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Introduction

Interest in and use of estimates of unemployment levels and rates for individual areas of the United States has existed since World War II at least. Area classification of major labor market areas based on such estimates began after the 1948-49 recession. With the passage of the Area Redevelopment Act in 1960, major labor market areas, cities and rural areas were deemed eligible for Federal grants and loans on the basis of these same unemployment figures.

Subsequent legislation on area assistance eligibility extended the coverage of the program to smaller and smaller areas, down finally to individual Census tracts. The coverage of small areas under the Public Employment Program in 1971 extended to cities, counties of 75,000 population, balance of States, and separately to cities and counties of 7,500 or more population, with unemployment rates of 6 percent or more for three consecutive months.

More recently and importantly, the Comprehensive Employment Training Act of 1973 (CETA) uses a system of weighted elements under Title I for allocation of funds to areas; $37\frac{1}{2}$ percent of this weight is based on the relative number of unemployed in the State as compared with the total number in all States. Prime sponsors under CETA may be entire States, or as small as any unit of general local government without regard to population criteria, but which meets certain other conditions. Eighty percent of Title II funds are allocated among eligible areas in accordance with the number of unemployed in an area of substantial unemployment relative to the number of unemployed in all such areas. An area of substantial unemployment is defined as one with an unemployment rate equal to or in excess of 6.5 percent for three consecutive months.

There can be no question, then, that area estimates of unemployment levels and rates have played an important role in financial assistance to communities, and that the importance of these estimates has increased with the enactment of CETA in 1973. Much discussion has surfaced lately (third quarter of 1974) about the possibility of reinstating the Public Employment Program in the near future if unemployment rates should continue to rise. In such a case, local area measures of unemployment would undoubtedly be considered again for the allocation of funds and jobs.

How good are these estimates of unemployment levels and rates? How appropriate are the concepts on which these estimates are based? These questions are taken up in the full report. In this paper, which constitutes the first part of the report, only the unemployment concepts are discussed.

Unemployment Concepts

Unemployment rates have generally been used as indexes of economic health. For the U.S. as a whole there are also many other indexes available such as real GNP growth or changes in the industrial production index. It has long been apparent that the relationship among these various indexes has been complex and puzzling, and that they have not always supported each other, both in intensity and in timing. Most recently, for example, we have had declines in real GNP in both the first and second quarters of 1974, but the unemployment rate appears to have been affected by these declines only marginally at best, a pattern which has been judged inconsistent with earlier experience and one which has confounded all forecasters $\underline{1}/.$ The aggregation in these measures at the U.S. level presumably nets out large amounts of statistical error, and other sources of more or less random variation, so that they each exhibit acceptable patterns of regularity. These advantages do not quite obtain for individual geographic areas, so that it would not be surprising if a number of separate indexes of economic conditions for a single area tended to be in less agreement on some occasions as to what was actually happening than we would find to be true for the U.S. as a qhole. This is not necessarily a matter for concern, however, since single indexes cannot fully reveal the complexity of economic activity. The use of unemployment levels and rates as indexes must therefore represent a compromise with our needs. 2/. More narrowly, are the best measures of labor force slack to be found in unemployment rates and levels? The conventional unemployment concept will be examined below to some extent. We note that the CETA criteria accept the concept that persistence of high unemployment rates in an area equal to or exceeding 6.5 percent for at least three months is more significant than short term fluctuations above this level 3/. However there is a basic weakness in the use of triggers of this kind which set up an artificial dichotomy: that areas with unemployment rates at or above 6.5 percent differ in kind from those with an unemployment rate of 6.4 percent, or of 6.5 percent in only two months. This device appears in a variety of legislation and deserves detailed study before it is incorporated in future legislation.

Title I under CETA, which does not include a trigger (or selection) provision relies on more than just the unemployment levels of the areas, by including a weight for the number of adults in families below the low income level in the State relative to the total number of such adults in all States; this is a longer term, structural measure of poor economic health than the unemployment rate. A final weight under Title I is based on the allocation of funds in the preceding year, a device which maintains some continuity with the past but which diminishes the importance of current indicators (the unemployment rate). For some years now the unemployment rate itself has been under attack from various sources as an inadequate or incomplete measure of economic deprivation, or of the extent of the labor surplus.

The official definition of unemployment in the national household survey covers those members of the civilian noninstitutional population 16 years of age and over, who:

1) had done no work for pay in the survey week, and

2) had been available for work, and

3) had made some explicit effort to look

for work in the preceding month.

(There are some relatively minor additions and modifications to this concept which are not described here.)

