the change from beginning to end; throughout the entire 1980s, prime age women worked many more hours than they did in the 1970s.

Table 11: Source of Family Income Change in always Married People, 1970s and 1980s

Cause of Change	loss	+/- 10 %	Gain
1967-69 to 1977-79	14.4	13.5	72.0
Husband's Wage	4.1		29.2
Husband's Hours	4.6		4.3
Wife's Wage	0.7		3.1
Wife's Hours	0.6		9.0
No One Source	4.4		26.4
1977-79 to 1987-89	24.9	16.3	58.8
Husband's Wage	9.4		17.6
Husband's Hours	4.6		6.5
Wife's Wage	2.1		5.4
Wife's Hours	1.5		9.6
No One Source	7.2		19.7

On the other side of the ledger, the percent of families on declining family income paths increased from 14.4 to 24.9%. Just over one-half of this rise was due to the increased number of families that lost ground because of declining husband's wages.



Conclusion

This study confirms other analyses based on comparisons of Census surveys in different years which showed that the 1980s were a period when many more men had worse labor market experiences. The number of losers increased, and only the most educated and highest paid avoided declining earnings. For blacks, high school dropouts, and low earners (demographic groups that overlap, but not entirely), the ability to keep full-time, full-year work declined dramatically. Combined with the declining wage levels, this caused their earnings to decline dramatically.

Another group that fared much worse in the 1980s than in the 1970s was the youngest group of prime age men. During the take-off period of their careers, all but those with a four year college degree did much worse. This obviously bodes poorly for their future earnings prospects and their future family incomes.



THE WHITE HOUSE

WASHINGTON

April 9, 1994

MEMORANDUM FOR PETER EDELMAN

FROM: PAUL DIMOND

SUBJECT: ETR INQUIRY RE FAMILY AND WORK

Peter, to follow up on our last ETR meeting, I would like you to think about heading up a different inquiry than development of skills for the disabled and disadvantaged as described by Tom Corbett. I fear that such a perspective will be too narrow and will lead us back into the type of medical diagnosis model of child development and education that has resulted in the proceduralization -- and consequent dumbing down, increasing cost, and lower performance -- of much of schooling through IEP's, tracking, and the like.

Our two-day session with Carnegie Corporation grantees earlier this year increased my skepticism about the merits of such a narrow perspective. I deeply respect David Hamburg. But the meeting, its summary, and David's subsequent policy recommendations to Bob Rubin troubled me greatly -- the focus on personal, family and community deficits; the medical model of the human development process; the policy prescriptions for all variety of actions to provide substitutes and surrogates for what I think families are best suited to do in nurturing and supporting their own offspring.

As you know, I think there are major issues of family, children, and community about which we do need to think much harder. How about HHS and you exploring these issues from the broader perspective offered by Secretary Shalala in her initial remarks to the first meeting of the ETR Group, to which you alluded in your preliminary paper to the ETR group: how can parents in the new economy work and nurture their children? what supporting roles can and should government at each level, schools, employers, churches, non-profit and other community-based organizations play in supporting parents in the nurturing of their children? Is this another area where leverage, steering, and creating supportive conditions makes more sense for federal policy than governmental command and control, direct public financing or provision of service, or heavy lifting and active rowing by public service workers?

In undertaking this inquiry, why not **start** with the focus of building on the strengths of two-parent working families, the capacities of single parents, and the assets of most children? I think the challenge is to figure out how to make sure that family and work in the new economy can work to encourage parents to nurture their own offspring and to secure a better future for themselves and for their children.

If we begin from this perspective, then we can begin to think about a variety of initiatives that may help all children and families. For example, interactive games at home might provide parents with a new pathway for connecting with and nurturing their young children, one that could in succeeding years lead to a lever for learning that connects school and home, parents, teachers, students, children and peers. Another example: peer teaching, group learning, and peer service and peer activities in school, in the community and at home. Another example: your million mentors or coaches and other partnerships that can build on assets and promote opportunities for youth (and support for families).

I get lost when we try to professionalize, prescribe, diagnose, or otherwise substitute one social or human service or another for family nurture and support of children. I fear that starting with a focus on presumed handicaps, disabilities, deficits and problems will limit the reach of our vision -- we'll be looking through the wrong end of the telescope (or, worse, looking for pathologies and prescriptions through a microscope).

After you have thought about this, could we discuss before you get back to the ETR group with a definition of a new area of inquiry and process for addressing? Maybe, you can help us reinvent all of our thinking -- and HHS, DOEd, and DOL!

Thanks for your continuing insights and help.

cc Bo Cutter
Bill Galston
Gene Sperling

Paul D.

THE WHITE HOUSE
WASHINGTON

February 17, 1994

MEMORANDUM FOR JACK DONAHUE
LARRY KATZ

FROM: BONNIE DEANE *BD*
SUBJECT: INCUMBENT WORKER TRAINING

As a follow-up to your recent discussion on incumbent worker training, Paul Dimond asked me to write up an idea which Bo has talked about concerning work experience as job training. Paul felt that he had mentioned it, but missed some of the essential features of the concept.

You may have heard Bo discuss an exchange program between Coopers & Lybrand and a major auto manufacturer in which workers temporarily were allowed to work at the other site. Coopers sent cash managers to work at the auto company's cash management office. The auto manufacturer sent strategic planners to work with Cooper's senior management consultants. This is a significant concept for several reasons:

- 1) The exchange program offers the only classroom which is cutting edge and never out of date.

It captures the idea that most learning in the future is experiential--not classroom-based. In this vision people are learning by seeing and working closely with the best in the business. Unlike other incumbent worker training schemes (e.g. consortia, income-contingent loans, or tax incentives), this exchange program does not rely greater financing of classroom or "artificially orchestrated" learning situations. Nor does it rely on OJT within the company which is never any better than the company itself. Neither classroom nor OJT can raise workers to state of the art levels in their occupation.

- 2) The exchange program relies on informal networks and personal vouching which will always be the driving force in assessing leading edge skills.

The exchange program concept does not rely on skills standards, certifications, or testing which can become outdated very quickly. While such standards may be exceedingly helpful for broad, entry level job descriptions, workers with ten years experience and significant specialization need a more flexible framework. For highly

recommendations and job experience.

- 3) The question "Training for what?" is irrelevant for the exchange program.

Since choices are made by employers and training takes place in real work settings, there is no question about the value or applicability of the training.

- 4) If this is truly a glimpse of leading edge training in the future, how do we facilitate more exchanging?

Bo has suggested that "Job credits" could increase the liquidity in the system. In today's world, such arrangements are made on a bi-lateral, barter basis. If companies could accrue credits for allowing people to work in their company, they could spend the credits placing their employees elsewhere. This would be like listing your house or time share in a house swapping network. Companies would gain prestige from being highly sought after as a training location—it would enhance their reputation for quality. Having such a listing would presumably have more far reaching effects than the traditional "job bank."

Could we enhance individual choice? Would such a framework for exchange programs allow workers to self-fund or self-select their exchange experiences?

What are the international implications of such a system?

Does this require any legislation or is it a private, voluntary effort perhaps funded by a small demonstration grant?

- Competition within sectors may necessitate exchanges between sectors?

NATIONAL COMMISSION FOR EMPLOYMENT POLICY
1522 K Street, NW, Suite 300
Washington, D.C. 20005

Chairman

(202) 724-1545

TO: Paul Diamond
Special Assistant to the President for Economic Policy

FROM: Anthony P. Carnevale *APC*
Chair

SUBJECT: Background on Employer-Based Training and Technology

I have enclosed a memo on employer-based training that I provided both to the Department of Labor and to Bonnie Dean.

I know it runs rather long; however, it provides both the description and the current policy proposals.

The memo (also provided to Bonnie Dean) on jobs for the new economy is the good news of technology creating jobs.

I hope these memos will be useful for you.

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NATIONAL COMMISSION FOR EMPLOYMENT POLICY
1522 K Street, NW, Suite 300
Washington, D.C. 20005

Chairman

(202) 724-1545

TO: Paul Diamond
Special Assistant to the President for Economic Policy

FROM: Anthony P. Carnevale 
Chair

RE: Jobs and the New Economy

DATE: March 8, 1994

As always, the cutting edge of change on the job is lost in statistical averages where the inertial dead weight of past practices overwhelms what is new and newsworthy in American workplaces. Hidden in the current averages is the fact that a bare 20 percent of cutting-edge American workplaces are leading the way from an "old" to a "new" economy.

The driving force in the shift from the old to the new economy is an expansion in competitive requirements from the old standard of price competition in the production of standardized goods and services to a more complex set of competitive standards, including quality, variety, customization, customer convenience, timeliness and continuous innovation.

In order to meet new competitive requirements at least cost, employers are installing new flexible technologies. These new technologies can meet and monitor higher quality standards, provide variety or customize with a few keystrokes, guarantee user friendly convenience at the interface with the customer and integrate complex organizational systems with information that expedites operations and encourages continuous innovation.

In order to meet new standards and exploit new technologies, employers are also creating new flexible organizational formats. Leading-edge organizations are creating new networks of alliances and partnerships to enhance their capabilities. Inside organizations, employers are creating new "high performance" organizational formats that are leaner, flatter and more flexible.

The new economy is good news for American workers, especially front-line workers. A substantial share of improvements in quality, variety, customization, convenience, timeliness, and innovation can only come at the point of production, service delivery,

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PRESERVATION

and at the interface with the customer where most Americans work. In addition, the new flexible technologies are widely distributed up and down the line in every workplace - flexible production machinery on the factory floor and a computer on every desk in service organizations.

In order to effectively meet new competitive standards, effectively utilize new "high performance" work formats and exploit new technologies, new "high performance" leading edge employers are empowering front-line workers with new autonomy and enabling them with new skills.

The new economy creates high skill/high wage jobs. Even the aggregate data demonstrate a clear shift toward jobs that require formal learning beyond high school. The relative earnings advantage increases for those with formal learning beyond high school, and real earnings increases continue for those with formal learning beyond college.

The relative demand for college-educated workers continues to grow. The complexity of meeting new competitive standards in a complex organizational context assures increased demand for managers, professionals, customer service workers and technical workers. That reality is reflected in current occupational data. For instance, even in manufacturing where overall hiring is declining on the shop floor, substantial hiring continues to occur for managerial, professional and technical jobs.

The fastest growth in jobs comes in occupations that require more than high school and less than college. For instance, the manufacturing technician working with powerful and flexible technology and work formats provides unprecedented productivity, variety, speed and quality. The service worker armed with autonomy to customize a diverse array of products tailors services to individual needs with the help of new information technology. The growing number of health technologists and para-professionals in every field are further evidence of the growing need for formal learning beyond high school.

The jobs in the new economy are not only more autonomous, skilled, and highly paid, they are also safer and use more of the whole person at work. As flexible technology takes on more of the rote physical and mental labor, workers spend more of their time interacting with coworkers and customers to meet new standards and deploy technical capability. The volume of non-repetitive human interaction increases, utilizing a mix of higher order technical and social skills. In the new economy, work becomes a more effective venue not only for leveraging material wealth, but for human development as well.

NATIONAL COMMISSION FOR EMPLOYMENT POLICY
1522 K Street, NW, Suite 300
Washington, D.C. 20005

Chairman

(202) 724-1545

TO: Paul Diamond
Special Assistant to the President for Economic Policy

FROM: Anthony P. Carnevale *APC*
Chair

SUBJECT: Employer-Based/Incumbent Worker Training

DATE: March 8, 1994

Here is a background memorandum on employer-based (incumbent worker) training.

DESCRIPTION

There are eight categories of incumbent worker training and curriculums:

- (1) **Organizational Training** for employees who have responsibilities for others or for work processes (e.g., executive development, management and supervisory training and team training);
- (2) **Technical Training** to develop, install and maintain new technology (e.g., training for engineers, scientists, technicians in manufacturing, technologists in health care, data processing workers and skilled trades workers such as electricians and millwrights);
- (3) **Skill Training** to teach employees to use new technology and software (e.g., training for workers from machine operators to clericals);
- (4) **Customer Interface Training** for employees who work with customers (e.g., sales people, cashiers and service workers);
- (5) **Strategic Training** necessary to achieve specific goals (e.g., quality training);
- (6) **Professional Training** to help nontechnical professionals brush up and keep up (e.g., retraining for accountants, architects, doctors, lawyers, etc.);

(7) **Basic Skills Training** for workers whose academic preparation in the three R's impede performance and adaption - notably this training accounts for only about \$300 million of the \$30 billion in employer training), and

(8) **Regulated Training** to comply with OSHA, environmental, or other governmental mandates.

A second set of curriculums are organized by subject matter, but content tends to be customized to the specific industry or occupational context:

- (1) academic basics: applied reading, writing and computation;
- (2) adaptability skills: learning, problem solving, creativity;
- (3) listening and oral communication;
- (4) interpersonal, negotiation and teamwork skills;
- (5) leadership and organizational effectiveness;
- (6) career development, motivation and goal setting, and
- (7) managing and valuing diversity.

STATUS

American employers spend about \$30 billion a year on training - 1.02 percent of payroll costs. By way of comparison expenditures for new plant and equipment are projected at \$552 billion for 1992. Training leaders like Motorola, IBM, Federal Express and other high-training companies spend between 3 percent and 10 percent of payroll on training.

In the large companies where training occurs, it is generally not distributed in an elitist fashion. As you can see from the above training categories, much of the training goes to non-college and non-supervisory workers, especially if we add in regulatory training. For instance, BLS data show that a higher proportion of technicians and technologists get more formal retraining than executives. Employer based training is elitist to the extent that technical and skill training is more job-

specific, and management and executive development is more "general." The real elitism in employer-based training stems from the fact that so few employees outside companies over 10,000 employees get any. Only 16 percent of American employees have ever had any training from their employer.

Employer-based training is increasing. In 1983 BLS calculated that about 11 percent of workers had ever received formal training from their employer, increasing to 16 percent in 1991 - a 45 percent increase in training compared to a 17 percent increase in the size of the labor force. In addition, the training has increased in duration. Between 1983 and 1991, the proportion of worker-trainees who received training of less than 12 weeks declined from 72 percent of trainees to 33 percent of trainees. At the same time, the proportion of worker-trainees who received between 12 and 25 weeks of training increased from 8 percent of trainees to 32 percent of trainees.

Although the increase in employer based training is impressive, we do well to keep in mind that these are increases on a relatively small base. In addition, natural growth in employer-based training is limited to large organizations and skilled workers. As a result, natural increases in employer-based training fail to match resources to needs and do not align with specific components of our competitiveness and opportunity strategy.

While comparisons are difficult, it is clear that we don't train on the job nearly as much as our competitors. European governments spend at least four times as much as American governments on workplace training. Comparisons are especially unfavorable for non-college workers. For instance, 66 percent of German workers are involved in apprenticeship programs that include education and workplace training. Only two-tenths of one percent of Americans are involved in similar programs. The French employer training mandate is currently set at 1.7 percent of payroll. The Japanese embed training in work processes and equipment and still provide three to four times as much formal training as American employers.

THE CASE FOR TRAINING INCUMBENT WORKERS

Leveraging Employer Involvement: Current and proposed policies require an employer-based involvement including:

1. the integration of schooling and work-based learning for non-college youth as well as incumbent, disadvantaged, welfare-dependent and dislocated workers;
2. developing curriculums and education/training systems consistent with work-based skill standards, and
3. the inclusion of training elements in our high performance work, small business development and technology policy initiatives.

Meeting New Performance Standards: If American workers are to meet modern competitive performance standards -- efficiency, quality, variety, customization, convenience, customer service, speed and continuous innovation -- they will need more skill, especially among employees who work at the point of production, service delivery and at the interface with the customer where a substantial share of these standards are met and where our least educated and trained employees are located.

Exploiting New Technology: Modern flexible technologies in combination with skilled employees allow us to meet new competitive standards while maintaining efficiency. Moreover, new technologies are widely distributed throughout organizations requiring new skills up and down the line. American workplaces are running a huge technology and equipment deficit. Our investment levels are half that of the Japanese and only two thirds of investment commitments among our G-7 competitors. The U.S. ranks 20th in the use of advanced machine tools. International studies show that Japanese and European employers install equipment twice as fast and garner quicker and greater returns from equipment spending due to greater training of workers. Where numerically controlled (CNC) machine tools are installed in the U.S., only 25 percent of workers are trained in their use as compared with virtually 100 percent in Japan. Technical and skills training will become ever more important as new tax incentives, "technology policy" and "21st Century Infrastructure" leverage an avalanche of new technology into the nation's workplaces.

Building High Performance Workplaces: "High performance workplaces" push autonomy and skill down the line where new competitive standards are met and new technologies installed. These new structures are flatter, decentralized and are integrated by consensus goals rather than top down authority. Job assignments are broadly conceived and overlapping. Workers in high performance work organizations need new skills to manage their newfound responsibilities and

technical capacity. Available data suggest that somewhere between 5 percent to 26 percent of American organizations are experimenting with high performance work systems, depending on how generously one defines high performance work initiatives.

Improving Productivity, Earnings and Employment Security: Evidence consistently shows unusually high productivity returns from training on-the-job. A typical study found that an increase in training raised productivity by 13 to 15 percent. Incumbent worker training also leverages earnings and increases employment security. Literature on wage gains from skill enhancement shows that incumbent training is more effective than adult education in raising workers wages, resulting in wage gains from 10 to 30 percent. Workers who get training from their employers are 40 percent less likely to become unemployed and if dislocated the duration of their unemployment is reduced by 30 percent compared with workers who don't receive training on-the-job.

POLICY IMPLICATIONS

Current legislative proposals for training incumbent workers are proceeding along two tracks. One track proposes training for incumbent workers as well as the development of high performance work systems as an integral part of legislative proposals for apprenticeship, job creation, trade, technology policy and defense conversion. The inclusion of incumbent worker training and the installation of high performance work systems as a programmatic element in legislative mandates emerging in a number of Federal departments requires high levels of collaboration between DoL and other Federal departments as well as the development of new relationships with unions, trade associations, individual employers and other public institutions in the field. The DoL will need to collaborate with the Department of Education to provide the incumbent training complement to occupational education in developing apprenticeship and school-to-work programs. DoL will need to work with the Department of Commerce to assist in the high performance work and training missions already included in legislation on "technology policy." Similarly the Department of Defense conversion legislation includes substantial commitments on the installation of incumbent training and high performance systems in order to modernize the defense industrial base. Legislation contemplated for energy and transportation are likely to carry similar commitments. DoL will need strong technical assistance capabilities in Washington and in the field to collaborate successfully.

A second set of legislative proposals focuses on increasing the quantity and quality of incumbent training in general. Policies to leverage incumbent training in general are justified based on the current under-investment in worker training by employers. Moreover, proponents argue that increasing workers' skills through incumbent training can encourage employers to also upgrade technology and work processes. Proposals to leverage training for incumbent workers include employer mandates, tax incentives and technical assistance.

