

UNEMPLOYMENT AS A CONSEQUENCE OF UNRECOGNIZED EXTERNAL ECONOMIES IN THE LABOR MARKETS c1
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UNEMPLOYMENT AS A CONSEQUENCE OF UNRECOGNIZED
EXTERNAL ECONOMIES IN THE LABOR MARKETS

by

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UNEMPLOYMENT AS A CONSEQUENCE OF UNRECOGNIZED EXTERNAL
ECONOMIES IN THE LABOR MARKETS*

"They also serve who only stand and wait." -- Milton

Tonight I wish to investigate the proposition that formal microeconomic analysis can help illuminate one of the most painful "non-economic" problems confronting rational, individualistic western society, and perhaps enable us to find a way to alleviate it. The problem is alienation -- that is, the tendency of many educated youths to reject the society that has reared them, of minority groups to feel that they are rejected or at best offered inferior status, of the middle-aged and the about-to-be-compulsorily retired to fear unemployment because it threatens, as it did not before, to involve a permanent loss of self-reliance and self-esteem.

Alienation is by no means a new phenomenon, nor one limited to America or to western nations. But it is a more pressing problem today because youth is a large and growing part of most nations' populations, and because an increasing share of the world's population is moving to the cities where family ties are weaker so that one must depend for succor upon strangers with no bonds of family obligation, but who instead are bound by bureaucratic structures that often produce seemingly arbitrary and capricious results. It is also a problem because we are so constantly propagandized by eloquent writers and film makers about our abundance, who tell us that automation is to leave us almost functionless except as consumers in a radically reorganized society.

So it is not surprising that in spite of substantial gains toward high employment stability and supplemental social welfare legislation, modern unemployment levels are deemed disturbingly high for some groups, and even indi-

viduals who are securely employed are sometimes worried and avid for overtime work and moonlighting opportunities. Many feel insecure and unwanted, compelled to struggle to find a place where they can make a contribution that will even be accepted, let alone appreciated. Still others are very much in sympathy and agree that something is wrong when this is the case. Perhaps economic analysis can tell us what it is.

✓ It is safe to assume that an important cause of the alienation rests upon lack of evidence that important groups of individuals are valued by their society. This finds its most concrete expression when the person is "on the job market" or attempting to prepare himself for advancement.

✓ I have recently had occasion to review the literature on external effects and have become persuaded that an externality is present in some, perhaps all labor markets characterized by labor engaged under conditions of free contract by competing employers whether public or private. This externality is of the type sometimes referred to as a "technological" economy, which causes sub-optimal employment and output in competitive markets. It causes this outcome in the sense that it is not possible to expand production to the socially optimal level of output and at the same time cover all of the costs of production unless price discrimination is practiced or a subsidy is received. If the hypothesis presented here is correct a theoretical root of the Phillipp's curve analysis is laid bare, and no adjustment of savings and investment, with or without flexible prices and wage rates can enable an economy to attain optimal levels of ~~levels of~~ employment unless the structural deformity is rectified. Efforts to attain optimal employment by increasing aggregate demand will not succeed fully for the same reason that increasing the demand for a decreasing cost industry cannot make the marginal cost curve rise to equal the average

cost curve in an industry subject to increasing returns. Increased aggregate demand will tend to expand output provided costs do not rise, but this proviso is not capable of fulfillment except as a sort of money illusion in the short run.

If the thesis advanced here is correct, and this type of externality exists in important labor markets, the long-recognized tendency toward underemployment in market economies is explained without recourse to monetary and fiscal difficulties or policies. More important, it helps explain the failure to approach optimal employment closely without inflation. But most important, some insight is given into the lack of community feeling and the accompanying alienation that is felt even in periods of very high level employment. This follows from the analysis because it leads to the conclusion that even "full" employment under present conditions is suboptimal by the usual welfare criteria. The inadequate demand for labor doubtless corrodes the self-respect of many, particularly the young, the handicapped, the members of minority groups and those beyond 50 years of age who are unemployed or precariously employed. Paradoxically, it is made more corrosive by the kind of welfare programs that have been evolved to soften the impact of the externality. For our welfare programs strongly tend to separate the employed from the unemployed and to place barriers to the passage of people trying to join the ranks regularly employed.

The Analysis

Analysis shows that a mis-pricing of a factor of production lies at the heart of a "technological" external effect in a competitive (and many other) situations. The price that firms pay does not denote opportunity costs in such cases. Where an external technological diseconomy exists some factor price is too low causing the industry to overexpand thereby wasting some portion of its inputs. A technological economy exists when some factor is overpriced.