The Gordon Committee reviewing the employment and unemployment data in 1962 was troubled by the fact that respondents to the household questionnaire of that time were counted among the unemployed if they volunteered the information that they had not looked for work because they didn't think they could find a job. Others who may have felt this way, but who didn't speak up were classified as being out of the labor force. Both of these groups were the so-called "discouraged" workers.

In response to the Gordon Committee recommendations, the 1967 revision of the household questionnaire added some supplementary questions to be asked of one-fourth of the full household sample of people who had not been working but who had not looked for work in the preceding four weeks. The data collected for these groups reveal that in the first quarter of 1974, for example, when there were 4.7 million unemployed people on the average, there were also about 0.7 million discouraged workers. For manpower program purposes, this added group should not be ignored. On the other hand, we know little about this group at the present time other than their demographic characteristics. We do not know how long they have been without work, and whether they have looked for work prior to the four weeks preceding the survey week when they indicated they had not looked for work. For some people, the desire or need for work may be sufficiently week so as to explain why they didn't look for work, if in their judgment jobs may have been available but hard to find, or of low quality and not worth seeking. Technically, they would be "discouraged" workers but our inferences about them would probably be wrong. A different group of discouraged workers live in large low income areas and realistically do not look for work for the same reason that they do not anticipate visits from foreign ambassadors. There are people in these low income areas who neither looked for work, or said they would have looked if they thought work was available, but who would take a job if community conditions were more favorable. We can only guess at the size of this latter group(which is probably not small) and it may be possible, under certain assumptions, to make estimates of its size. The net effect of excluding the discouraged workers, and the others who would

not even be counted as discouraged under present definitions is to make inner cities appear to have less of a labor surplus than the actual conditions in these cities would suggest. $\underline{4}/$

An indirect econometric method for estimating the size of the labor surplus is one which relates the labor force participation rate to the employment rate(employment as a percent of population):

$$L/P = a + b E/P$$
.

This equation has received much attention when applied to time series . In that application it usually included other variables, such as time, and lagged values of at least one of the two variables already present. The applicability of this formulation to the present paper arises from the following reasoning. When economic conditions worsen, and unemployment levels rise, the labor force tends to shrink (in the above equation, b > 1). This has been interpreted as the net dominance of the "discouraged" worker effect over the "additional" worker effect (a family member who starts to look for work because the family breadwinner has been laid off 5/).

The equation above , after calculation of the coefficients, a and b, may be recast in the form:

L/P = a/(1 - b + ub)

In this form, the labor force participation rate is made an explicit function of the unemployment rate (u = U/L, where U = L - E). For simplicity of exposition consider that this model has been developed for the entire labor force, although in practice separate equations are usually calculated by age, sex and color. The empirically determined values of a and b are such that L/P rises as u falls. For "full employment" (u = 0.04), $L/P = (L/P)_F = a/(1-0.96 b)$. When unemployment is higher than four percent, the observed value of L/P should be lower than ${\rm (L/P)}_F$. The difference, ${\rm (L/P)}_F$ - L/P has been called "hidden" or "disguised" unemployment-those who have withdrawn from the labor force because of the decline in job opportunities. If this group is added to the unemployed (when u > 0.04) we will get a new and higher unemployment rate.

The same approach, with some modifications, can be applied to cross-section data such as geographic areas. In this way, unemployment rates over four percent (or any other selected "norm") will be increased, while those below four percent will be reduced (whatever implications that may have!). The replacement of the original unemployment rates by these corrected measures may result in some reranking of the areas, since the equation does not have all the observations on the line, and an increase in the dispersion of unemployment rates. Inner cities would generally benefit from the use of this technique. While this approach has some analytic interest, it is not preferable at this time to other measures which may be considered. It should be noted that the measure of "hidden" unemployment developed via this model

bears little relationship to the counts of "discouraged" workers which come from the household survey responses. For one thing, "hidden" unemployment vanishes when the observed unemployment rate is four percent, but the count of "discouraged" workers does not.

Labor surplus may be indicated not only by unemployment but also underemployment. People working less than full time but who would prefer to work full time are clearly underemployed. The shortfall in their hours can be converted to a full time equivalent unemployment measure; to balance this adjustment, unemployed people looking for part time work can have their numbers adjusted downward also to a full time equivalent basis. Both of these adjustments have been made to the regular count of unemployment and employment for some years now by the Bureau of Labor Statistics, to obtain a measure called "Labor force time lost." For the first quarter of 1974, for example, when the regular unemployment rate averaged 4.7 percent, the labor force time lost rate was 5.7 percent. It is reasonable to think that these would be superior indexes of labor surplus for geographic areas to those in use at present. The data requirements would be formidable, however.