Advocates of training mandates point out that they are proven in France and Australia and would have the most dramatic impacts. The Clinton mandate, for instance, would increase employer expenditures on training from \$30 billion to \$51 billion and would cover 75 percent of American workers. Training mandates are opposed by both business and organized labor. Those opposed to mandates in both unions and businesses argue that a training mandate over-emphasizes training relative to job creation, trade, technology and high performance work policies that drive training. They argue further that incumbent worker training policies are most effective when integrated into these latter policy areas. In addition, opponents argue that a training mandate creates an antagonistic relationship with business in a new policy arena where collaborative relationships would be most effective, at least initially. Moreover, they assert that mandates are premature and that policy for incumbent worker training should proceed apace with the introduction of new technology and high performance work systems. Business interests, especially mid-sized and small business, also are opposed because they anticipate additional mandates for family leave and health care as well as OSHA and environmental restraints.

The most popular tax incentive for incumbent training is a tax credit to pay part of the cost for new training, modeled along the lines of the R&D tax credit. Tax credits for training have been consistently proposed by commissions and a bi-partisan series of Federal legislators since Lloyd Bentsen first proposed a tax credit for incumbent worker training when he chaired the JEC in the seventies. Recent discussions center on the inclusion of incumbent training as an eligible activity in a revived Investment Tax Credit. Business tends to support tax credits and indications from the AFL-CIO suggest it might support a tax credit if suitable provisions for worker participation were included.

A general tax credit is likely to encourage most new training among large firms that already train. The design challenge for a training tax credit is to devise a credit that:

1. maximizes new spending for training,
2. assures general training over job-specific training, and
3. reaches more than large institutions that already train.

The consensus format for a training tax credit that would meet the latter requirements and would be both technically and politically feasible would provide a proportional credit against tax liability for the direct costs of annual spending increases for front-line supervisory training as well as skill and team training for non-supervisory workers. Eligible training would have to meet standards to assure quality and general (vs. job specific) applicability of training covered under the credit.

Smaller organizations would be allowed to pool credits.

All by itself, training is valuable, but we will get more competitiveness and opportunity bang for our training bucks if we align training subsidies of whatever kind with specific policy goals of the kind listed above. Training subsidies are best thought of in two ways: as the bait to leverage those policy goals and as a necessary component of programs to achieve them.

Other design features could be added to encourage more impact on overall training levels, more general vs. job-specific training, and a greater complementarity with other policies that would benefit from a work-based training component:

1. The size of the tax credit could be varied or made exclusively available for employer training associated with school-to-work programs, work-based training to meet national skill standards, structured work experience and work-based training for upgrading the skills of JTPA or welfare clientele, part-time, temporary or dislocated workers, structured OJT or formal training necessary to transition to high-performance work and work-based training attached to a modernization effort in collaboration with Federal small business development or industrial extension agencies.

2. The size of the tax credit could be varied or made exclusively available depending on contributions from state funds. A requirement of incentive for state contributions would be especially appropriate when associated with specific public purposes such as those listed above.

A system of grants and demonstrations could complement or provide a more incremental substitute on the way to a training mandate or a tax credit. A Federal grant program could be used to leverage current state spending for "customized" employer-based training. It could also be used in combination with contributions from state funds to support employer-based elements in the programmatic categories listed above (i.e., school-to-work, skill standards, JTPA, welfare or dislocated clientele; small business or industrial extension).

The Administration's leadership and technical assistance strategy on employer-based training is already off to a strong start. Administration leaders, principally the President and Secretary Reich, have articulated the work-based training agenda superbly. Both DoL and DOE have moved forward with R&D efforts as well. The further development of a leadership and technical assistance strategy can have real impact and provides both the path of least cost and least resistance along the way to more aggressive attempts at leveraging work-based learning through tax credits or mandates. A leadership and technical assistance strategy would also become a necessary complement to either a tax credit or grant-based approach to assure that new publicly subsidized training meets appropriate standards.

A technical assistance agenda should be delivered through business and labor organizations and should focus on:

1. Inventory, benchmarking, analysis, standard setting, the crafting of best practice models and their dissemination in areas such as:

- ◆ school-to-work
- ◆ apprenticeships
- ◆ skill standards

- ◆ instructional systems design
- ◆ informal high performance learning systems
- ◆ curriculums for supervisory, technical and behavioral skills.

2. An examination of the above issues in the context of particular industries as well as product (i.e., biotechnology) and production technologies with active industry and labor involvement.
3. A field strategy to integrate best practices through demonstrations and the facilitation of ongoing benchmarking among industry and labor institutions.

The notion of utilizing loans to individuals and institutions for work-based training has received less attention, but deserves more. Loans are effective devices for funding long-term development for individuals and leveraging private organizational capital. There is evidence to suggest that loans have been effective in the retraining of dislocated workers, and recent proposals from lending authorities to expand their portfolio to corporate clients deserve further analysis.

Collaborative approaches to promoting incumbent worker training are cheapest and offer the path of least political resistance. Collaborative approaches include the promotion of voluntary standards, R&D, technical assistance, dissemination of model practices and demonstration projects. Collaborative approaches are inherently flexible because they can provide voluntary assistance on installing high performance work designs as well as training, and with industry and labor participation, they can be customized to particular industry contexts. Moreover, they are voluntary and participatory building public private relationships in an incremental and non-intrusive fashion. Finally, they would build the institutional relationships and expertise that would allow DoL to be a strong partner working with other agencies, unions, trade associations and delivery institutions in the field to leverage incumbent worker training and high performance work systems in the full range of American workplaces.

FIRST DRAFT

THE ADMINISTRATION'S MESSAGE ON LIFELONG LEARNING

The Message: In today's economy, knowing just enough to do a specific job well is not good enough. People need to be prepared to learn throughout their lives, on the job and off, from preparing for a first job, to upgrading their skills while employed, to getting a second chance at education and training when they're left behind or left out. Further, lifelong learning must be provided in ways that are flexible, convenient, appropriate, and cost-effective.

With respect to preparing for the workplace, "Lifelong Learning" encompasses the needs of individuals at three stages:

- o **Initial Job Preparation/Qualification.** High-wage jobs increasingly call for entry-level workers with solid academic and occupational skills, with ability to solve problems and be flexible, and creative.
- o **Skill Upgrading.** Skill requirements for existing jobs are constantly changing.
- o **"Second Chance" Education and Training.** People left behind need second chances to improve their basic and job-related skills so that they can support themselves and families.

The Problems:

1. **Coherence.** There is currently no coherent current "system" for lifelong learning appropriate to the workplace. Numerous federal programs, for example, were designed to address the needs of narrow categories of individuals (e.g., workers displaced by trade agreements). See attached chart for some of these programs.
2. **Gaps in Availability of Training for Certain Groups.** While current programs provide education and training to many people, large numbers--especially the least skilled and front-line workers--fall through the cracks. For example, businesses are estimated to spend some \$30 billion per year on training, but much goes for managers and professionals.
3. **Quality of Training.** Many programs are of unproven or questionable quality and effectiveness. We have few mechanisms to promote (or even identify) high-quality programs.
 - Much federally supported postsecondary training takes place in proprietary schools whose quality varies widely. Some training is short-term and unrelated to local labor market requirements, and ends up saddling students with debt.
 - Much of the education and training provided as a "second chance" (e.g., adult education for welfare recipients or school dropouts) appears to have little payoff in the labor market and is characterized by high turnover among students and instructors.

- Much education and training still takes place in rigid formal settings (e.g., teacher-directed classroom, inflexible schedule) that may not be cost effective and may be inappropriate for the learning needs of adults.
- Training provided may be in skills that may soon be outdated.
- 4. **Resources.** Much training currently provided by business is short-term. There is a real question of how to stimulate sufficient public or private investment in the longer-term education and training that may be necessary to bring many prospective workers up to a standard of "employability."
- 5. **Business involvement.** U.S. businesses often are reluctant to provide training given labor-force mobility; in addition, we have no strong tradition of labor/management cooperation in training (as exists in some European and Asian countries).

Existing Types/Mechanisms of Federal Support:

- o **Vouchers.** These provide direct support to individuals (e.g., student postsecondary financial aid).
- o **Grants and Contracts.** Provided to states, localities, and institutions to provide education and training services (e.g., adult education centers, community colleges, proprietary schools).
- o **Tax Code.** Deductions to employers (or exclusions of reimbursement from income to employees) for costs of training.

Some Principles of A 21st Century Lifelong Learning Policy:

- o **Quality.**
 - Students need assurance that the programs they are attending can provide real skills for real jobs.
 - New technologies and effective instructional techniques should be encouraged.
 - Training should be designed to conform to the needs of learners (e.g., short- vs. long-term; appropriate to learner's level; flexible schedule; convenient).
- o **A Systemic Approach.** Rather than the existing fragmented, piecemeal approach, we should encourage a systemic approach to training.¹
 - Federal programs including those of ED, DOL, school-to-work, Defense, Treasury, etc., need to share information and coordinate services.

¹ See Committee on Postsecondary Education and Training for the Workplace, Preparing for the Workplace, National Academy Press, Washington, 1994.

o **Portability and Flexibility.**

- Skills acquired should be recognized and recorded so that they are portable (other countries do this now).
- Appropriate opportunities for training should be available to people throughout the lifespan, in ways and places that are convenient.
- There should be multiple models for training (secondary, postsecondary, on-the-job; individualized, small-group, large-group, etc.).

o **Multiple sources of financing.**

- Employers should finance training that is closely related to the requirements of their business (but they may or may not provide the training themselves; e.g., may contract with community college).
- For less directly business-related training, multiple sources of funding should continue to be utilized. Federal resources should not be spread too thinly, but should be concentrated where they have the opportunity to have an impact.

Further Policy Development: Some Areas to Consider

- Build on the development of occupational skill standards to provide individuals with qualifications records, updated as necessary, that state what skills they have mastered.
- Expand the notion of "one-stop shopping" to create information hubs where a broad range of individuals can have their own skills assessed, obtain information about the local labor market opportunities, and obtain information about the nature and quality of training programs and financial assistance.
- Provide individuals with timely information about the nature of the package of support (grants and loans) that they can expect, according to financial circumstances, to pursue postsecondary education and training.
- Conduct additional research and evaluation; publicize results ("what works").
- Consider ways to feed up-to-date information on future labor-market requirements into the education and training systems.
- Encourage collaboration across small business and/or unions to provide and finance occupation-specific training jointly. Provide technical assistance.
- Consider changes in tax code to stimulate business investment in training for front-line workers.

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THE WHITE HOUSE

WASHINGTON

March 2, 1994

MEMORANDUM FOR ETR POLICY FOLKS -- See Attached Distribution

FROM: BILL GALSTON
PAUL DIMOND

SUBJECT: LOOKING OVER THE HORIZON, DEFINING OUR AGENDA

Please find enclosed a series of short papers which attempt to look over the horizon to flesh out a strategy, or to fill in any gaps in our conceptual framework, to achieve our agreed policy direction -- embracing change. The papers cover a variety of topics:

- Lifelong Learning
- Job-Changing Tools
- Growth Strategy for Competitiveness and Good Jobs
- How to Address Inner-City Labor Market Problems
- A Process for Answering the Question, "Where are the Jobs?"
- A Cross-Cutting Outline -- How are We Doing on the Horizontal Axis?
- Three Examples of Looking Over the Horizon to Develop Policy?

Please let us know if you need a copy of the President's February 22 Speech to ACE, the relevant portions of the 1995 Budget Report, or the G-7 Jobs Conference Theme Paper. In addition, the following persons have volunteered to circulate by next Wednesday additional perspectives on the issues:

- ✓ ● S. Cashin, Minority Entrepreneurship
- ✓ ● T. Carnevale, A Strategic Framework for Workers and Firms to Embrace Change
- ✓ ● J. Donahue, Incumbent Workers -- A Strategy for Continuous Learning and Improving Earning
- ✓ ● P. Edelman, Overcoming Discrimination; Human Service Support for Families to Facilitate Learning, Work, and Earning
- ✓ ● L. Finch, Three DOD Case Studies -- Lifelong Learning, Job Changing to Private Sector, Technology as a Lever to Promote Productivity of Learning
- NO ● A. Munnell, Should Public Investment be Concentrated on K-12 Education to Build a Better Platform for Lifelong Learning and Earning rather than on Post-Secondary Education and Training Programs?
- ✓ ● M. Schmidt, Putting People First--Promises Made, Promises Kept?
- ✓ ● M. Smith, Beyond (or Outside) the Matrix -- A Conceptual Strategy

If any others want to weigh in, please do. We'll circulate the papers and propose an agenda for our next meeting that will move us forward. Thanks for your continuing help.

2/1 JD (primitive first) DRAFT

JOB-CHANGING TOOLS

Problem Definition: As economic change accelerates and structures shift, repeated job changes will become more the norm, even for mainstream workers. While there is some disagreement on the degree to which the 1990's and beyond will differ from the recent past in this respect, at this level of generality the need for Americans to be better equipped to change jobs is fairly well established.

Policy Development: Job-changing tools break down into three broad categories:

1. Skills: Some workers will be able to prosper during their entire careers with the same set of skills, but that fraction of the workforce is almost certain to shrink. For most workers, the most important job-changing tools will be new or updated skills to let them re-establish an advantageous connection with the labor market. Much of the Clinton workforce agenda has been focussed on skill-building initiatives.
2. Information: The faster the pace of economic change, the more valuable is information--about job availability, job quality, skill requirements, and so on--and the less adequate are traditional information networks. While there is a labor-market information component to the Re-employment Act proposal, information has arguably be too little emphasized throughout the workforce policy agenda.
3. Re-employment services: Job transitions are demonstrably eased through a range of re-employment services--counseling and assessment, job-search advice, interview and resume coaching, and so on. These services can be purchased privately, provided by the government (usually packaged with information or skill-building), delivered through employers, or otherwise arranged. The policy discussion has dealt primarily with government provision.

Proposed Legislation: The centerpiece here is the comprehensive Re-Employment Act (previously Workforce Security Act; final label uncertain.) Its elements include: consolidating programs geared to specific causes of dislocation (six, to start) into a single system open to all dislocated workers; one-stop access to all re-employment services (and for some states, broader one-stop centers covering programs beyond those for dislocated workers); basic re-employment services, with customer-oriented delivery

systems; longer-term training for the minority of dislocated workers who need it, along with income support (for longer-tenure workers) to make training practical; a labor-market information system.

The second major piece of proposed legislation concerns voluntary national skill standards, included as a title in Goals 2000.

Depending on how broadly job-changing tools are defined, several other items of proposed legislation fit into this category.

Existing Legislation: An enormous range of existing legislation--covering the employment service, various skills programs, tax laws governing outplacement services, and so on--affect how job-changing tools are developed and deployed. No catalogue yet developed.

Implementation: The challenge of implementing the skill standards legislation is likely to be upon us within months or weeks. The Re-employment Act--a much larger administrative task--will likely move to implementation by the end of the year.

GROWTH STRATEGY FOR THE NEW ECONOMY:

INVESTING IN PEOPLE
GLOBAL FOCUS
TECHNOLOGY LEADERSHIP
THE AGILE FRONTIER

Kent Hughes
February 9, 1994

Manufacturing, Services and the Information Age: At the February 3 session of the workforce policy team, there was a spirited discussion about manufacturing, services, the impact of the information age on everything from the growth of the agile firm to making fundamental changes in what and how we learn. Bonnie asked me to reflect what I had heard at the session in my strategy-for-growth outline. I have added a brief overview of the last session and an amended outline.

Manufacturing Matters: Over the past decade, U.S. manufacturing has run into severe international competition. Early in the decade the public debate emphasized the transition to a service economy and the transition from traditional to high tech industries. To some, the debate on manufacturing reached its andir with the view that the composition of an economy's output did not matter -- that potato chips were in fact as important as computer chips.

The Administration has taken a decidedly different approach to emphasize everything from an active technology policy to the importance of the information infrastructure in supporting the emergence of agile manufacturing.

Manufacturing does matter. It continues to account for about 25% of GDP, drives much technological innovation, and allows us to trade internationally for a variety of goods and services we want to acquire abroad. Although it is a declining (certainly in relative terms) source of direct employment, it is linked to wide range of information and other services generated by the non-manufacturing sectors of the economy.

But, So do Services: The service economy accounts for the largest share of GDP, almost eighty percent of current employment, all the net job growth in the 1980s, and a significant share of international trade. There was even speculation that soft ware incorporated in or sold in conjunction with manufactured items may be our largest single export.

It is wrong to think of services as simply flipping hamburgers or, as it was stated in an earlier time, simply sweeping up around imported computers. Trends in employment point to sharp increases in managerial and professional jobs while low skilled service employment growth is limited.

The Information Age: The information content of today's agricultural products, manufactures, and services is high and growing. In addition, information services are already being traded for each other (and as intermediate products). The growing ease of two way communication will lead to a further fraying of boundaries -- of both companies and countries.

The trend towards the voice activated, intelligent agents will reduce the emphasis on today's computer skills in favor of thinking and other basic analytic tools.

In many areas, the information super highway suggests a more fluid, more flexible company and labor market. It was even suggested that the information age might demand new ways of teaching and learning beyond the traditional school.

I: Where Does the U.S. Economy Stand?

- a. Standard of Living
- b. Exports
- b. Manufacturing Productivity
- c. Investments
 - a. Plant and Equipment
 - b. People
 - c. Education
 - d. Research and Development

II: Manufacturing

- a. Share of GDP
 - 1. Defense
 - 2. Computers
- b. Employment
 - 1. Decline
 - 2. Mixed Picture
 - a. High Performance Workplace
 - b. Bring Work Back
 - c. Recapture Market Share
- c. Productivity Growth
 - 1. 1970s slump
 - 2. 1980s rebound
 - a. net investment continues to decline
 - b. significant investment to:
 - o defense (largely shielded from international competition.
 - o services
 - c. part shedding fat/part adding muscle
 - d. information and organizational technologies capital saving?

III. Services

- a. Share of GDP
- b. Employment
 - 1. Source of all net new jobs
 - 2. Mixed skills -- cooking french to speaking French.
 - 3. Rising share of managerial, professional, technical.
- c. Productivity Growth
 - 1. Anemic
 - 2. Measurement Problems
 - 3. Baumol's Law
- d. Growing Exports/Growing International Competition
- e. Growing Domestic Competition in Many Areas
 - 1. 1970s/80s Deregulation
 - 2. Communications revolution
 - a. Customer designing not just buying
 - b. Catalogue competition
 - c. Quick delivery/the inventory edge
 - d. Express World
 - 3. Organizational Innovations
 - a. Wall Mart/Super Store
 - b. Twenty Four Hour Working/Trading
 - c. Going National -- (law, accounting)

IV. The New Challenges

CHANGING FORCES:

- a. Global Competition
 - 1. Virtually all manufacturers (except defense) face global competition.
 - 2. Services -- including domestic via foreign investment -- face added global competition.
- b. Growing Domestic Competition
 - 1. Deregulation
 - 2. Information Technologies Linking Markets
- c. Technology:
 - 1. Increased pace of change
 - 2. Competition through innovation
 - 3. New flexibility in producing goods and delivering services.
- d. The Demanding Customer
 - 1. Multi-national
 - 2. Beyond quality to tailor made.
- e. The Information Age
 - 1. Software/Hardware
 - 2. Allowing new links --
 - a. Among domestic firms
 - b. Globally
 - 3. New products/processes

THE CHALLENGE TO WORKERS, FIRMS, GOVERNMENT:

- e. The Agile/Dynamic Firm
 - 1. Workers
 - a. Heavy Thinking from Heavy Lifting
 - b. New Technical Skills
 - c. New Social Skills
 - 1. Coach Not Manager
 - 2. Leading Cross Functional Teams
 - 3. Becoming Part of the Learning Organization
 - 2. Defining/refining core competencies
 - 3. Winning a niche
 - 4. Competing through innovation/quality/service
 - 5. Working with new friends/old foes
 - 6. Defining a new relationship with the public sector
- f. The Agile Government
 - 1. Thinking Like a Strategic Planner
 - 2. Working with markets
 - 3. Supporting agility
 - 4. Becoming an effective partner
 - 5. Responding to shifting private sector investment needs
 - 6. Providing leadership abroad and meeting social needs at home.
- g. The Mobile Worker
 - 1. The New Education: The need for higher basic competencies -- in thinking, for analysis and communication, experience with teams, preparing for change.
 - 2. Portable benefits
 - 3. Managing the tension between the reality of change and the importance of team loyalty.

V: President's Program:**Competitiveness as a Puzzle of Many Pieces**

- o No single answer
- o The right pieces; combined in the right way.

President Clinton has developed a comprehensive competitiveness strategy -- a prescription for long term productivity and job growth set in the context of a global economy.

"Governments are competing for resources and markets in a world dominated by the mobility of assets" Academic

"Ministers must think like strategists in a large corporation" European Official

- a. Climate for Private Sector Investment
 - 1. Deficit Reduction/Interest Rates
- b. Investing in People: Education/Training:
 - 1. National Goals/Standards
 - 2. Skill Standards
 - a. Working with Bsn. to Define e.g AEA
 - 3. Transition from School to Work
 - 4. Working on a "Training for Transition Program"
- c. Investing in Innovation: Technology Policy:
 - 1. Coherent/Government Wide
 - 2. Shifting from Defense to Civilian Focus
 - a. The Defense Focus on Dual Use Technologies (DARPA becomes ARPA)
 - b. National Labs
 - 1. Portion of budget to work with industry
 - 2. Rising number of CRADA's
 - c. Advanced Technology Program
 - 4. NII
 - a. Facilitates the spread of technologies
 - b. Supports the growth of the agile firm
 - c. Stimulates the creation of new jobs/firms
 - d. Creates new competition by linking formerly separated markets.
 - 5. Advanced Manufacturing
 - 6. Diffusing Process and Organizational Technologies
 - a. Manufacturing Extension Partnerships Program
- e. Export Policy:
 - 1. The Importance of Exports
 - a. "Do more of what you do Best"
 - b. More and (17%) Better Jobs
 - d. Technology Intensive -- Spread Costs
 - e. Access to new ideas
 - f. Serving the best Customer
 - g. Leveling the Playing Field
 - a. Anti-trust, AD and CVD policy in one.
 - 2. Market Opening
 - a. Japan Framework
 - b. NAFTA
 - c. Uruguay Round
 - 3. TPCC
 - a. Export Controls
 - b. Export Finance:
 - 1) Public Sector Leverage
 - 2) Banks Back
 - 3) Feasibility Studies

- 4) Tied Aid
- c. Export Advocacy
- d. One Stop Shop
- e. Reinvented Government

e. The New Agility:

- 1. Pragmatic Partnerships
 - a. New Relationship with Business
 - b. Working With States (TPCC)
- 2. Catalyst/Convener
- 3. Office of the New American Work Place
- 4. Reinventing Government
- 5. Ethos of Change:
 - a. Life Long Learning
 - b. The World is your Oyster
 - c. Entrepreneurship

VI: Key Questions:

1. **Training for What?** Where are the new jobs coming from? what will they require in terms of thinking and skills? What do they suggest about income distribution? What kind of economic security will they offer? Is it enough to set the economic and regulatory stage -- or must there be more direct action in response to specific populations?

2. **Information for What?** To what extent will information be the source of value in manufacturing products? in services? To what extent will information become a major item in domestic and international commerce either for its own use (learning or entertainment) or as an intermediate product on the way to food, factory, or the family shopping channel?

3. **Economic Security:** How do we make change a friend for everyone? In focusing on trade, technology and training are we meeting the test of economic security? Is it enough to take steps to foster dynamic growth firms and facilitate worker mobility? Are we in danger of saying to many American workers that the "Surfs up -- its time to hang ten"?

4. **Looking for Mr. Good Job:** Have we adequately defined a good job? Is it income only or income plus thinking and skills? How many such jobs are there now? How many in the past? Does it matter if you start at the minimum as long as you move to the good job eventually?

How to Address Inner-City Labor Market Problems

Bill Dickens, CEA

Although research has developed a fairly good picture of the causes of inner-city problems, our policies fall short of effectively addressing these causes. We have in place, or are developing, tools which might solve these problems, but unless we explicitly recognize the role these policies could play, and emphasize that role in our implementation, they will not be effective.

The Important Causes of Inner-City Labor Market Problems

Huge numbers of jobs were created in response to the increased labor supply of women and others over the last two decades. Why aren't jobs created for people who live in inner-cities? Research suggests that it is because the labor is not effectively supplied. There are three reasons for this:

- Studies show that the best way to get a job is through personal contacts -- to find a job good job it helps to know someone who has one. In areas of concentrated unemployment, too many unemployed people are forced to rely on the contacts of too few employed people.
- Schools and other social institutions in areas of concentrated poverty do not adequately prepare young people for work. Young people in these environments are likely to lack both formal skills (such as literacy and numeracy) and affective characteristics (how one should behave at work) necessary for employment.
- Employment and housing discrimination continue to limit opportunity and act as disincentives that keeps people from acquiring job skills. Recent studies using matched pairs of black and white testers have demonstrated the significance of hiring and housing discrimination.

On the other hand, the notion that it is a lack of jobs in the inner city that causes unemployment is very controversial. Few people work in their own neighborhoods. Many studies find no link between location of jobs and neighborhood unemployment rates. This is not surprising when one considers that areas of high and low unemployment are often across the street from each other. Programs which have attempted to provide transportation to jobs for inner-city workers have generally been failures. The few that have had limited success not only provided transportation, but also arranged job interviews (thus solving the problem of lack of connections).

What Can Be Done?

Two strategies have been shown to work:

- **Organize communities.** Highly organized communities -- such as Washington D.C.'s Kenilworth-Parkside -- have been able to overcome problems of crime and unemployment by concerted community effort. Community organizations directly address the problem of helping people prepare for work and also help organize employment services. Kenilworth-Parkside operates its own employment agency. Unfortunately, the success stories seem highly dependent on the energy of a few committed people (such as Kenilworth-Parkside's Kimi Grey), so it is not clear what we could do to encourage this on a large scale. Still, our policies should facilitate rather than hinder such initiatives.
- **Break Up Concentrations of Poverty.** Low income families are much better off when they are not economically isolated. Studies of Chicago's court ordered public housing desegregation, and differences in life outcomes between residents of high concentration central city public housing and low density housing show this. Integration into middle income communities solves both the problems of job contacts and job readiness. A wide range of housing, urban and labor market policies could be used to help break-up concentrations of poverty, including accelerating the growth of the housing vouchers program, and improving incentives for the private construction of mixed income housing. Such a "quiet" approach to housing desegregation could work where construction of public housing would be politically impossible.

These strategies would be complimented by two additional efforts:

- **Action to reduce the effects of discrimination.** More vigorous enforcement of anti-discrimination law is needed to increase the effects of other policies. Studies of who hires minority workers suggest that the development of more minority businesses would improve minority employment prospects.
- **Help People Make Connections.** The job placement company America Works shows that a short program of motivation, and training in basic job decorum, can effectively prepare long-term welfare mothers for successful employment at good companies. By initially offering workers to firms on a temporary basis America Works gives firms the opportunity to try workers out before they buy. These elements could be built into the welfare reform and any Administration jobs program. The development of other programs that could help connect people to the labor market -- such as school-to-work -- should be followed to be sure they serve the populations that need the connections most.



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

February 4, 1994

MEMORANDUM FOR: BO CUTTER
BONNIE DEANE

FROM: Belle Sawhill 

SUBJECT: Where are the Jobs?

The political interest in this question is obvious. If we end up having a terrific agenda of education and training but people keep saying training for what, we won't have responded well to public concerns. Moreover, there is a lot of misunderstanding, even within the Administration, about what does and does not create jobs. We need to educate ourselves about this issue. Finally, it is widely believed that jobs have disappeared from many inner city communities and that this, in turn, is a cause of family breakdown, violence, and other social ills. For all of these reasons, I think it is essential to have a process for addressing the jobs question.

I think such an effort could cut across all 5 areas in our matrix, although I would start with problem definition, again for obvious reasons. The issues might be: is there an overall shortage of jobs, is there a shortage in some areas/sectors or for some groups, and how do we measure such shortages? The debate about whether unemployment is demand vs. supply-driven (people can't find jobs vs. won't take jobs) would be taken on, and the evidence/arguments compiled.

We should then rack up what we're already doing about the problem -- both at a macro level and a programmatic level. We might also want to take on the argument that what Presidents do doesn't make much difference. (I have read this argument in the press a lot recently in connection with all the good news about the economy. I used to make it myself in talking about how fortunate Reagan was to live in good economic times.) Obviously, policy isn't the only driver, but we need a response to the criticism that it doesn't matter at all (or hardly at all). We also need a clear, well-scrubbed position on the effects of health care, welfare reform, NAFTA, GATT, and other major initiatives (to the extent that we don't already). And we need to stop arguing that deficit reduction creates jobs in the near-term;



DEPARTMENT OF HEALTH & HUMAN SERVICES

Office of the Secretary

Washington, D.C. 20201

March 8, 1994

MEMORANDUM

TO : Paul Dimond and ETR Policy Group

FROM : Peter Edelman *PBE*
Counselor to the Secretary

SUBJECT : 1. Overcoming Discrimination
2. Human Service Support for Families to Facilitate Learning, Work and Earning

We agreed that I would open up the discussion on these two topics.

1. Actually, Bill Dickens opened up the first in his brief paper. I'll say a bit more. The relevant work on the question of discrimination confronting young job-market entrants, including the use of testing, has been done by Michael Fixx of the Urban Institute and elaborated empirically by the Fair Employment Council of Greater Washington, which I chaired. I'm gathering the materials.

FECGW sent "matched" pairs of college students -- African American and white, Latino and Anglo -- to apply for positions, both by way of private employment referral agencies and directly to employers. Their resumes were designed so that they simulated being high school graduates from other than inner-city high schools. The minority person's resume was always slightly better than the white or Anglo.

They encountered blatant discrimination one time in five -- the white or Anglo offered a job, brought back for an interview, etc., the minority person told nothing was available or that the referred agency didn't refer for the type of job in question.

The testers sued one defendant -- the local franchise of one of the country's largest private employment agencies -- under Title VII of the Civil Rights Act of 1964 and under local law. The federal trial court has ruled that the testers have standing and that the complaint is legally sufficient. Her ruling is currently on appeal.

I think the questions for us are: a) can we encourage the EEOC and Justice to pursue these issues (whether through the use of testers or otherwise) in their enforcement strategies?; b) can we publicize the issue, perhaps by funding further documentation of the problem nationally or otherwise drawing attention to it; and c) can we press employers to examine their own practices?

Page 2

2. The issue here is essentially HHS' institutional role in ETR policy and in the work of the policy group. In some ways the department's role in ETR policy is clearer than its precise role in the policy group. Health care reform is critical to enable large numbers of people to participate in the labor force, but we are already doing that. Child care is similarly critical, but that is a focus of the welfare reform working group.

Nonetheless, there are questions we might consider. What are the human service supports that people in significant numbers need in order to participate successfully in the labor market? Do we ask, when organizing human services in communities, whether we are directing ourselves sufficiently to people's needs from a work-related point of view?

The question arises in relation to substance abuse treatment and mental health services, for example. Most of our funds in these areas go to the states by way of block grants. Do we ask the states to ask the workplace questions? Some of the funding is in demonstration grants. Are there relevant demonstration grants? Should there be?

The question also arises in relation to young people who are at risk of failure in their efforts to enter the labor market for the first time. This issue is obviously related to welfare reform as well, but not exclusively. Health and human services are only two of the dimensions of a broad developmental youth policy that is geared toward maximizing labor market success, but they are necessary dimensions in a comprehensive strategy.

The policy development challenges are at least twofold: 1) can we at HHS review our role in relevant areas from a "workplace" point of view?; and 2) particularly in the area of youth development, how can we develop and pursue an appropriate interdisciplinary and therefore interagency strategy?

I hope these thoughts are of some help in stimulating discussion.

cc: David Ellwood
Jerry Klepner
Naomi Goldstein
Mary Bourdette
Sarah Walzer

JD 3/10 11:00 DRAFT

INCUMBENT WORKER TRAINING
A map of the policy terrain

Motivating assumptions:

- Building the skills of incumbent workers is a central component of the workforce agenda.
- Federal policies, at least potentially, can affect the degree and nature of incumbent worker training.
- The current portfolio of policies is flawed.

Definition: Incumbent worker training is a broad term encompassing human capital investments made by or for currently employed workers, including programs paid for by employers or employees, conducted in formal classrooms or on the job, as a complement to normal work. Some forms of incumbent worker training are readily measurable; many others elude clear definition or accounting.

Core policy rationale: Human capital theory posits a systematic tendency towards underinvestment in worker skills. Parallel market failures deter both workers and firms from devoting as many resources to training as its long-term, overall payoff would warrant.

■ **Individuals** spend too little on skills for two reasons. One is the uncertain return to skill investments. Even if the payoff is high on average, the return to individuals is often long-term and contingent on circumstances (economic and technological trends; the complementary skills of co-workers, etc.) that the individual cannot control. The other impediment is financial: Unlike with investments in physical capital, the individual cannot offer lenders a stake in her future, more productive stake as collateral against a loan for training, so skill investments must be financed by savings or current income.

■ **Employers** spend too little on their workers' skills (relative, again, to the overall return on training investments) because the firm cannot lay claim to the full return. Unless training is wholly firm-specific (that is, the skills are useless outside the firm, in which case they can't be expected to lead to higher wages) newly-trained workers can take their skills away with them, imperiling the employers investment, or else bargain for higher wages, similarly reducing the payoff. Thus firms rationally under-invest in incumbent worker training.

Generic policy options: There are three generic policy responses to this problem. The right policy portfolio will probably combine elements from each set.

1. **Reject the standard diagnosis.** Some suspect that the standard human capital theory assessment is incorrect because of changes in the economy. Firms and/or workers may be perceiving

more accurately the value of training, or finding ways to claim the payoff more securely, thus bolstering the incentive to invest. For example, workers may be learning to accept skill-building in lieu of wages; firms see training as major form of compensation.

2. Act to promote investments by individuals: There are at least three possible approaches to shrinking the impediments to investments by individuals in their own training.

- a. Provide better information to relieve uncertainty, e.g.:
 - improved labor market projections
 - skill standards and certification
- b. Offer financing options to loosen the capital constraint on individual investments, e.g.:
 - income-contingent loans
 - broaden tax deductibility to include new-job training
 - individual training accounts
- c. Build up the supply side of the training system, e.g.:
 - promote community colleges
 - quality control measures for proprietary schools
 - develop and disseminate performance data on suppliers

3. Act to promote investments by firms: There is a larger number of actual or potential policies to encourage employers to invest more in their workers' skills.

- a. Exhortation and jawboning
(Not to be dismissed--corporate training officials report a "Clinton effect" on their budgets.)
- b. Mandates: e.g. requirements to spend a specified share of payroll on training.
- c. Inducements:
 - tax subsidies
 - broaden/sweeten Section 127
 - amended TJTC
 - OJT tax subsidies
 - direct subsidies
- d. Linkage: e.g. linking technology programs to training
- e. Providing information:
 - strategic (on payoff to training; complement to exhortation)
 - tactical (how to target training resources, e.g. skill standards, labor market data, performance measures)
- f. Institutional innovations e.g. arranging a legal safe harbor and encouragement for training consortia.



UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF THE UNDER SECRETARY

THE UNDER SECRETARY

March 9, 1994

TO : Bill Galston, DPC
Paul Dimond, NEC

FROM : Marshall Smith 

SUBJECT : Draft Discussion Paper for the Interagency Group on Education, Training
and Employment

Attached for your review and comment is a brief draft paper around which we suggest structuring the discussion at tomorrow evening's meeting.

We have not circulated this draft to other group members; please let my office know (401-3389) if you would like us to do so.

I look forward to your comments.

Attachment

DRAFT**Interagency Group on Education, Training and Employment*****Framework for Decision Making***

Purpose of the Group: To develop a coherent vision of what a U.S. system of education, training, and employment should look like, and to identify and evaluate those federal policy "levers" that could be used to further the development of such a system. This vision would be expressed in a relatively brief "vision" document and an "action agenda" that could guide Administration decision making on policies and strategies in this area.

While the ultimate mission of this interagency group is to develop an Administration consensus on workforce preparation and lifelong learning, this consensus should emerge only after a thorough airing of diverse views. For example, the group should be willing to examine critically even the assumption that we need an integrated system and that the federal government should take a major role in developing such a system.

Background: Numerous analyses have documented recent trends in the U.S. workforce; for example, the very slow growth in average earnings, especially for non-management workers; the increasing gap between the wages of the highly educated and the less well-educated; the increasing proportion of newly created jobs that require postsecondary education and training; the impact of international trade and technological change on domestic job creation; the changing demographics of the U.S. labor force; and the need for individuals to continue learning throughout the lifespan.

A paper recently drafted by the interagency Workforce Policy group examines these trends, lays out several possible scenarios for what is likely to happen to the workforce in the future, and begins to outline a framework for policy in three areas: lifelong learning, job changing tools, and competitive companies and good jobs. This document represents an excellent starting point for discussions of the group on education, training and employment. Nevertheless, some additional analysis of specific issues and further consideration of the feasibility and desirability of federal policy options is required.

In addition, the Administration has already launched a series of initiatives relevant to workforce development; for example:

- o Goals 2000 and a reauthorized Elementary and Secondary Education Act (ED);
- o the School-to-Work Opportunities Act (ED and DOL);
- o the Reemployment and Income Support Acts to assist workers dislocated by trade agreements or structural change in the economy; (includes one-stop-shop job information centers, DOL);
- o Empowerment Zone and Enterprise Community Initiative (HUD/USDA/Treasury);
- o welfare reform proposals involving education, training, and employment for welfare recipients (HHS);
- o strategies to create new opportunities for former service personnel from a downsized military; proposals to create an information superhighway and otherwise stimulate investment in new technologies (DOD, Commerce).