Some manpower experts, Sar Levitan and Robert Taggart, have suggested in a recent article in the Monthly Labor Review that the number of unemployed should be augmented by the number of working poor. These and other measures which take income levels into account as well as unemployment are interesting and deserve a detailed examination in their own right. However, such an examination will not be attempted here.

In recent years a number of people have expressed dissatisfaction with the traditional measures of unemployment and labor force attachment. The January 31, 1974 policy statement of the National Manpower Policy Task Force says that current labor market statistics need to be supplemented or modified in order to improve our understanding of the labor market and its behavior. CETA, Section_312(c) says that "the Secretary <u>/o</u>f Labor / shall develop preliminary data for an annual statistical measure of labor market related economic hardship in the nation. Among the factors to be considered in developing such a measure are unemployment, labor force participation, involuntary part time employment, and full time employment at less than poverty wages."

This resurgence of discussion of the complexities of labor market behavior and the inadequacies of presently available measures bodes well for future improvements. There are many questions to be asked in this connection, in addition to those which have been considered above. Some of these are:

What fraction of the discouraged workers want only part time jobs?

What are the job and wage requirements which would attract people from out of the labor force (who might thus be counted as part of a labor surplus) ?

How many people are working at more than

poverty wages but are nevertheless in jobs below their capacity or potential?

The following subject has come in for little discussion elsewhere, for the most part, and is therefore given some attention here. Even if we were to restrict our attention to unemployment as conventionally measured, we would still have to recognize its dimension of differential persistence for individuals. CETA accepts the notion of persistence of unemployment for an area, but does not recognize the persistence of unemployment for individuals. Unemployment turbulence is a complex phenomenon which receives as yet little attention 6/ . For example, it is estimated that in 1968, a boom year, about 30 million spells of unemployment were begun by some 20 million different people. In that same year, unemployment averaged only 2.8 million per week. Every week, between 15 and 25 percent of the unemployed had just entered, and about the same proportion dropped out of the ranks of the unemployed. The total count of unemployment in a given week gives equal weight to the respondent who says he has been unemployed two weeks, and the one who says he has been out for three months. An individual who has a completed unemployment spell of one week is presumably not the target of manpower programs (except on grounds other than just the fact that he is unemployed). Many State unemployment insurance laws count the first week as a "waiting period" week, not subject to compensation, presumably on the grounds that one week can be tolerated by the worker, and at the same time helps to reduce State benefit expenditures. It has been suggested that the first several weeks of unemployment for a worker might be considered as frictional unemployment, and thereby excluded from measures of labor surplus either at the U.S. level, or across geographic areas. This is the same as restricting the measure to long term unemployment. Further thought should be given to this idea.

A related idea has been suggested by Geoffrey H. Moore: taking the product of the unemployment rate and the average duration of unemployment in the survey week, and calling it an index of "unemployment severity " What would this measure do for area classification? At present we equate two areas with the same unemployment rate, say, 5.0 percent. Suppose that in one area these people have been unemployed an average of 6 weeks, while in the other they have been unemployed for 12 weeks on the average at the time of the survey. It is a reasonable proposition that unemployment is more severe in the second area. The Moore index of severity would be almost twice as high in the second area as in the first(if the labor force denominator had also been adjusted to reflect this new measure). Whether or not there would be general agreement that conditions are twice as bad in the second area as in the first, no one would deny that unemployment in the second area is more severe and also different in some important respects from that in the first, with possibly different implications for manpower programs and fund allocation.

Even if we had a national Census every year,

with reliable statistical measures of unemployment levels and rates by area, there would still be these conceptual problems to resolve. However, we don't have uniformly reliable statistical measures -- this is discussed in the larger report of which this paper is a part.

One final topic which has come up for discussion as a result of the dependence of unemployment rate calculations on employment obtained through establishment surveys, or alternatively through household surveys, is the measurement of such employment (a part of the labor force base for the unemployment rate) by place of work or place of residence of the worker. In this paper, we can consider a conceptual aspect of this issue apart from the measurement problem.

Take the following synthetic example:

In area A there are 100 people working, and 10 unemployed people living. In area B there are 100 people working and 5 unemployed people living. However 50 of the 100 people employed in area B live in A, while all of the people working in A also live in A.