There is a need for an overall conceptual framework into which to fit these separate initiatives as well as the roughly 130 existing federal training programs. In addition, over the next two years, preparation for reauthorization of legislation including the Higher Education Act, Perkins Vocational Education Act, adult education legislation, and health care need to be informed by an Administration consensus on workforce preparation and the role of the federal government.

Issues: The following are some of the unresolved issues that should be taken up within the new group:

1. How do we best implement the initiatives and programs we already have in place? How do we prioritize/rationalize, consolidate, and coordinate the multiplicity of government education, training and employment programs? How do we best use existing or already planned programs (e.g., DOL's planned one-stop-shop information network) to produce better outcomes?
2. How do we promote equity by ensuring that those who now are perhaps most in need of, but least likely to receive, adequate education and training receive appropriate services? How do we address special needs of groups including, e.g., young black males. How efficient is the market in allocating training opportunities to non-managerial, less highly skilled employees or prospective employees?
3. How do we recognize, organize, and promote high-quality training that results in measurable positive outcomes for individuals and firms? We now have evidence that certain federal programs (e.g., JTPA) result in limited or no gains for participants. We do not have (at least, in one place) good evidence on what constitutes quality training and how to produce positive outcomes, or on who is best equipped to design and deliver this training. This may be an area in which additional analysis or synthesis is required. The group would want to examine evidence from on-the-job, employer-financed training as well as government programs.
4. What mechanisms or incentives can be considered to promote lifelong learning? Factors to be considered include delivery of adult education and training at non-traditional places (e.g., labor union offices, on the shop floor), at non-traditional times (evenings, all day), using non-traditional instructional practices (e.g., teleconferencing, interactive computer systems) that have been shown effective with adults? What is the role in individuals' decisions of providing a predictable package of financial aid for postsecondary studies?
5. What is the appropriate level of resources and structure of financing? How are these resources to be tapped? What is the role of the federal government, state and local government, CBOs, private industry, individuals, etc.? Private vs. public roles; tax incentives vs. programmatic spending. To what extent should the federal government should be sponsoring/providing training at all? To what extent are voucher systems (like postsecondary student financial assistance) vulnerable to serious problems, and what can be done to remedy these problems?

6. What are the best ways to promote development of high-performance work organizations that support continuous employee learning? What kind of training, in what settings and at what point in individual lives, can best foster development of such high-performance workplaces? Should we consider ways to complement the academic and occupational skills of individuals by helping to foster positive attitudes and values that make for productive work organizations (e.g., the ability to work cooperatively; creativity; loyalty to firm; punctuality; motivation; etc.)? Do we know how to do that?
7. To what extent should this group focus only on labor supply? What about macroeconomic factors underlying the demand for labor? Even if the education and training system(s) turns out flexible, thoughtful, motivated and highly-skilled workers, what do we want or need to do to ensure that there is at least a rough match with the numbers and types of jobs available?

*demand goes back
to HP work orgs*

Products: In general, any document(s) produced by the group should be designed to provide policy guidance to Administration officials and to provide substance (facts and analysis) from which to draw in preparing speeches, budget/program requests, a possible national information campaign, and ultimately, if required, new legislation.

Possible products could include:

- A "vision" document (not more than 10-15 pages) laying out what we want to aim for and some general principles to be followed in getting us there; and
- An action agenda including:
 - next steps for this group and others in the Administration;
 - an agenda for further research/analysis, if needed; and
 - policy options, with pros and cons of each option spelled out.

- Ideas for Reich speech

DRAFT ED/OUS/PES 3/9/94

THE WHITE HOUSE

WASHINGTON

March 9, 1994

MEMORANDUM FOR THE ETR POLICY GROUP

FROM: Mike Schmidt, DPC

SUBJECT: "Putting People First: Promises Made, Promises Kept?"

After last week's meeting, Paul Dimond asked me to take a look at the promises in the area of education, training, and reemployment that the Clinton Campaign made in Putting People First (PPF), and compare them to the progress we have made so far in these areas. In response to this charge, I have attached a chart that compares specific statements/promises made in PPF to the programs and initiatives that this Administration has either enacted or proposed. It does not for a moment pretend to be a comprehensive inventory of all federal programs in the areas of education, training, and reemployment; rather, it looks only at major Administration initiatives. Please add any initiatives or programs that are missing from the chart -- it is only a starting point. Hopefully, this exercise will give a broad sense of how the Administration is living up to its promises in these areas, and where there are gaps that need to be addressed. In this memorandum, I will try to open up discussion on this issue with some general observations on the attached chart.

PUTTING PEOPLE FIRST: BROAD THEMES

PPF makes some sweeping promises about education, training, and reemployment policies in the Clinton Administration:

"... Our national economic strategy for America will put people first at every stage of their lives. We will dramatically improve the way parents prepare their children for school, give students the chance to train for jobs or pay for college, and provide workers with the training and retraining they need to compete in tomorrow's economy. . . ." (Preface to Putting People First)

As the attached chart makes clear, the Administration has already done a great deal to live up to these promises. It has substantially increased funding for Head Start and WIC; proposed and passed the Family Preservation and Support Act, the Student Loan Reform Act, and the National and Community Service Trust Act; and has proposed Goals 2000, School-to-Work, Safe Schools, the Improving America's Schools Act, the Reemployment Act, and the Health Security Act (as

well as Welfare Reform, which will presumably be proposed in the near future). According to OMB, the proposed 1995 budget makes investments in the areas of education, training, and reemployment (not including Health Care and Welfare Reform) of over \$24 billion, a 32% increase over 1993 levels. While we still have long way to go, we can be justifiably proud of what we have accomplished so far.

PUTTING PEOPLE FIRST: SPECIFIC PROPOSALS

In comparing the specific PPF promises to Administration actions, it seems clear that there are at least two areas where there are apparent gaps that this group may want to address:

- We need to think about ways to get educational loan and grant funds into the hands of workers already on the job (See chart, PPF Recommendation #7; #16 "Worker Retraining" also applies). We have made a good start at helping people make the transition from high-school to college through the Student Loan Reform Act and the National and Community Service Trust Act. However, these programs are either explicitly or implicitly marketed toward younger people. Older workers who have been on the job for some number of years are in danger of "falling through the cracks" in many cases. These workers may need continuing education, or retraining in certain skills, but lack the means to access such training and education. The Reemployment Act will offer some assistance here, but there must be other creative ways to help this segment of the workforce to access training and educational opportunities (a related question: how do we persuade businesses to invest more in training?).
- Although the School-to-Work Act will likely be passed this month, the ETR Policy Group may want to look at ways to provide apprenticeship and vocational opportunities for young people. School-to-Work is an excellent step in this direction, but there must be other policies and programs that could work in concert with School-to-Work to provide high-school students alternatives to the traditional two-or-four year college track.

This is only a first, rough cut at examining the attached chart. I am sure that there are many other gaps and innovative solutions to those gaps that can and will be found.

PUTTING PEOPLE FIRST: PROMISES MADE, PROMISES KEPT

Recommendations from Putting People First	Administration Actions
1. "Fully fund . . . Head Start and the Women, Infants, and Children (WIC) program" (p. 87)	● The 1994 budget increased Head Start funding by 20% over 1993 levels, and the 1995 budget proposal would increase funding by 45% over 1993 levels. (\$4 billion in proposed 1995 budget) ● The Clinton Administration also created the Bipartisan Advisory Committee on Head Start in 1993 to review Head Start and make recommendations for its improvement and expansion. ● The 1994 budget increased WIC funding by 12% over 1993 levels, and the 1995 budget proposal would increase funding by 25% over 1993 levels. (\$3.5 billion in proposed 1995 budget)
2. "Through innovative parenting programs like HIPPY, help disadvantaged parents work with their children to build an ethic of learning at home that benefits both parents and child." (p. 48)	● The Family Prevention and Support Act provides funding for services such as family counseling, respite care of children, and parenting skills training.
3. "Dramatically improve K-12 education by developing tough standards and a national examination system in core subjects . . ." (p. 48)	● Goals 2000 would create a National Education Standards and Improvement Council to certify voluntary national educational standards and voluntary student performance standards. ● The Improving America's Schools Act (ESEA reauthorization) would require schools to set challenging performance standards for all students and design curricula based on those standards in order to receive funding under the new proposal.

Recommendations from Putting People First	Administration Actions
4. "Give every parent the right to choose the public school his or her child attends . . ." (p. 48)	● The Improving America's Schools Act has a charter school initiative that would encourage teachers, parents, and others to create their own high-performance schools, and allow parents to choose to send their children to those schools.
5. "Create a Youth Opportunity Corps . . ." (p. 48)	
6. "Develop a national apprenticeship-style system. . ." (p. 49)	● The proposed School-to-Work Opportunities Act would provide students with on-the-job experience tightly integrated with classroom training, leading to a school diploma and, for most students, a degree or diploma certifying successful completion of at least one year of postsecondary education, and an industry-recognized credential with currency in the job market. (\$300 million requested in 1995 budget)
7. "Give every American the opportunity to borrow money for college: retain the Pell grant program . . . and establish a National Service Trust Fund." (p. 49)	● The Administration's Student Loan Reform Act, passed in 1993, replaces guaranteed lending with Federal lending. The Act lowers charges and interest rates paid by borrowers, simplifies administration, and creates income-contingent repayment options for direct loan borrowers. ● The proposed 1995 budget provides \$6.5 billion for the Pell Grant program. ● The National and Community Service Trust Act, signed into law in 1993, will provide Americans of all ages and backgrounds with opportunities to serve their country, and receive an education award of \$4,725 per year in return for their service. (\$850 million in proposed 1995 budget)

Recommendations from Putting People First	Administration Actions
8. "Launch a Safe Schools Initiative. . ." (p. 49) 9. "Get drugs out of schools: work with states and local communities to bring parents, educators, students, law enforcement personnel, and community service workers together to provide drug education, prevention, intervention, and treatment programs." (p. 87)	● The Administration-proposed Safe Schools Act will help schools reduce violence by adding security personnel, finding and removing weapons, and teaching alternate approaches to dispute resolution. (\$20 million contingent upon enactment in 1994, \$100 million in 1995 budget proposal) ● The proposed Safe and Drug Free Schools and Communities Program would add violence and drug prevention activities to the Safe Schools program. (\$500 million in 1995 budget proposal) ● The Crime Bill will likely have a number of programs that will deal with these issues.
10. "Expand health services and health education programs in schools. . ." (p. 61)	● The President's proposed Health Security Act would offer grants to schools to develop comprehensive school health education programs and school-related health services. (\$150 million in 1996)
11. "Give every American a chance to learn, to read and write, and to get a high school diploma with adult literacy initiatives." (p. 61)	● Grants to States under the Adult Education Program would be funded at \$267 million in the proposed 1995 budget, a 5% increase over 1994 levels. ● Workplace literacy grants through the Department of Education would be funded at \$24 million in the proposed 1995 budget, a 26% increase over 1994 levels.
12. "Achieve the 1989 Education Summit's "National Education Goals" by the year 2000." (p. 60)	● Goals 2000 would establish an independent National Education Goals Panel that would monitor the Nation's progress towards the National Education Goals and report annually on accomplishments and remaining problems.

Recommendations from Putting People First	Administration Actions
13. Increase Chapter One funding to allow schools greater spending flexibility . . ." (p. 60) 14. "Grant expanded decision-making powers at the school level. . ." (p. 86) 15. "Support better incentives to hire and keep good teachers. . ." (p. 86)	● Goals 2000 would give States and communities Federal funds to change whatever parts of their systems stand in the way of world class educational performance. ● The Improving America's Schools Act would give schools and communities greater flexibility in using Chapter One funds by simplifying the law and providing broad waiver authority.
16. "Worker Retraining. We will require every employer to spend 1.5 percent of payroll for continuing education and training and make them provide training for all workers, not just executives. Workers will be able to choose advance skill training, the chance to earn a high school diploma, or the opportunity to learn to read. And we will streamline the confusing array of publicly funded training programs" (p. 19)	● The Administration's Reemployment Act would consolidate all six existing "categorical" adjustment programs, allows States to opt into a broader consolidation plan that would also coordinate the delivery of other workforce programs (JTPA, etc.), provide "one-stop shopping" services for dislocated workers, and establish a national labor market information system. The Act would provide access to retraining and financial support in the form of grants up to \$4750 per year up to two years. ● The Administration created the Office of the American Workplace at the Department of Labor to work with the private sector to encourage the creation of high-performance workplaces and workplace reforms (including providing training opportunities to all employees).

Recommendations from Putting People First	Administration Actions
17. Welfare Reform -- "Empower people with the education, training, and child care they need for up to two years, . . . expand programs to help people acquire specific job skills;" (p. 165)	• The Administration will announce a comprehensive welfare reform plan sometime in the near future. • The Administration's Reemployment Act (described above) would also help welfare recipients to find and keep jobs.

TO: ETR Group
FROM: Sheryll Cashin, NEC
RE: AFRICAN-AMERICAN LABOR MARKETS AND BUSINESS

I. The African-American Labor Market. The Bureau of Labor Statistics' Household survey shows that employment levels for blacks increased very slightly during the official 1990-91 recession. However, over the past four years blacks have been somewhat harder hit by the weak economy than other groups, and they typically suffered twice the declines in employment as whites in the six prior recessions. Longer-term trends in the black labor market are even more disturbing and relevant.

A. Wage Inequality. Between 1965 and the mid-1970s, young black women and young black male college graduates essentially reached parity in earnings with their white counterparts. This trend toward earnings parity was completely reversed during the 1980s, however, despite a sustained economic expansion from 1983 to 1989. Between 1979 and 1989, the "black-white earnings gap" jumped 50%, from a level of 10.9% to 16.4%. The earnings gap between black and white college graduates grew from 2.5% to 15.5%.

B. Unemployment. For the last decade, the black unemployment rate has remained essentially twice the unemployment rates of whites. And, between 1979 and 1989, black male labor force participation declined across the board -- for college graduates (90 to 86%), high school graduates (84 to 76%) and high school dropouts (64 to 57%) -- two to four times the declines experienced by their white male counterparts. Again, this happened despite a sustained economic recovery from 1983 to 1989. Lawrence Katz has identified at least four factors for these trends:

- A shift in relative labor demand against blue collar work and less-educated workers that disproportionately affects blacks, particularly black males.
- A shift in employment opportunities out of the central cities into the suburbs, with increasing isolation of blacks from informal networks that lead to hiring.
- A decline in affirmative action pressure and anti-discrimination activities -- a factor that seems to have played a role in the erosion of position of black college graduates.
- Slow economic growth and weak labor markets through much of the last twenty years.

II. African-American Entrepreneurs. By contrast, the number of black businesses grew by 83% between 1977 and 1987, while the number of all businesses grew by only 39% during the same period. The most rapid growth of black firms was in non-traditional, skill-intensive specialty services. The financial services sector, for example, grew by 175%.

The emerging, rapid-growth black firms tend to be started by college-educated owners, be larger in scale, have lower failure rates, and generate more jobs relative to the traditional, small-scale minority firms. They also tend to serve diverse or nonminority clienteles and be located in central business districts or outlying suburbs.

Emerging black businesses could play an important role in generating more jobs for blacks and in stimulating inner-city economies because: (1) almost 80% of all black employers have a minority workforce of 75% or more; (2) emerging black firms have attracted substantial capital and a racially diverse clientele that does not depend on weak inner-city markets; and (3) they are more likely to desire to locate in minority areas and to produce multiplier effects by employing local residents and using minority suppliers. (Witness the example of Black Entertainment Television deciding to locate in Northeast Washington, D.C. and often serving as a lender to its minority suppliers.) Initiatives like Empowerment Zones and CRA Reform should help offset the locational disadvantages of distressed communities so that the outmigration of the most promising minority firms can be reversed. The potential for linkage of minority business development and inner-city employment is strongest with large-scale, minority-owned construction firms. In contrast to MBEs, the labor force of nonminority firms is largely nonminority, even among the nonminority firms that operate in minority communities.

The attached appendix contains more detailed information on the trends, employment potential, and problems associated with minority-owned firms, as well as some suggested courses of action. The appendix demonstrates that black business expansion, irrespective of firm location, directly correlates to creating more jobs for minorities. And the suburban location of many of the larger emerging minority firms has not severed their employment links to minority communities. Although not a panacea for the problems in the black labor market, these trends may be particularly relevant for inner-city minorities who face particular hurdles in gaining access to mainstream labor markets.

III. Recommendations. The fact that black labor market problems blossomed despite sustained economic growth in the 1980s suggests that we must have sound investment and anti-discrimination policies in addition to efforts to foster a strong economy. Several of the President's new investment initiatives have the potential to play an important role in improving black labor market conditions. In addition, we could:

- assess the status of enforcement of anti-discrimination and equal opportunity laws and, if necessary, call for more rigorous enforcement;
- assess the extent of isolation of minorities from labor markets and hiring networks and consider community-driven models for bridging this gap;
- assess the need for additional investment or support for minority-owned institutions and community development (job creation) in distressed communities; and
- consider how we can use existing tools, like empowerment zones and the capital gains deferral for investments in Specialized Small Business Investment Companies, to stimulate more private-sector investment and partnerships with minority businesses.

● Entrepreneurial programs

AFRICAN-AMERICAN and MINORITY BUSINESS ISSUES

I. ECONOMIC DATA AND TRENDS

General Growth Trends:

- The most recent Survey of Minority-Owned Business Enterprises (SMOBE) showed that the number of black businesses rose by 83% between 1977 and 1987 to a total of 424,000.
- At the same time the number of all businesses rose by only 39%.

Sectoral Representation:

- Most of the 83% increase came in the service industry. But black business growth was especially large in the wholesale trade (149%) and finance, insurance and real estate (175%) sectors, although these sectors are fairly small.
- Black businesses are concentrated in the services (49.5%), retail trade (15.6%), construction (8.7%), and transportation and public utilities (8.7%) sectors.

Size and Scale Characteristics:

- In 1982, 56.2% of all black-owned firms reported annual sales of less than \$25,000. 75.4% of those firms had no paid employees. [Census Bureau, Characteristics of Business Owners, ("CBO"), 1982]
- According to 1987 SMOBE data, 83% of all black-owned companies had no paid employees. (However, SMOBE data includes anyone that claimed self-employment income on their tax returns.) In 1987, approximately 71,000 black-owned companies had paid employees.
- In 1987, Black-owned companies employed a total of 220,487 paid employees -- 25% from businesses with fewer than 5 employees; 18% from the 5-9 employee firms; and 18% from firms with 100 or more employees. [1987 SMOBE Data]

Emerging, Rapid Growth Sectors and Firms:

- The most rapid growth of black businesses has been in non-traditional, skill-intensive service industries, particularly finance, business services, and professional services. The CBO data on black business reflects a trajectory toward diversity and broader participation in service specialties including consulting firms, advertising agencies, engineering services, accounting agencies, employment agencies, computer software firms, etc. [1]
- These emerging firms are most commonly started by college educated blacks, whose financial capital investments are high relative to investments of traditional firms.

- The emerging firms tend to be larger, have lower failure rates and generate more jobs relative to their traditional cohorts. One 1986 study found that large black-owned firms of more than 100 employees accounted for 90 percent of the increase in employment in black-owned firms between 1977 and 1982. [2]
- Emerging firms also tend to serve racially diverse or nonminority clientele, including large corporations and units of government. Small firms that offer business services to large corporations are thriving in big cities with concentrations of corporate headquarters and black-owned firms have been a major beneficiary of this trend. [3]
- One analysis also indicates that in metropolitan areas with black mayors, the emerging lines of black businesses, particularly the younger firms, tend to be much larger in sales and employment, have much larger financial and capital investments and are failing at lower rates and are more likely to be run by college graduates. The author attributed this to targeted procurement programs and the appointment of government officials who vigilantly promote procurement opportunities for minority business enterprises (MBEs). [4]
- Recent small business studies indicate that all minority groups -- blacks, Asians and Hispanics -- tend to prosper in self-employment in direct proportion to the degree that they are moving away from traditional fields such as personal services.

Traditional firms:

- Traditional minority firms, particularly personal services firms tend to be small-scale, have high failure rates, and generate few jobs because their owners have minimal levels of education and skill and invest small amounts of financial capital in their businesses.
- However, most personal service and small-scale operations owned by nonminorities are also marginal operations.

II. RELATIONSHIP OF MBEs AND URBAN ECONOMIC DEVELOPMENT

MBEs Hire Mostly Minorities Regardless Of Location:

- CBO data indicate that most of the workers employed by black-owned firms are minorities. For 79% of black employers, 75% or more of the paid workers are minorities. (Interestingly, there appears to be no relationship between firm viability and the racial composition of the firm labor force.) [5] Another study found that 96% of black-owned firms operating in minority areas and 87% of those operating in non-minority areas rely on minorities for at least 50% of their workforce. [6]
- By contrast, the labor force of white-owned firms is largely non-minority. Even among nonminority firms that operate in minority communities, most of the employees are white. 33% of white-owned firms operating in minority areas have no minorities

at all and only 38% of those in minority areas have more than 50% minority employees. [7]

- In sum, black business expansion, irrespective of firm location, directly correlates to creating more jobs for minorities. And the suburban location of many of the larger emerging MBE firms has not severed their employment links to minority communities. Although not a panacea for the problems in the black labor market, this trend may be particularly relevant for inner-city minorities who face particular hurdles in gaining access to mainstream labor markets.

Where MBEs are Located:

- crime & safety concerns also must play a role

- The healthier, emerging lines of black business are shifting away from inner-city minority communities and focusing instead on central business districts or outlying suburban areas, leaving inner-city black communities increasingly out of the business development process. Among the black-owned firms not located in large, urban minority communities, over half of the owners have attended college. [8]

One of the causes of this trend is that commercial banks are extensively redlining small firms that do business in minority areas. One study has shown that the primary consideration of lenders is geographic location of the firm: if located in a minority community, the loan size is drastically cut. [9]

- Because of such redlining, the black business start-ups that survive in minority communities consist disproportionately of tiny firms serving minority clientele. Owners of such firms tend to be minimally educated, have no paid employees, and have minimal prospects for alleviating economic underdevelopment in their community. [10]

Role of Emerging MBE's in Economic Development of Inner-Cities:

- Resources that might lead to economic development in inner-cities are drained out due to bank redlining, flights of resident income (e.g., residents paying rents, food costs, etc. to nonresident business owners), and flights of the best human capital to better economic environs and opportunities. Stripped of capital and entrepreneurial talent, the ghetto really has no prospect of generating the internal economic development it needs to produce jobs and incomes for its residents. [11]
- CBO data indicate that larger financial inputs at the point of start-up positively relate to firm survival, irrespective of the race of the owner or geographic location. The emerging, better-educated MBE entrepreneurs described above have been able to invest and attract more start-up capital than traditional MBEs. Among those black firms that are not located in large, urban minority communities, greater financial and human capital inputs have been shown to be directly related to firm survival, as has the ability to compete in the wider marketplace by serving a racially diverse clientele. [12]

*Transportation
plays a
role
here - get
inner-city residents
to suburban
MBEs*

- Thus, emerging MBEs have special potential to help reverse the decline of inner-city development because (1) they possess the tools for business viability -- entrepreneurial talent, the ability to attract substantial capital, and a racially diverse clientele that does not depend on weak inner-city markets; (2) they employ primarily minorities; (3) they are more likely than nonminority businesses to desire to locate in minority areas; and (4) they are more likely to produce multiplier effects by employing local residents, using locally-owned suppliers, and perhaps even playing a mentoring role to smaller MBEs. (Witness the example of Black Entertainment Television deciding, possibly against financial interest, to locate in Northeast Washington and often serving as a lender to its smaller, minority suppliers.)
- But to attract more emerging MBE's to the inner-city, we must address the fact that the group of black firms possessing the greatest development prospects typically are not located in urban inner-cities. Rewards and incentives, as discussed below in Section IV., are needed.

III. NATURE OF PROBLEMS FACED BY MBEs

Lack of Access to Capital:

- A 1990 study conducted by the Opportunity Funding Corporation (OFC) for the Commerce Department identified the lack of access to capital as the single most important obstacle to minority business development.
- The OFC study quantified the gap between the demand and supply of capital for minority business enterprises at \$144 billion in 1990 dollars.
- The greatest capital need was for micro-seed (under \$20,000), seed, medium-risk capital, and unsecured, expansion debt.
- Another study showed that black-owned firms have much less success (62%) in obtaining bank loans than nonminority firms (90%), Asian firms (96%) and Hispanic firms (87%), even though the study controlled for business risk and focused on a relatively elite group of black businesses -- larger firms that were at least two years old. In fact, 84% of the black owners had attended one or more years of college, compared to 79% of their non-minority counterparts. [13] Yet another analysis also showed that blacks have less access to financial capital than Asians and Hispanics both because of credit discrimination and lower equity inputs. [14]

The Impact of Low Equity Investment:

- The amount of equity investment that the owner is putting into his firm is a significant factor in the size of the loan amounts he will be able to attract from commercial banks.
- The household wealth holdings of blacks and Hispanics (but not Asians) lag quite

substantially behind those of nonminority households. [15]

- Lacking equity, many of the largest minority-owned firms have necessarily relied very heavily on debt to finance growth. This debt reliance frequently caused very high leverage among large-scale minority firms. [16]

The Impact of Geographic Location:

- Commercial banks are the largest single loan source for small and minority business. An analysis of 28 large metropolitan areas showed that banks' willingness to lend is heavily influenced by geographic location: if the borrower's firm is located in a minority community, loan size is cut drastically. Controlling for owner age, years of education, equity capital investment and other factors, banks were found to lend nearly \$40,000 less, on average, to black firms located in minority neighborhoods than to black firms in nonminority areas. [17]

Lack of Technical Expertise and Information:

- The OFC Study noted that commercial bankers often had difficulty lending to MBEs because of inadequate financial, marketing and management preparation by minority entrepreneurs. For this reason, the OFC strongly recommended improving management assistance for MBEs. Community Development Financial Institutions have found that providing intensive technical assistance to borrowers is critical to maintaining low loan default rates.

Bonding Requirements:

- Lack of bonding is a frequently mentioned barrier to development of minority construction and other contractors. There is no statistical evidence on the scope and nature of the problem. Reasons for restricted access of MBEs are difficult to assess, since minority firms are frequently smaller and younger relative to nonminority firms. However, anecdotal evidence suggests a vicious cycle: facing limited access to credit from commercial banks, black entrepreneurs form small firms; being small and young, they are denied bonding, which in turn shuts them out of the market for many types of construction work and contributes to illiquidity problems.

Access to Markets:

- New markets have opened up with the growth of set-asides and procurement efforts targeted specifically at minorities. Large corporations in consumer products industries have targeted procurement dollars to minority firms. Government set-asides for minorities constitute a multibillion dollar market. Federal government agencies have also subsidized private groups, such as the National Minority Supplier Development Council, which in turn have encouraged minority business set-aside programs throughout the corporate sector.
- Federal targeted procurement programs have been criticized, however, for (1) lack of adequate staffing, implementation and promotion of existing MBE procurement

programs; (2) burdensome certification requirements that vary from agency to agency; (3) lack of adequate access by MBEs to information about upcoming procurement/bidding opportunities.

III. NEW ADMINISTRATION TOOLS THAT WILL ADDRESS SOME PROBLEMS

The Clinton Administration has already launched many of the types of initiatives that have been called for in Senate Hearings and elsewhere for redressing the problems that retard minority business and inner-city development.

Accessing Credit:

- **CRA Reform** -- By January 1, 1994, the bank regulators will issue new, Community Reinvestment Act regulations that will identify objective, performance-based measures for grading compliance of commercial banks with their CRA obligations. This reform should produce a system for identifying the numbers of business loans banks are actually making to minorities and in minority areas. We believe this required disclosure will have a substantial impact on improving the lending performance of commercial banks and reversing the practice of redlining. The potential impact on MBE loan volume of this initiative is on the order of billions and is much larger than anything else we could do. However, we may be able to increase the likelihood of success and real impact by encouraging more involvement of large banks, the private sector, and foundations in lending to, investing in and mentoring to MBEs. For banks, CRA credit would be part of the incentive for such activity. (See Section IV., below.)
- **The CDFI bill**, which is pending in Congress, will help build the number of community-based intermediaries that have the special underwriting expertise and the will to identify and provide technical assistance to MBE's in their search for credit. We can and should encourage the mainstream commercial banking sector to build more partnerships with CDFIs so that we are linking the major capital markets with a community-based, expert delivery system.
- **SBA One-Stop Capital Shops/Empowerment Zones:** Never before has the SBA targeted its considerable lending and community development tools to minority businesses or distressed communities. SBA has proposed to establish nine one-stop capital shops that will be located in the nine designated empowerment zones but will also serve as national and regional capital distribution points for underserved markets. Each shop will contain or have a relationship with (1) a Specialized Small Business Investment Company (SSBIC) which will provide equity investment capital for disadvantaged businesses; (2) an SBIC, which provides equity investment for any type of small business; (3) a Small Business Loan Center, which will provide business loans of over \$25,000; (4) a Micro-Enterprise Lender, which provides business loans of less than \$25,000; (5) a Certified Development Company, which provides small business loans for real estate and related large equipment purchases. In addition businesses in each zone and enterprise community will receive concentrated business

technical assistance and counseling through the SBA's Small Business Development Centers and Business Information Centers.

Accessing Equity Investment:

- **New SBIC Regulation:** The SBA has issued a new regulation which creates a new preferred stock financing program which will facilitate greater SBIC equity investments by allowing SBICs to obtain leverage from the SBA in the form of equity rather than debt. (This applies to SSBICs as well.)
- **Bumpers Capital Gains Exclusion:** The Budget Reconciliation Act waives the active business requirement for investments in SSBICs that would not otherwise be eligible as a qualified small business for the new 50% capital gains exclusion on investments in small businesses. This should stimulate more interest by individual investors in investing in SSBICs for tax benefits.
- **SSBIC Rollover:** The Act also allows deferral of gain by corporate or individual investors from the sale of publicly traded securities if the proceeds are reinvested in the equity of a SSBIC.
- **SBA One-Stop Capital Shops/Empowerment Zones:** as described, addresses equity/seed and micro-seed needs.

Accessing Technical Expertise:

- In addition to existing business technical assistance programs, the CDFI legislation and SBA One Stop Capital Shops will provide more targeted, intensive business counseling, as will the Commerce Department's plan for six state-of-the-art MBDA Megacenters

Accessing Markets:

- Through an electronic bulletin board, the SBA one-stop capital shops will also serve as vehicle for making information about available contracts more accessible.

IV. ADDITIONAL RECOMMENDATIONS

Clearly, the Administration has numerous new and existing tools in place that could be used to address the problems faced by MBEs. The following, off-budget (or very low budget) actions might be taken to maximize the impact of those tools:

Use the SBA, new capital gains tax breaks, and CRA-reform tools to foster partnerships of national corporations and large banks with minority firms, CDFIs and minority banks:

- A sub-group of the empowerment zones implementation working group has been looking at ways to improve capital access in the zones. We could ask this group to think more broadly about how we can use existing tools to attract substantial new

investors in and partners with emerging minority firms. (The SBA is in the process of assessing how to encourage the capital markets to sell the new SSBIC capital gains deferral to investors.)

Test Minority Business support strategies in Empowerment Zones:

- The empowerment zones applications challenges local public and private entities to come together and commit additional resources. It recommends that the communities assess capital needs, marshal private sector commitments, and consider creating innovative mechanisms for linking empowerment zones with broader capital markets. Once communities are designated we could encourage the EZs and ECs to consider whether and how they would build capital access and mentoring networks for local minority firms. Such partnerships could also be a vehicle for providing technical assistance to minority firms, particularly regarding bonding requirements.

Consider recommending an executive order or presidential memorandum that would direct all agencies to comply with and vigorously implement the existing small and disadvantaged business utilization rules and requirements:

- Under the Small Business Act agencies are required, among other things, to set annual procurement goals for small and disadvantaged businesses (small, minority and women-owned firms) -- goals which reflect "the maximum practicable opportunity" for such concerns to participate in the agency's contracting. In a 1992 Final Report, the U.S. Commission on Minority Business Development concluded, among other sharp criticisms, that this goal setting process had either been ignored by the agencies or deteriorated into a mechanical exercise. We could reinvigorate existing minority procurement efforts with an executive order or other directive mandating compliance. This would have to be coordinated with the work of the National Performance Review.

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WORKFORCE POLICY GROUP

DISCUSSION DRAFT: HOW ARE WE DOING ON THE HORIZONTAL AXIS?

Problem Definition:

- The best problem definition (theory and message) has been done in the area of learning and job changing.
- In the other areas, more work is needed on both theory and message. For the competitive companies and good jobs, the gap is mostly message. More thought is needed not on the competitiveness agenda or the high performance agenda, but on how the two link together. So far, we have a tendency to talk about them separately.
- We also agreed that we do not have a good answer for the question "Where are the jobs?" This will require both theoretical work and message.

Policy Development

- Lifelong learning and perhaps the Jobs question are the primary areas requiring further policy development.

Legislative Action

- The suite of learning and job changing bills on the hill needs a team that can combine message, theory and legislative action to help pass the bills.
- Goals 2000, Worker Security Act, ESEA, School to Work, Welfare to work.

Existing Legislation

- There is an argument that we should be re-examining the training programs for the next budget round to see whether we can eliminate more of the poor performers. Perhaps this could be an effort such as the OMB spring review described by Bo.
- Another approach is to scan the existing legislation in a wide variety of areas to identify ways to make small modifications which support our workforce policy goals across the board: learning, job changing, competitiveness/good jobs, and more Jobs.

Implementation

- There has long been a cry (most recently echoed by the NGA) for a federal human investment council to coordinate federal policy: waivers, definitions, performance measures, etc.
- Certain policies which are a Presidential priority need to be implemented in harmony so that they add up to a whole greater than the sum of the parts. For example, skill standards, student loans, and one stop shopping are all policies that will create a more competitive system of training and employment if they reinforce one another.

THE WHITE HOUSE

WASHINGTON

February 4, 1994

MEMORANDUM FOR KENT HUGHES

Associate Deputy Secretary for Competitiveness
Department of Commerce

FROM: PAUL DIMOND

SUBJECT: STANDARDS/JOB NETWORKS/COMPETITIVENESS

I enclose copies of the two articles that I mentioned in our discussion yesterday:

- G. Eliasson's draft paper for the OECD on a new approach to markets for learning, educational services and job networks for European countries
- S. Barley's paper on What Technicians Do in the U.S.

Both papers may offer insights on (a) message/policy and (b) implementing standards and job-entry and job-changing to empower American families and firms to embrace the many changes in the many crossings to the new economy.

Eliasson argues that in order for European countries to **become** world class competitors **and** to serve all of their workers better in the global economy, they must move away from their much too rigid systems of training, apprenticeship, occupational skills standards, labor markets, unemployment and income supports. Eliasson proposes: (a) a basic platform of learning competencies for all students and workers and (b) much more agile, customer-driven, open market and informal systems of learning, training, and job networks that encourage families, workers, and firms to invest in continuous improvement in learning and self-management of constantly evolving, if not changing careers. In discussing his paper last week with a group of American reformers leading the drive for standards and more coherent labor markets and job networks here, Eliasson argued forcefully that the current European systems are **not** as competitive and do not serve workers as well as whatever the U.S. is doing (or not doing) now. He urged (a) innovation in framing a basic learning standard, (b) caution in setting or certifying separate occupational skills standards tied to current job descriptions, and (c) greater reliance on agile, customer-driven, even private markets in thinking about comprehensive reemployment measures. Although not discussed in the paper, Eliasson also proposed government support for self-financing systems to empower incumbent workers to seek their own learning and job-changing tools: e.g., income-contingent loans for workers early in their careers and tax-advantaged withdrawals from the worker's own retirement/learning plans at mid-career and later.

Barley's ethnographic analysis describes how "technicians" fill rapidly evolving and increasingly important niches (18% of the jobs) in the U.S. As described by Barley, this wide variety of technicians constantly learns, solves problems and adds value in the context of their work on the job, while openly scorning their own formal schooling. How will basic learning standards or occupational skills standards be made sufficiently flexible, broad and open to capture what these technicians actually do, come to know, and are increasingly capable of doing? How would they be used to assist in the evolution of more agile, customer-responsive labor markets and job networks that facilitate job-entry, job-changing or career advancement? How would they be implemented to stimulate additional learning on the-job, on- or off-line, at home, in the community?

Finally, I also enclose a draft of an early thinkpiece that I did on learning as a lever for all Americans to make a successful leap in the crossing to the new economy. The draft also offers an alternative way of thinking about content as the core -- the real there, there -- in a burgeoning new learning industry.

As Bonnie so aptly put it in the workforce paper, let's keep our eyes on where the puck is headed in the years to come -- not where we think it has been, may be now, or wish it might be in a different era or economy. As a part of this process, I wonder: do we need to consider more carefully how to build on the strengths, flexibility and more rapidly evolving competitiveness in our country in many niches, workers and firms, perhaps, for example, in the information and high-value service sectors? Is our vision -- for policy, message, or implementation -- narrowed due to concerns about remedying our perceived deficits, weaknesses and shortcomings? Does our message need to include emphasis on the opportunities and rewards in burgeoning new information, content, communication, and service export sectors, as well the high performance, high-quality, customer-responsive manufacturing workplace and firm?

If you have other background materials on related subjects that light up your radar screen, please share them with me so that I can get up to speed with you. I look forward to working with you.

Ev Ehrlich

OECD21.2, disk XXX

DRAFT, RESTRICTED

Not for Quotation

Revised: August 2, 1993

THE MARKETS FOR LEARNING AND EDUCATIONAL SERVICES
- a micro explanation of the role of
education and competence development
in macro economic growth

by Gunnar Eliasson
IUI Stockholm

Paper prepared

for **THE OECD DIRECTORATE FOR EDUCATION, EMPLOYMENT,
LABOR AND SOCIAL AFFAIRS** - the Centre for Educational Research and
Innovation.