If we take the unemployed where they live and the employed where they work (essentially the Manpower Administration procedure until 1974), we get these results:

	Area	
Labor Force Status	Α	В
Unemployed	10	5
Employed	100	100
Work force	110	105
Unemployment rate	9.1 %	4.8 %

On the other hand, if we take all of these people on the basis of their place of residence, we get:

	Area	
Labor Force Status	A	В
Unemployed	10	5
Employed	150	50
Labor force	160	55
Unemployment rate	6.2 %	9.1 %

On a residence basis, the unemployment rates of A and B are almost the reverse of those calculated using employment on a place of work basis. The first set of calculations admittedly represent an unsatisfactory hybrid of unemployment by place of residence and employment by place of work with consequently ambiguous and hard to interpret results, and make for misleading comparisons among areas. The second calculation is consistent and readily understood -- all counts are on a residence basis. Nevertheless, if area unemployment rates are used for a specific purpose -- to allocate manpower program funds -the residence concept may not be fully satisfactory either. Area A appears to be a bedroom community for a considerable proportion of the people working in B. But the residence approach

underestimates the net number of jobs in B, and consequently the job creation potential. Where should the job training take place -- where people live, or where they customarily work? Or should the training programs be allocated between A and B on some other basis, such as the ability of these communities to run such programs? It is not unreasonable to put the manpower programs where the jobs are, other things being equal. A consistent conceptual basis for a calculation which differs from both of those illustrated above is to use the employment on a place of work basis, and unemployment on a "place of jobseeking" basis. Both sets of data can be collected in a household survey by asking employed people where they work, and unemployed people where they look for work.

In the above example, suppose we find that of the 10 unemployed people who live in A, 8 look for work usually in A, while 2 look in B. Of the 5 unemployed people living in B, 4 look in A, while 1 looks in B. On this basis we would then have the following:

Labor Force Status	Area	
	A	B
Unemployed	12	3
Employed	100	100
Labor force	112	103
Unemployment rate	10.7 %	2.9 %

Does this calculation make more sense? In terms of local area politics and competition, it may not be particularly attractive. However it does have the virtue of excluding 100 percent bedroom communities in the allocation of manpower funds, which is a reasonable result. The calculation on a place of residence basis is probably more useful for welfare or poverty program fund allocation. Only the first calculation on a mixed basis lacks any good rationale.

As long as the areas which are considered are self-contained labor market areas, there is no problem since all three approaches will yield essentially the same results. If the area considered is adjacent to one or more other areas and there is a significant amount of interdependence among them evidenced by the commuting patterns of both their employed and unemployed workers, the issue discussed above arises. It may be that in such a case, the use of separate area indexes is not the ultimate answer, regardless of how these indexes are constructed, as long as they ignore the dynamic interaction among the areas. Some further thought and study is needed here.

The intent of this paper is to indicate that getting the most accurate measures of unemployment levels and rates on a local area basis may still leave us some distance from a fully satisfactory system of estimates for specific program purposes. And it may well be that different kinds of programs will require different kinds of estimates, based, perhaps, on different concepts. We must keep in mind that what may serve us well in terms of national ,general purpose estimates will not necessarily be good models for specific purpose local area estimates.

FOOTNOTES

1) According to Michael Evans of Chase Econometrics, the reason the unemployment rate is less than 5.5 percent rather than 6 percent or more anticipated on the basis of past relationships is that the unusually high corporate profits coupled with declining real wages have led to labor hoarding and lower layoffs. On the other hand, George Terborgh, Consultant to the Machinery and Allied Products Institute, estimates that over \$25 billion of 1973 profits of nonfinancial corporations were "phantom" due to the undercosting of fixed assets and inventory consumption in a period of rapid inflation. Can it be that workers have benefited to the extent that corporate managers have suffered from a rather complex money illusion?

2) One may ask whether manpower program fund allocation should be tied to any index of labor surplus -- the unemployment rate or any alternative measure. I suggest that this cannot be a fully settled issue. While people may be helped directly by income subsidies, however tied to manpower programs, we have no good evidence that this is the appropriate way to bolster area economies and to get the maximum multiplier effect through investment of Federal funds. Policy makers clearly desire to attain more than the direct, short-term impact of the Federal programs. (For another approach to allocation criteria, see D. Hammermesh and H. Pitcher, "Economic Considerations for Manpower Revenue Sharing," Industrial and Labor Relations Review, July, 1974.)

3) However this rationale is weakened by the use of the monthly unemployment rates before seasonal adjustment. At the same time this procedure makes Title II of CETA more liberal in practice, and would tend to make more areas eligible under this provision. This may be desirable.

4) See: Herman Miller, "Subemployment in Poverty Areas of Large U.S. Cities," <u>Monthly Labor</u> <u>Review</u>, October, 1973. 5) In view of the studies which have been made of labor force flows (50 percent turnover in unemployment per month -- see Kaitz, Perry, Smith) these earlier concepts now appear somewhat simplistic.

6) Note the earlier discussion of this phenomenon.

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