Earlier versions of parts of this paper were presented
- on April 23, 1992 at the seminar on *Formation, Competence, Compétition et
Croissance* at E.R.M.E.S., Université de Paris II and
- on May 14-15, 1992 in Helsinki at a seminar on *Human Capital Creation in
an Economic Perspective*.

EXECUTIVE SUMMARY

The old industrial world is currently facing a radical transformation of its dominant production technology. Its manufacturing knowledge base, developed some 150 years ago, is rapidly becoming economically obsolete. As workers and managers in new, semi-industrialized economies, not in the least in the East European countries, are learning to make the same things better and much cheaper, it is becoming increasingly difficult for workers in the West to produce sufficiently high value added expressed in international currency to cover their high wages. The large companies are responding by going international to gain economies of scale in international marketing, focusing on product development and outcontracting manufacturing. The new technologies to replace the old industrial base and to sustain economic growth and employment at high wages into the future are not being introduced fast enough. Above all, they require different economic and social organization and different, high-level competences among workers. A massive reallocation and retraining of labor will be necessary to restore fast growth. This means that the source of high and growing relative wages for relatively unskilled labor, a trend established some 150 years ago, with the introduction of the large-scale factory organization, has been reversed. Since a decade or two, a trend towards relatively lower wages for unskilled workers seems to have been established among the industrialized countries. And evidence on new technologies being introduced is that this trend against low-skill labor will continue. Competence development will become the economic political focus.

The adjustment currently taking place in the labor market does not fully reflect this change in supply and demand for labor. Underpaid competent labor and overpaid low-skill labor is slowing competence development and growth and causing increased and sustained unemployment among those workers who have their skills shaped around the old knowledge base. On the other hand large rents accrue to the few who have developed the right competences. This international income distribution game is driven by very strong economic and technological forces that cannot be countered by policy

or regulation. One such strong force is at work on income distribution as high value (rent) production is being shifted away from raw material production, basic industries and large-scale factory organization of low-skill production towards small-scale higher competence production in the service end of private industry. Raw material rents have been fairly easy to redistribute through policy, not so rents created by competence capital in small-scale production.

Attempting to avoid letting wage adjustment clear the labor market and to reduce unemployment, politicians are looking to educational solutions to upgrade the competences of the labor force. This is a new and unconventional type of policy and not well researched by economists, neither theoretically nor empirically. This book is about the economic and social potential of educational policies for saving the European mature industrial economies from the specter of job-less growth.

It will be shown that education cannot do it alone. Policies directed towards *competence development*, the *structure of the labor market* and the *organization of its social insurance system* have to be enacted simultaneously to take the mature industrial economies through, and out of their ongoing clinch with new competition in their home markets, with a minimum of social hardship. The exact formulation of such policy, however, still requires further research and new policy competence is required, not yet existing either in the policy or the academic community. Even more difficult to cope with is the fact that the new policies needed will affect the institutions controlling income distribution, being heavily vested with particular interests.

The policy program will not be of the conventional means and objectives type. Evidence on the economics of institutions and dynamic economic systems analysis rejects such notions of policy control of an economic system. Successful policies aim for the institutions of the market, the efforts of individuals and firms generated by incentives, innovation through competition and the disciplining forces of markets.

While competence capital moves economic growth, it won't be developed and won't be efficiently allocated without a proper, market-based *incentive system*. This goes for the formal educational system as well as for the labor market.

The main thrust of the policy argument is that the overall educational system has to be organized not only to produce the right educational services but to constantly improve (innovate) these services. This has to be done even though there is no reliable way to tell the specification of that product prior to its use. It thus has to be left to the market (the customers of schools and the users of educational services) to determine the appropriate specification of the product. This theme is overwhelmingly supported by empirical evidence and runs through the whole book.

The policy possibilities are of seven kinds:

First of all, we conclude that educational policies will not work unless supported by strong economic incentives, that make it worth while for individuals to invest in their own competence development. This means that the performance of the labor market and the social insurance system has to be improved in support of educational reform. This is no easy political task to achieve since it requires coordination of different, and often differently minded political authorities.

Second, educational policy has to rely *much* more on student effort and interest and *much* less on public money.

Third, this means that the financing of education should be shifted away from the educational institutions (the suppliers) to the individuals (the users).

Fourth, the long gestation period of competence development means that incentives will have to be strong enough already in primary and secondary school to stimulate myopic students to build the critical *receiver competence platform* for profitable continued education. A bad start in the early

educational career is very difficult to correct later in life. The problem is that individuals have to wait very long for the monetary rewards of their investment.

Fifth, to achieve that imperfections of the labor market have to be removed, notably restrictions on mobility and wage rigging, such that the individual will more easily search out his or her comparative advantages and such that significant competence-based wage differentials are established.

Sixth, we find that public support of formal schooling is already so large among western industrial nations that one cannot argue for more public support. Improvements are to be looked for in a different organization and orientation of school, which might well produce a better education at lower costs. The point is, however, that this won't be achieved without allowing for new educational solutions to be developed through market experimentation and selection.

Seventh, all of these desired changes rest on the appropriate organization of the institutions that provide the incentives to individuals to educate themselves and to search the labor market for jobs that suit them and that contribute maximum value to the economy at large. Paradoxically, perhaps to many, this improved incentive system requires significantly increased *freedom of contractual arrangements* in the market for educational services, the labor market and the social insurance market than is currently available in most industrialized countries. This freedom has to be allowed to create the individual flexibility and adaptability that a complex demand and supply situation for competence requires.

We find no clear economic case for *underinvestment* in education. One can easily produce an equally reasonable case for overinvestment. The point, however, is that if educational service production and the labor market process are improved, as suggested above, the most credible economic cases for underinvestment vanish and we are left with a *social* problem of

underinvestment, namely that part of the population and workforce who do not possess the necessary receiver competence to benefit from educational investments. Hence, they will pass through a non demanding formal schooling system without developing the receiver competence required to become recipients of further educational investments on-the-job. This problem, which is social, has to be attended to very early at school, preferably before school.

The policy conclusions are entirely formulated in terms of institutional change aimed at activating students, workers and employers through appropriately formulated incentives. Significant decisions and public resources should be removed from central authorities to authorize and enable individuals to take responsibility for their own competence development, their labor market contracts and their social insurance arrangements. This requires deregulation and decentralization of the educational system, the labor market and the social insurance system. There is no empirical support for elaborate policy instruments aimed at preset targets. There is powerful empirical evidence suggesting that if these reforms are not enacted the economy won't be politically capable of reorganizing itself for the demands of new technology and competition beyond horizon 2000. It would, of course, be very nice to be able to credibly formulate more powerful and precise policies involving smaller labor market risks for the individual. Such ambitions stumble on lack of information in three areas:

a precise identification of the *basic competences* that will set students on the right competence platform for the job market.

- a credible assessment of the *underinvestment* hypothesis to be able to say something on the need for more public support for schools or differently directed public support.
- lack of empirical insight into the *selection versus investment* function of education.

Though SELVIS, which studies are on the right track

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If the basic competence package could be identified, which may be possible, then the minimum output of primary and secondary schooling can be more precisely defined.

If the underinvestment hypothesis can be restated in terms of sufficient public *inputs* into schooling, but too small educational service *output*, then the educational agenda can be ridded of a detracting debate and refocused on the efficiency of the educational process.

All educational policy is based on some prior assumption about the importance of talent selection in educational process. Much research on which policies were earlier founded tended to downplay the importance of selection mechanisms and overstate the investment hypothesis, a prior position that simplified educational policy making to the task of providing more public money for schooling. This position is not backed by empirical evidence. Most evidence takes us all the way into family life to understand the bad performance of students and workers. This means that the *social capital* that the student carries with him from the family may be what really matters for both school and work performance, making the sorting out of the filter vs. investment hypothesis even more important.

The proposed research agenda of chapter 7 focuses on these three questions. And they require an answer to make possible decisive and fast steps towards solving the unemployment problem of mature industrialized countries.

ASKING THE RIGHT QUESTIONS ABOUT EDUCATION, SCHOOLING AND TRAINING?

BACKGROUND:

1. The discussion about reforming education, schooling and training in this country focusses on improving the quality of the teachers, the organization and responsiveness of the schools, and the curriculum; lowering class size; integrating more services; raising standards for teacher and student performance, etc. The focus is improving the means of schooling, education and training--whether in adding a year to head start, expanding head start to cover all eligible children, improving k-12 education or training for school-to-work, welfare-to-work, dislocated worker-to-work, or career transitions. Even those who tout choice and market mechanisms as an alternative speak primarily in terms of improving the means of schooling.
2. This focus on improving the means of production--seen as education, schooling or training--has not led to any measurable increase in the efficiency of schooling this century. Yes, we have had major increases in the numbers of students who attend K-12 and graduate from high schools in this century, as we have made schooling universal. Yes, we have made progress in providing some increased portion of eligible pre-school children with a Head Start, as funding has gone up. But all of these improvements have been incremental not exponential: as we add schools and centers for care or training, as we add teachers and providers, as we add resources, there is sometimes a proportional increase in the numbers of persons trained, schooled or nurtured.
3. Compared to virtually any other industry in the twentieth century, education has had at best minimal gains in productivity. Consider that we grow and distribute more and better food today at a lower cost with only a fraction of the farmers that tilled the land at the turn of the century. We build better products, more efficiently, on a much more customized basis, with less environmental pollution, and with far fewer workers per unit of output than at the turn of the century; and, where we are not as efficient, responsive, and effective, we lose production overseas. We have whole new industries--entertainment, information, services--barely imagined at the turn of the century. We have an increasing variety of new technologies that have revolutionized industries, old and new alike, and that are remaking our nation and the world as a new economy unfolds all around us. Yet education, training, and schooling look, act, and produce much the same way they did at the turn of the century.

THESIS:

IT'S LEARNING, STUPID!

In a Lever of Riches, Joel Mokyr begins:

Technological creativity, like all creativity, is an act of rebellion.

We need to consider whether such an act of rebellion is essential if we are to transform the skills of all of our people. We need to consider whether we are on the cusp of a technological revolution that will enable us to choose a new direction.

Consider three, related shifts in thinking:

1. It's Learning: Let the Learning Lever Begin. It is learning--not education, training, or schooling--that is at issue. From this perspective, the major problem is that we know that every person is different and unique. If we could invent efficient and effective means of learning, therefore, we would not be satisfied just by finding the common needs of most learners. Instead, we would try to customize the means of learning to serve each learner and to allow learners to proceed at their own pace, in their own styles, including by working at learning with one another in pairs or larger groups, as well as alone. Howard Gardner, and others, have begun to speak to such a different conception.

Such a reinvented vision of learning might seem to depend on having a wide variety of tutors for virtually every learner. Yet the primary work is done by the learner, not by the tutor. As a result, we can begin to imagine a system where the learner connects up with tutors at various times, but can also do much of the work of learning on her own (or, together, with peers and parents). What would be most helpful to such a reinvented system of learning are a wide variety of levers to assist the learner (and peers, parents and tutors) along a wide variety paths to learning. We, therefore, call these new tools: Learning Levers.

2. It's technology: Let the Rebellion Begin. For such a learning revolution to succeed, of course, we will need a technological revolution as well. And, one is on the horizon if not already upon us. To date, most computers have been linear--yes-no, stringing words and bits together in a line, computing numbers, most triggered by a numerical/alphabetical keyboard or a mouse. But images, sounds, non-linear information and insights, rolling frames and stop action, interactive multi-media are all coming together. Miniaturization, compacting of data, new means of transmitting images, sound and information, and so much more are upon us. The potential for creating all variety of Learning Levers is a rebellion in the making.

3. It's Interactive Entertainment: Let The Games Begin. Finally, the smashing rebellion is that the real variety (and payoff) is not in the hardware or the systems software of Learning Levers: it's in the content, the program, the entertainment, the production of the plays and the provision for the interactions. Current estimates are that 1% of the revenues, profits, and jobs are in making the hardware, up to 4% in the systems software, and something like 95% in the content. Imagine if CD's, games, entertainment, interactive multi-media, and all manner of engaging content all came together with the revolution in technology and a revolution in learning!

As an added bonus, here is a burgeoning new industry where the U.S. has a competitive edge on the rest of the world. If the 21st Century is to be an American Century as Ben Wattenburg argues, Learning Levers could be one of the major keys to translating what he assumes is our current cultural dominance into a major economic advance. Learning Levers could become the means to revolutionize learning--for all ages--in America, and around the world. Learning could become the biggest growth industry of the new information age: non-polluting, creative,

entertaining, creating thousands of new products and markets, millions of jobs, while serving the needs of learners of all ages everywhere.

So, how does such a vision inform our review of policy?

- We should explore how we can create an environment where such a revolution can proceed apace in a democratic fashion. We should make sure that Chapter I, Head Start, Apprenticeship, dislocated worker, other transitional training, and family assistance include some provision for allowing persons in need full access to Learning Levers.
- We should be cautious about betting all of our programs and dollars on improving the old means of education, training, and schooling.
- We should invest some of our programs and dollars in demonstrations of Learning Levers.
- In setting standards, we need to make sure that they are receptive to achievement through the use of learning levers
- We may need to rethink how we organize Healthy Start, Head Start, K-12, transitional training so as to be open to a greater variety of means of delivering services. States, localities, and public and private providers may all be affected dramatically.
- We may want to consider how far along such a revolution in learning may be, and what we can do to nurture it, including by creating a hospitable and rewarding intellectual property environment.
- We ought to begin planning for a major learning conversion with all variety of teachers, trainers, educators, nurturers, and other public servants.
- We should consider whether President Clinton could use his bully pulpit (and make available the existing resources of our government) to call on the private sector to make Learning Levers one of America's major contributions to the twenty-first century. For example, a national competition could be conducted annually to award the Presidential Prize for the most innovative Learning Lever for early childhood, childhood, early adolescence and adolescence, young adult and adults; for families, schools and libraries of the future, career transitions and lifelong learning; for interactive and portable learning games for the home, school, work and new, one-stop learning and career centers; etc.

Joel Mokyr documents that, over the centuries, major technological advances have provided what most economists fail to comprehend: a veritable "free lunch" in economic growth -- but only for those societies smart enough to embrace the new innovation and to withstand the inevitable dislocations as the means of production change and the pre-existing equilibrium is disrupted. Learning Levers offers our country such a Lever of Riches -- but only if we are smart enough to seek the liberating prize of learning for life for every person and bold enough to embrace the economic reward of constant personal, family, and community renewal.

What Do Technicians Do?

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Very pro active --
rethink standards --
1. how makes generic but in
a context of problem-solving
learning selected to actual
circumstances
2. how avoid efficiency makes
flexibility of this type + joy
Network training?
3. How relate if at all, to formal
schooling?

Introduction

Twenty years ago Daniel Bell (1973) told of the coming of a post-industrial society in which the production of knowledge and services would eclipse the production of goods as a source of employment. Trends in the composition of the American labor force continue to vindicate Bell's vision (Block 1990; Barley 1991). The unskilled and semiskilled blue-collar labor force, which accounted for 28 percent of the working population in 1940, now represents less than 16 percent of all employed Americans. Only 3 percent of the population works on farms. In 1970, clerical employment accounted for 18 percent of the labor force but has since declined to sixteen percent largely because of office automation. Even the growth of managerial jobs has begun to level off in recent years because of corporate downsizing.

The decline of occupations spawned by the industrial revolution and the growth of bureaucracies contrasts sharply with the rise of occupations linked to the production of knowledge and services. Especially dramatic has been the expansion of the professional and technical work force. Between 1950 and 1988 the number of professional and technical workers increased by 282 percent, a growth rate three times that of the entire labor force (94%). By 1988, professional and technical workers were tied with clericals and with operatives for the status of most prominent occupational category. One of four new jobs is now a professional or technical job. Forecasts indicate that by 2000 professional and technical occupations will have become the largest of all occupational sectors representing 18 to 20 percent of the American labor force (Silvestri and Lukasiewicz 1989; Bishop and Carter 1991).

Although evidence of the increasing importance of technical work has been available since the 1960s, the shifting composition of the workforce has only recently attracted attention. The economic importance of scientific and technical education first became a topic of public concern in the mid 1980s with the appearance of several reports that said that American students were performing more

poorly in science and math than their counterparts in other nations (Johnson and Packer 1987). Employers, educators and policy makers have since proposed several initiatives to enhance scientific and technical literacy and to prepare young people for higher skilled, technical jobs (Committee on Science and Technology 1986; Committee of Science, Space and Technology 1991; Aerospace Education Foundation 1989). Most of these initiatives emphasize formal education in science, math and technology.

Given trends in the labor force, few would dispute the need to orient students and schools to the opportunities and demands of a post-industrial economy. Of particular importance are programs that target what Parnell (1985) called the "neglected majority," youth who currently pursue a general education curriculum in high school and who represent the most likely candidates for the expanding number of technicians' jobs. The task of designing programs for training technicians is severely hampered, however, by the fact that no segment of the labor force is less well understood. Since World War II, social scientists have generated an enormous literature on blue-collar, clerical, managerial, and professional work. Yet, besides a handful of studies of engineering (e.g., Peltz and Andrews 1966; Allen 1977; Bailyn 1980; Whalley 1986; Buchiarelli 1988; Kunda 1991), we know next to nothing about technical work, in general, and even less about the work of technicians. There have been fewer than two dozen studies of technicians and most of these have yet to be published.

In lieu of detailed information on technicians' work, educators and policy makers have little choice but to rely on common sense notions of what technicians do. However, common sense notions sometimes prove misleading. For instance, the educational and policy literature routinely portrays technicians as a "junior professionals" whose work requires a less rigorous, more "applied" version of the formal knowledge of a professional specialty. It is easy to see how such an image might arise. Many technicians work along side physicians, scientists, and engineers. Yet, if the image of a "junior

professional" is inaccurate, it may lead educators to develop curricula that are, at best, irrelevant and, at worse, a barrier to entry.

In 1991 researchers associated with the Program on Technology and Work at Cornell's School of Industrial and Labor Relations embarked on a five-year study to gather detailed information on technicians' work. Our strategy has been to conduct coordinated ethnographies of a range of technical occupations that can be used to specify the parameters and social organization of technicians' jobs. Each study in our portfolio focuses on a single occupation and entails extensive observation in work sites for six to twelve months. To date, we have completed investigations of emergency medical technicians (Nelsen and Barley 1993), science technicians (Barley and Bechky 1993), medical technologists (Scarselletta 1992), radiological technologists (Barley 1990), and scientific liaisons in the European Space Agency (Zabusky, 1993). Studies of microcomputer support specialists, engineering technicians, and programmers are under way. We are about to launch studies of technical sales, software engineering, automobile repair and technicians on factory floors.

This paper summarizes several preliminary observations that we believe warrant consideration by those charged with formulating educational policies and programs. The observations suggest that conceptualizing technicians as "junior professionals" misrepresents the technician's role. The notion of a "junior professional" carries at least two unwarranted connotations. First, is the suggestion that technicians serve professionals as functionaries. Second, is the suggestion that the professional's knowledge subsumes that of the technician. We have found instead that the division of labor between technicians and professionals is usually more collaborative (horizontal) than hierarchical (vertical) and that members of the two types of occupations command substantively different knowledge and skill. Even more problematic for the notion of a junior professional is the fact that many technicians work in contexts that are not tied to the activities of a profession. The discussion begins with the nature of

the technician's role, moves to the type of knowledge that technicians command and ends by elaborating implications for the education of technicians.

Observations

The Technician's Role

Overseeing an Empirical Interface: Most persons employed as technicians work on or with reputedly complex technologies or techniques. Most also work at the *empirical interface* between a larger production process and the materials on which the process depends. Depending on context, the relevant materials may be hardware, software, microorganisms, the human body, a manufacturing process, and a variety of other physical systems. The technician's task at the empirical interface involves two complementary processes: *transformation* and *caretaking*.

On one hand, technicians employ technologies and techniques to transform aspects of the material world into symbolic representations that can be used for other purposes. For instance, sonographers (Barley 1990), emergency medical technicians (Nelsen and Barley 1992), and medical technologists (Scarselletta 1992) produce images, counts, assays and other data useful for medical diagnosis. Technicians in nuclear power plants (Hirschhorn 1984) and other automated facilities (Zuboff 1988) create and monitor flows of information on production systems. Science technicians reduce physical phenomena to data or "inscriptions" from which scientists construct arguments, papers and grants (Barley and Bechky 1993; Latour and Woolgar 1979).

Yet, technicians do more than generate symbols and information. Most are also responsible for taking care of the physical entities they oversee. Technicians are charged with ensuring that machines, organisms or other physical systems remain intact and in good working order. Caretaking often requires technicians to employ the representations they create. Emergency medical technicians

perform medical interventions based on diagnoses they make at the site of an accident (Nelsen and Barley 1992). Technicians in biology labs employ the data they generate to husband organisms and monitor technologies (Barley and Bechky 1993). Microcomputer technicians use the results of tests and probes to alter the functioning of computer systems.

Figure 1 depicts the technician's activity at an empirical interface. Transformation and caretaking represent the *epistemic core* of a technician's job. In pursuing these activities technicians develop and use unique bodies of knowledge, information and skill. Although the details of their work may vary, the general structure of the epistemic core is common to all technicians' jobs. The technician's social role, however, varies according to how the epistemic core is articulated within a division of labor. Based on our research and the research of others, we submit that technician's work is of at least two general types.

Buffers. Members of some technical occupations *buffer* other occupations from contact with the empirical phenomena over which the latter are reputed to have mastery. These technicians are usually positioned near the beginning of a *serially interdependent, occupational division of labor* such that the technician's "output" serves as "input" for the work of an occupation classed as a profession. Thus, technicians link a world of symbols, information, or theory to its empirical referents. Science technicians, radiological technologists, emergency medical technicians, and medical technologists are illustrative of technicians who serve as buffers. Because science technicians operate lab equipment, conduct experiments, and generate data, they, rather than scientists, who usually preside over science's encounters with the physical world. As a result, science technicians shield scientists from the vagaries of empirical encounters (Barley and Bechky 1993). By stabilizing patients at the scene of an accident, emergency medical technicians similarly relieve physicians and nurses of the need to do triage (Nelsen and Barley 1993). Radiological technologists and medical technicians distance

radiologists and pathologists from encounters with patients or their bodily tissues and fluids (Barley 1984, Scarselletta 1992).

Because the technicians and professionals speak much the same language, buffers usually *transmit* the representations they create directly to the professional. The professional then employs the technicians' representations in his or her own work. For instance, emergency room physicians use the EMTs' initial diagnosis to begin treatment. Radiologists develop differential diagnoses based on the sonographer's images and even the sonographer's interpretations (Barley 1990). Scientists often employ data assembled by technicians without further analysis.

Membership in a common speech community affects the technician's work as well. Technicians who serve as buffers usually draw on or *appropriate* the professionals' theories, plans, diagnoses, or designs to inform their work at the empirical interface. To stabilize patients, EMT's make diagnoses that require them to be conversant with theories of disease. Sonographers must understand pathological processes to capture diagnostically useful images. Technicians in biology labs employ elements of scientific theory to manage enigmas that arise during laboratory procedures (Barley and Bechky 1993)

Figure 2 depicts the structural position of a technician who serves as a buffer. The central dynamic of the production process (which moves from left to right in the Figure) is one of *translation*. Technicians reduce physical phenomena to symbolic representations and then transmit those representations to professionals. Two points are salient. First, the technician stands between the professional and the empirical phenomena that grounds the professional's work. Second, because the two occupations share a speech community, the linguistic and cultural (and, hence, in Figure 2, the spatial) distance between the two groups is minimized. Both parties share a social world, be it the world of a medical specialty, the world of a scientific discipline, or another professional field.

Brokers. Joint membership in a social world is uncharacteristic of a second group of technical occupations. These technicians work in what is best described as an *organizational division of labor*. Moreover, because the technician's output is often not *substantively relevant* to those who depend on their work, the division of labor is not serially interdependent. Others do not depend on specific products of the technician's work. Instead the technicians are responsible for creating *general conditions* necessary for the work of others. Technicians of this sort typically oversee some aspect of the technical infrastructure on which a production system rests. Copier repair technicians (Orr, forthcoming), microcomputer technicians (Barley and Zabusky, in progress), network administrators, programmers (Kuhn 1989), software support specialists (Pentland 1991) systems analysts, and most other computer technicians are illustrative.

The epistemic core of the second type of occupation is identical to the first. To manage a technological infrastructure, a technician must create symbolic representations of the state of the technology and then maintain or alter the technology based on the representations. However, the technician's position in the production system differs from that of a buffer. Programmers, microcomputer technicians, copier repair technicians and network administrators are usually "foreigners" in the work site. They belong to an occupational community that exists largely outside the organization where they work and their expertise differs radically from the expertise of those whom they serve. Hence, although such technicians may buffer others from the intricacies of a technology, their role is essentially that of a *broker*.

Brokers bridge two communities: the organization they serve (either permanently or temporarily) and the larger technical community associated with the technology they oversee. Technicians' work entails adapting the technical community's knowledge and products to the contextually specific needs of users, clients, or customers. Orr (forthcoming) has documented how

copier repair technicians mediate between the local practices of organizations that lease copiers and the engineering community that designs them. As a result, copier technicians develop a unique body of knowledge. Barley and Zabusky (in progress) have found a similar phenomenon among microcomputer technicians and "in-house" programmers who develop databases for their employers. Microcomputer technicians, are charged with assembling, modifying, and repairing workstations and networks used by employees of an organization. The technicians continually scan the technical community for relevant information while simultaneously communicating with users about the organization's needs. The computer systems they construct are local syntheses of the constraints and possibilities defined by the intersection of the two worlds. Software developed by in-house programmers exhibit the same hybrid quality. Brokers therefore mold technological feasibilities into local realities.

Figure 3 illustrates schematically the structural position of a broker. Brokers sit between a technical community and a community of users whose work depends on the systems that the brokers oversee. The broker's relationship to the community of users is twofold. On one hand, brokers assess the users' needs and then develop systems that meet those' needs via their caretaking function. On the other hand, if the system is to perform optimally, brokers must also educate users about the system's functioning, features and limitations. To the degree that technicians and users inhabit different social worlds, education involves *restating* technical information in a form that users can comprehend and use. *Restatement* and *assessment* therefore require brokers to engage in considerable translation. Not only must users' needs be formulated as technical parameters but technical parameters must be made meaningful to people with little technical background. Unlike technicians who serve as buffers, brokers must therefore speak the language of two communities.

The brokers' relationship to the technical community is less complex than their relationship to the user community in that technicians usually identify with the technical community's culture. In

some settings, such as software support (Pentland 1991), the broker's interaction with members of the technical community approximates a buffering relationship. In other instances, the relation is more attenuated. Microcomputer technicians are a case in point. The technical community relevant to microcomputer support is populated by vendors of hardware, software and technical services. Technicians monitor the technical community for "state-of-the-art" information and for solutions to actual or potential problems. Microcomputer technicians read continuously and consult with other technicians and with vendors when opportunities arise. Although they appropriate technology and knowledge from the technical community, they feed back little information except when they encounter bugs or are consulted by vendors.

The Nature of Technicians' Knowledge and Skill

Formal knowledge. Commentaries on the shortage of technicians routinely conclude that the U.S. should begin coaxing a broader segment of the population to pursue formal training in science and technology. The rhetoric of employers likewise privileges formal knowledge and credentials. Consequently, most schemes for increasing the number of technical workers emphasize instruction in science, engineering, and technology. We have found, however, that the perceived importance of credentials contrasts sharply with the experience and opinions of technicians themselves.

Outside medicine, where laws mandate credentials, many technicians possess no formal technical training. Even in science and engineering where credentials are customary, one finds a significant number of technical workers without advanced degrees. Barley and Bechky (1993) report that among of the university based science technicians they studied, holding rank constant, a quarter possessed at least a master's degree but another quarter had no more than a high school diploma. Researchers report similar findings among engineers. Studies suggest that between 20 and 30 percent of all engineers in the United States lack a bachelor's degree in engineering and many have no more

than a high school diploma (Zussman, 1985). The percentage of engineers without degrees is even higher in Britain (Walley 1986). Preliminary evidence suggests that many engineering technicians also lack advanced degrees.

When credentials are neither mandated nor customary, even fewer technicians are credentialed. Computer-related occupations are especially instructive in this regard. Barley and Zabusky (in progress) found that 50 percent of the microcomputer technicians and in-house programmers they studied have no formal technical training. Microcomputer technicians exhibit a variety of educational backgrounds. Some have advanced degrees in the social sciences and the humanities, some come from a computer science background, while others have but a high school degree. Yet, all do roughly similar work.

Perhaps more troublesome for advocates of credentialing is the fact that technicians with technical degrees also claim they use little of what they learned in school. Students of engineering report that engineers are particularly cynical about the relevance of their schooling (Zussman 1985; Whalley 1986). Radiological technologists, science technicians, medical technologists, programmers, microcomputer technicians and emergency medical technicians voice similar sentiments. In fact, we have yet to encounter a technician willing to testify to the importance of the content he or she learned in school.

This is not to say that technicians view their formal education as totally irrelevant. Technicians often claim that they think more "rigorously" or "logically" about problems because of their education (Zussman 1985). When solving problems, technicians also occasionally employ heuristics and other bits of knowledge that can be traced to courses in technical subjects (Barley and Bechky 1993). The technician's devaluing of formal education is therefore best interpreted as a sign that they subscribe to a theory of learning that differs from that of most educators. Educators often portray courses in formal theory as a necessary platform for understanding the details of practice.

Technicians believe the converse: that *practice provides the platform necessary for making sense of theory*. Consider, for example, the philosophy of an accomplished Research Support Specialist with a master's degree in cell biology who routinely trains technicians in cell culture techniques:

First I let them observe me do it. Then I let them do it. Finally, I give them materials to read. It's of little use to read about a process before you do it because the papers are too confusing. It works better if you see it first and then read...Reading becomes more helpful once you have an idea of what the words *really* mean." (Barley and Bechky, 1993:37).

Regardless of occupation, all technicians appear to value experience and practical understanding over formal knowledge. In fact, in our studies the only technicians who have made positive claims about their schooling were those whose training involved hands-on practice. The testimony of a computer technician with an associate's degree in information systems is typical:

What do I use from my schooling? Well, the typing class I took was really good. From my computer classes, not too much. A little bit from the system design course. But in my second year [at college], I became a computer proctor. I watched over the computer lab and got to be good friends with the man who was in charge of tech support for the campus. So my job actually moved into working with him instead of being a proctor in the computer room. He and I would go around campus fixing and upgrading computers and running cable. So that's where I got *all* my background.

Contextual Knowledge: Why do technicians universally value experience more highly than formal training? In part, experiential knowledge is more important because technologies and techniques change so quickly that by the time information filters into a classroom it is already out of date. Moreover, in applied settings knowledge is only relevant in the context of a problem. Since problems usually have aspects that cannot be anticipated, technicians find that they have to search for information specific to the problem at hand. Thus, as technicians suggest, problem solving skills are

the most one can expect from a technical education. Yet, the most important reason for valuing experience is to be found in what the term connotes for the technician.

By "experience" most technicians do not simply mean an extended period of practice. Instead, "experience" serves as a shorthand for *contextual knowledge* of materials and techniques. Contextual knowledge entails a variety of skills and abilities tied to the specifics of the technician's work. Practice is merely the path by which most technicians develop contextual knowledge. Technicians argue that although contextual knowledge is critical for successful practice, training programs provide few opportunities to acquire it. The following remarks by a sonographer on the educational establishment's tendency to elevate theoretical over contextual knowledge are remarkable only for their passion:

On the registry they want to know such things as "what kind of tissue is the pancreas composed of?" How the hell do I know and what difference does it make? Pancreatic tissue. Who the hell are these people? I'll go one-on-one with anybody in scanning ability... I know my anatomy cold. What's more, I know my way around the body three-dimensionally. Anybody can read a cross-sectional view, but you have to be able to turn it around like you were looking from the front and be able to locate the problem. That's not easy and most of the kids coming out of the programs can't do that...A lot of the kids coming out are incompetent. We had a student out here. She could sit down and go through charts and read pathology reports and tell you what they meant. I couldn't do that. She could draw you a picture of the vascular system, but she couldn't find it in the body. They're just not properly trained. Experience is the best teacher...

Here, the sonographer speaks of a critical skill that the curriculum's designers did not apparently recognize. To produce viable ultrasound images one must visualize the body in three-dimensions although the images that one interprets are two-dimensional. Without this ability one cannot position the transducer to acquire a diagnostically useful set of images. Most technicians tell similar stories about crucial skills that are ignored by formal education largely because educators do not recognize their importance. Therefore, almost all technicians claim that they had to acquire such contextual knowledge on-the-job.

One must be careful in interpreting what technicians mean by on-the-job training. Most employers do not orchestrate the training of new technicians. Nor do they usually assign mentors to the newly hired. Instead, technicians appear to gain contextual knowledge by solving problems, by informal coaching, and perhaps most importantly by listening to "war stories" that encode lessons learned by colleagues (Orr, forthcoming). Members of every technical occupation we have studied partake of a "community-of-practice" composed of others with similar interests, responsibilities and skills (Lave and Wenger 1992). These communities make use of a variety of channels for communicating information to their members. Face-to-face contacts are most pervasive. Technicians not only discuss problems and discoveries with their immediate colleagues, they are usually linked to technicians at other sites who can serve as informal consultants. Technicians therefore serve as repositories of contextual knowledge that is disseminated orally through networks. Vendors of equipment and supplies also function as crucial conduits of information. Some occupations, such as medical and radiological technology, are sufficiently well organized to have their own journals. Others use less "professional" media. For instance, microcomputer technicians scour commercial magazines aimed at "high end" computer users. Internet has also begun to function as a source of highly specialized information for microcomputer technicians and technicians in science labs.

Although, by definition, the precise content of contextual knowledge varies from occupation to occupation, broad commonalities exist. Most important is the ability to make sense of subtle differences in the appearance of materials and the behavior of techniques or instruments. Accomplished technicians see signs and codes where novices, and even professionals, see no information at all. For example, bench talk in science laboratories routinely revolves around the relevance of colors, shapes, patterns, sounds, and smells (Barley and Bechky 1993). Technicians use such information to decide whether experiments are progressing properly and to begin corrective action when events go awry. Sonographers distinguish between findings and artifacts by noting subtle

differences in the shading of images and by attending to a variety of other cues such as the presence of scars on a patient's body. Microcomputer technicians often troubleshoot problems by attending to the sequence in which error messages occur while ignoring the messages' standard denotations. The meaning of a sequence of error messages is almost never discussed in technical documentation.

Sensory-motor skills are a second general component of contextual knowledge. Science technicians speak of "having a feel" for one's instruments, materials, and techniques. Although the idiom is sometimes synonymous with simple familiarity, technicians use the phrase most often to refer to tactile skills or "ways of the hand" (Harper 1987). Cell culture specialists, for instance, warn trainees against "touching the cells wrong." Wrongful touching encompasses a variety of acts including pushing tissue too forcefully through screens designed to separate cells or pipetting directly into a test tube containing a cell colony.

Contextual knowledge encompasses an encyclopedia of heuristic or rules-of-thumb. Members of every technical occupation we have studied routinely recite heuristics to themselves and each other during their work. In fact, we have begun to wonder if talking to oneself is not actually critical for effective technical problem solving. Finally, contextual knowledge usually encompasses adherence to a work style deemed crucial for avoiding the type of mistakes that occur in a particular technical context. For instance, being an accomplished science technician is nearly equivalent with demonstrating an almost obsessive concern for orderliness, cleanliness, reflexiveness, and documentation (Barley and Bechky 1993).

Technician as cutpoint.

The technician's mediating position in a division of labor and the importance of contextual knowledge account for a third observation regarding technicians' work. Although other people may have considerable theoretical knowledge of the materials that technicians oversee, because technicians

serve as buffers and brokers, only they are positioned to develop a contextual understanding of materials and technologies. It is therefore the technicians' contextual knowledge rather than their formal knowledge that represents their substantive expertise. To the degree that contextual knowledge is necessary for the smooth functioning of a production system, the technician becomes a cutpoint for the entire system: Remove the technician and the production system collapses.

In every technical setting we studied we found clear evidence that technicians are vital precisely because their contextual understanding is pivotal. Even scientists admit that without technicians lab work would stop because scientists do not possess the contextual knowledge necessary for empirical activities. In fact, most graduate students and postdoctoral fellows learn empirical procedures from technicians. The comments of the director of a monoclonal lab are representative:

I did tissue culture for six years and was pretty good at it. Fifteen years ago, I knew the state of the art. But now, I don't know what they are using to wipe down the incubator. I have no hands-on knowledge of the cells. Sally (a research support specialist) can tell immediately if the cells are happy, from all the hours she spends looking at them. This is where the art comes in. It isn't mystery or mysticism, just the things that you don't consciously know — they are at the edge of your consciousness. Subtle things. A tech will say, 'this doesn't look quite right'. No one ever tells you these things, they aren't written down in books. Thinking, aware people develop gut knowledge, a sense of the wellness of the system. I have seen lab directors ruin their lab by giving orders to an RSS (research support specialist) or a tech who should be an RSS. A month later, the tech is looking for a new job and the director is left holding the bag.

Further evidence for the pivotal importance of the technician's knowledge can be found in those instances where labs attempt to duplicate each other's work. Although monoclonal techniques are supposedly well documented by protocols and scientific papers, when one lab wishes to replicate another lab's cell line, it is usually necessary for technicians from the second lab to train technicians from the first (Cambrosio and Keating 1988). Collins observed a similar phenomenon in his study of technicians in physics labs (Collins 1974).

Under certain conditions, microcomputer technicians also become cutpoints in a production system, especially when computers are networked. When a network "goes down" an entire organization may be unable to work. Generally, it is impossible for outside technicians to effect repairs in a timely manner. The reason is that the technicians who constructed the network have acquired contextual knowledge of its idiosyncrasies that are opaque to technicians who have not worked with the network. In fact, Barley and Zahusky observed that the use of outside technicians and computer consultants actually increases the odds of a malfunction. In lieu of relevant contextual knowledge, such individuals are likely to make modifications that trigger adverse interaction effects.

Implications for Policy

The foregoing observations challenge the prevalent image of a technician as a "junior professional" because they suggest that technicians are not mere adjuncts to an existing occupation. Instead, technicians are members of unique occupations with their own bodies of knowledge. Because this knowledge is largely contextual and because contextual knowledge is learned in situ, the technician's knowledge is not a subset of the knowledge commanded by another occupation. Furthermore, although technicians may have status incommensurate with their importance, it is not because they serve as functionaries in a vertical division of labor (Barley 1991; Barley and Bechky 1993). If accurate, these observations suggest at least four potential policy implications.

First, effective educational programs for training technicians must impart contextual knowledge of a technical domain. If one takes the technician's perspective seriously, hands-on experience must become integral to the education of the technical labor force. Apprenticeships and internships are ways of providing such experience. However, neither should be viewed as an adjunct to classroom instruction. Instead, classroom instruction might more appropriately be viewed as an adjunct to apprenticeship. If formal knowledge becomes relevant for technicians only in the context of

practice, then it behooves educators to design curricula that tailor formal instruction to the exigencies of practice rather than the reverse. Apprenticeships and other hands-on experiences will not be maximally effective if approached as elaborate demonstrations to support theoretical points.

Second, practicing technicians must be involved in designing training programs. Unless educators and policy makers are themselves technicians (which, of course, most are not), they will be ignorant of the contextual knowledge that technicians require. Our observations imply that persons ignorant of the demands of practice do not usually design adequate training. Although an educator's knowledge of pedagogical tactics is useful for structuring the delivery of knowledge, it is important to recognize that the educator's expertise does encompass the content of technical work. The same is true of professionals with whom some technicians interact. Policy makers must therefore be particularly alert not to confuse knowledge relevant for one occupation with knowledge relevant for another. Recognizing that technicians are themselves experts in the content of their work will lessen the risk of designing irrelevant curricula.

Third, conceptions of technical education must be broadened to include translation competency. Because technicians serve as buffers and brokers in a division of labor, a significant component of their work requires an ability to translate across the boundaries of social worlds. The skill is particularly crucial for technicians who work as brokers. Brokers must be able to assess the needs of users and articulate technical issues in a language that laypersons can understand. Not only are general communication skills required but so is the ability to think of one's work and the work of others in systemic terms. The notion of translation is also useful for reexamining the role that formal theory plays in the education of technicians. Historically, technicians have been taught scientific, technical, or medical theory under the presumption that such knowledge provides a background crucial for the epistemic core of the technician's work. Although this perspective has merit, it may be that theoretical knowledge is most useful for enabling technicians to communicate effectively with the

professionals with whom they interact. This possibility casts a different light on the relevance of formal knowledge and, by extension, the way in which such knowledge is taught.

Finally, since technical knowledge changes so rapidly, technical work demands continual learning and access to new information. Since relevant technical knowledge is usually bound to the particulars of a problem, critical information is difficult to systematize. For this reason, technical knowledge is generally spread informally and often orally through a community or network of practitioners. Policy makers should therefore direct resources to the development of tools for the timely exchange of information and the development of communities of practice. In particular, funds could be used to develop and maintain on-line databases indexed by terms that technicians use when solving problems. Resources might also be spent to facilitate the formation of the guild-like organizations that have proven so effective in spreading knowledge of techniques among craftspersons and professionals. Such approaches would recognize that from a policy perspective the community-of-practice is potentially a more relevant unit of analysis than the individual practitioner.

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Figure 1:
The Technician's Work at the Empirical Interface: The Epistemic Core

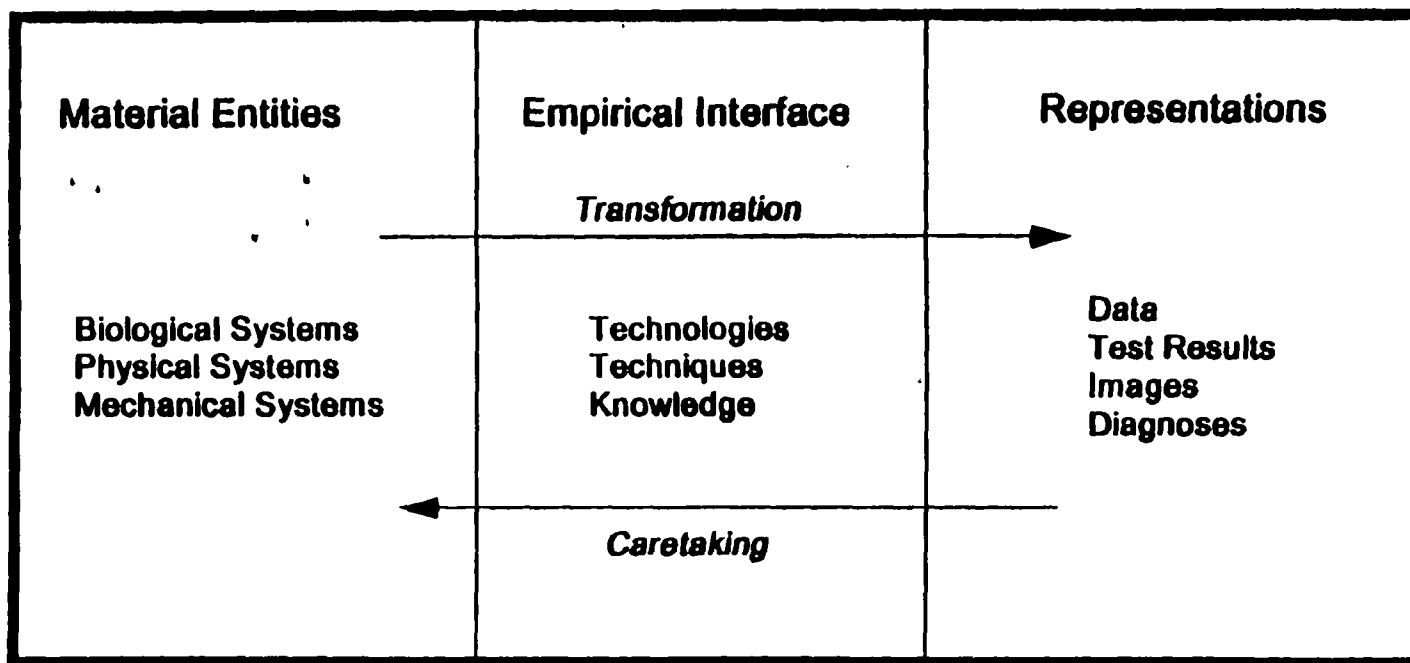


Figure 2:
Technicians as Buffers

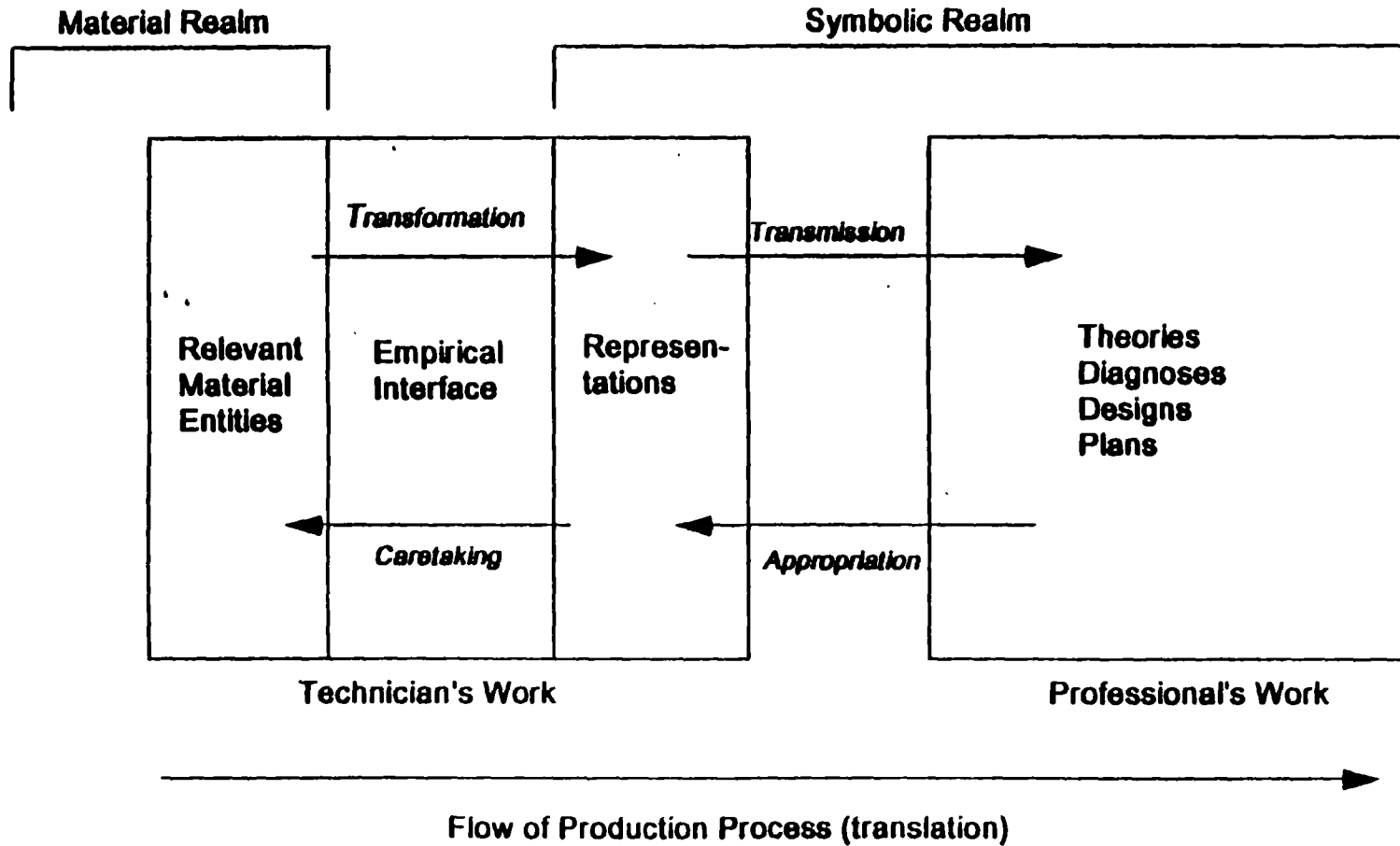
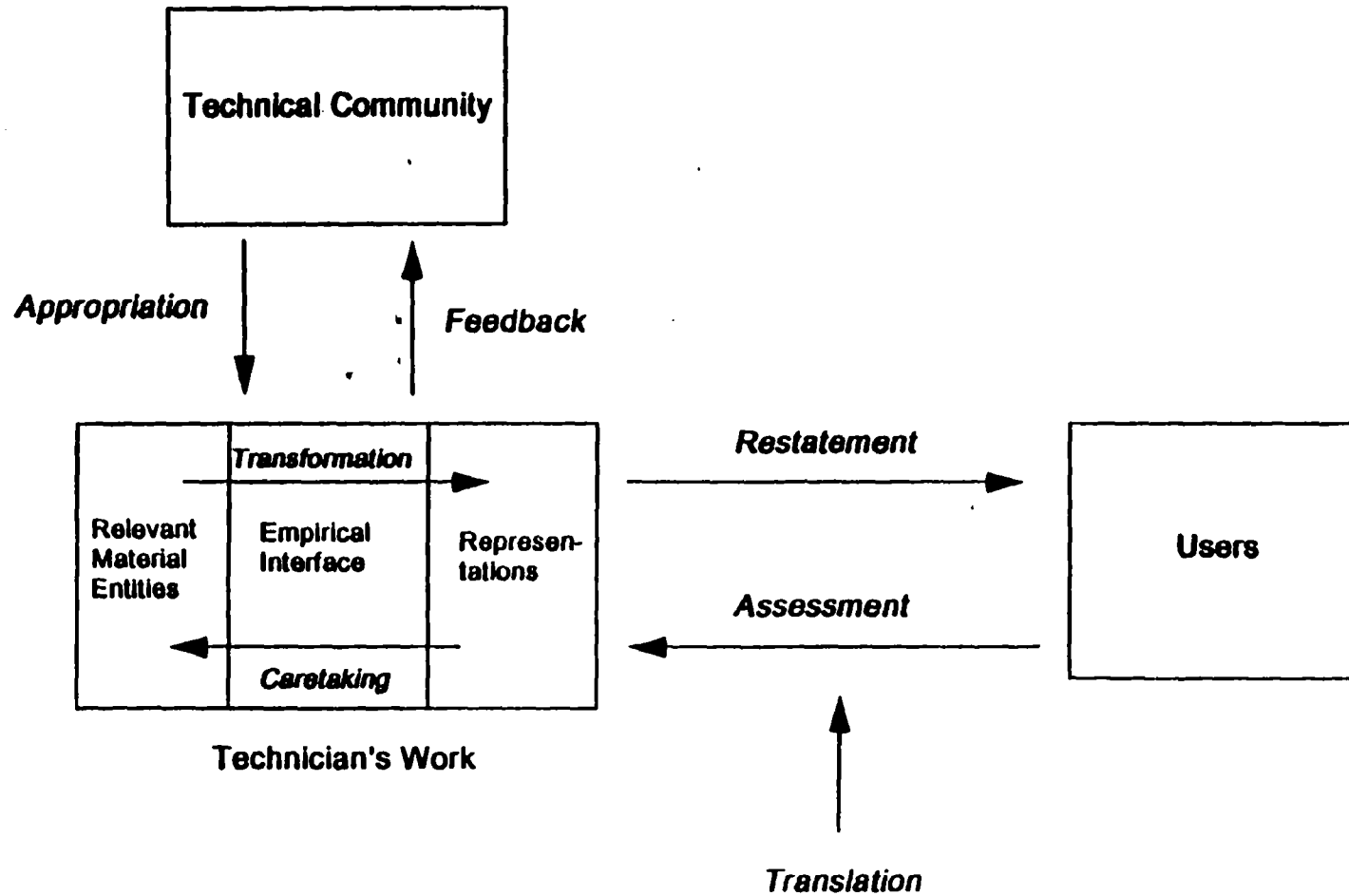


Figure 3
Technicians as Brokers



THE WHITE HOUSE

WASHINGTON

April 6, 1994

MEMORANDUM FOR EDUCATION, TRAINING AND REEMPLOYMENT POLICY

See Attached Distribution

FROM: BILL GALSTON
PAUL DIMOND

SUBJECT: AGENDA FOR APRIL 7 MEETING

We will meet tomorrow, Thursday, April 7, at 6:30 in Room 230 OEOB. We will decide areas for priority attention and next steps, as well as the timing and substance of the policy seminars with the Secretaries.

Areas for priority attention that have been discussed to date include:

- Overcome Discrimination in and Isolation from Networks for Job Hiring and Upward Mobility for Minorities; Encourage Minority Enterprise and Entrepreneurial Opportunities
- Improve Skills and Opportunities for Incumbent Workers -- including (a) leveraging learning at work, with on-the-job training, through firm consortia, and with colleges/universities and (b) improving job-changing networks, hiring halls, work-to-work transitions
- Improve Productivity of Learning -- including through use of technology and National Information Infrastructure; implementing Goals 2000 and School-to-Work; leveraging time at home with family and friends or in the workplace with peers with time at school, in college, or connecting with other providers of learning experiences or coaching; more active learning in context of work, apprenticeship, or school-to-work transition)
- Improve Productivity and Consider the Relevance of High Performance Workplaces in the Service Sector
- Evaluate Administration Policies Concerning Family, Work, Productivity, Jobs, and Living Standards, and Consider how These and Other Possible Alternative Strategies Can Help Americans Understand and Accept the Changing American Economy

These suggestions are illustrative only. We will discuss these and any additional suggestions (or redefinitions) at tomorrow's meeting. To help you review all of the issues that this group has touched on so far, we have included a list of the issue paper topics that have been discussed over the past six weeks and the Issue Matrix created by the Workforce Policy Group.

In addition to defining substantive areas of priority attention, we will also need to determine how we wish to proceed. We have already created a subgroup to conduct a thorough review of the performance, operations, and value of existing federal education, training, and reemployment programs, and to come up with possible alternatives to this web of programs consistent with the vision of Goals 2000 and the Reemployment Act. After we have agreed on other areas of priority attention, we will need to determine how to proceed on these issues -- e.g. through additional subgroups, individual assignments, or seminars with the Secretaries.

Finally, Dave Barram and Bo Cutter have suggested that we create an on-going conference through "Communications Groupware." In addition to allowing us to communicate more regularly with one another on-line as our busy schedules permit, this might also help us to build cooperative, interagency alliances that can thrive apart from the substance of our work and the process of our regular, weekly meetings. One of our challenges is finding the means to integrate the interagency focus of our policy development into the on-going work of each agency: as many private firms are learning, we can now consider facilitating the evolution of agile, changing, cross-agency teams through such communications groupware. What better place to learn about such a potential revolution in productivity in the service sector than in our own work? Dave Barram will take the lead in figuring out how to proceed to implement such an approach.

We look forward to seeing you tomorrow night.

cc: Bob Rubin
Carol Rasco
Bo Cutter
Gene Sperling

ETR POLICY GROUP ISSUE PAPER TOPICS

Papers Discussed at ETR Policy Meetings

- Minority Entrepreneurship
- A Strategic Framework for Workers and Firms to Embrace Change
- Incumbent Workers -- A Strategy for Continuous Learning and Improving Earning
- Overcoming Discrimination; Human Service Support for Families to Facilitate Learning, Work, and Earning
- Department of Defense -- Lifelong Learning, Job Changing to Private Sector, Technology as a Lever to Promote Productivity of Learning
- Beyond (or Outside) the Matrix -- A Conceptual Strategy

Background Papers Not Discussed

- Lifelong Learning
- Job-Changing Tools
- Growth Strategy for Competitiveness and Good Jobs
- How to Address Inner-City Labor Market Problems
- A Process for Answering the Question: "Where are the Jobs?"
- A Cross-Cutting Outline -- How are we Doing on the Horizontal Axis?
- Three Examples of Looking Over the Horizon to Develop Policy

	Life Long Learning	Job Changing Tools	Competitiveness and Good Jobs	Where are the Jobs?
Problem Definition	A	F	K	P
Policy Development	B	G	L	Q
Proposed Legislation (scanning, communications, congressional)	C	H	M	R
Existing Legislation	D	I	N	S
Implementation	E	J	O	T

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