It results in under-use of factors.

underutilization of resources

The analysis that leads to this conclusion is sketched briefly. Consider diseconomies first. The classic example is a relatively small exhaustible fishery that competes with other fisheries. The key fact is that the natural resource (the fish) is located where ownership is not established. Thus no rent or royalty can be charged for their exploitation. Since the fishery is relatively small, the price at which it sells is a constant. At the optimal industry output, where the value of an additional unit of variable resources to the industry brings in an equal added value of fish, substantial profits may be made. If so, output will be carried beyond this optimal output level, and expansion will continue until only normal profits are made. This would not happen if an optimal market rent were charged for the natural resource. In this example, the social cost of the natural resource is higher than its private cost, i.e., an under-pricing of the natural resource to the firm exists causing overexpansion and waste.

We contend that the opposite situation applies to part of the labor force. The classical example of this type is the public utility which has a declining long run average cost curve. This is a rather unsatisfactory example, but it is so because the treatment of these cases is still rather unsatisfactory. But if the utility is regulated so as to earn only competitive profits, marginal cost is less than price, for marginal cost is less than average cost. Marginal costs represent social costs for it shows all of additional costs required to produce an increment of output, and the forgoing which are covered at the former level of output, where total revenues equalled total costs, may be regarded as sunk costs. If you will allow yourself to so regard them, it may rightfully be said that they are costs which should not be considered in

the determination of optimal output. Yet it is the amount of these costs that brings profits to zero before optimal output is reached, for it is as output is expanded beyond this point that revenues fall short of total costs.

In the economic sense of the term the "price" of these rather hypothetical sunk costs to the firm is too high. A negative rent, that is to say, a subsidy, is necessary to harmonize normal profit with the social optimum, just as a positive rent is required to harmonize the normal profit with social optimum in the diseconomy (fisheries) case. With the appropriate negative rent the industry will expand to the optimal level.

The same phenomenon probably exists in most industries because the private cost of employing labor exceeds its social cost at least for some types and qualities of labor. Imagine a two-factor competitive world composed of labor and natural resources used to produce any number of goods. Natural resources are either owned by the firms that use them or owned and are rented to the various firms on terms that maximize the owner's income. The labor resources, on the other hand, are owned by individual people. Some of these are self-employed. They will not underemploy their labor although their alternatives are conditioned by their alternatives as employees. Under modern conditions, however, the large majority of people at work are employed by firms on a wage or salary basis. We deal only with these.

Presumably, most individuals are in demand by many, or at least several firms, so that a worker can change jobs with little lost time or earnings. This is probably true of the majority of workers at any given time. Where this is the case, the wage or salary rates seemingly reflect opportunity costs given the overall market situation, and there is little reason to suppose that an

externality is present.

Consider now those groups of workers which suffer or come to choose substantial unemployment due to lack of appropriate skills or attitudes. The cost to a prospective employer of hiring one of these is the wage (perhaps held at a relatively high level by a union scale or a minimum wage law) plus certain hiring costs and certain training costs. These are referred to as the marginal private cost of employing. The cost of training and otherwise bringing a prospective employee up to a useful degree of productivity will be positive. It may be a small amount of the cost to the employer when the new employee turns out to be satisfactory and stays with the firm for a few years. But disappointments both as to ability to learn and as to length of employment, are frequent with the result that the total of the hiring, training and related turnover costs (henceforth referred to simply as hiring costs) are a significant sum to be added to the wage paid to new employees. The hiring costs may be very high for young and inexperienced workers who have little understanding of, or sympathies with, modern industrial needs and practices. The wage that the firm can offer is lowered by these costs especially when the training fits the worker for jobs with many employers. It may be so low as to be unattractive to many who would be glad to be employed at an undiscounted wage. Moreover, the discounted wage may lie below conventional or legal minima. In any case, the cost of hiring another man exceeds his wage, perhaps by a substantial amount in the case of certain groups, and it must be borne in full by the new employee and/or the employer, and in either case is a private cost.

✓ Although private costs are greater than the wage, social costs are typically less. This is true because a person will be supported somehow whether or not he is employed. For example, a person capable of earning \$1.00 per

he will do when trained. But note this clearly. If the appropriate wage is \$1.00, the marginal social cost in our example, hiring costs included, is \$0.45. Society gains if it can get the person employed if it can do so with an inducement, say a negative rent or employment subsidy, of less than \$0.55. The worker's minimum marginal value product this year is \$0.45, enabling a firm to employ such a person paying the \$1.00 wage.

A problem of interpretation arises when the incomes of the unemployed are maintained at high levels by means of tax-supported transfers to the unemployed as is typical in modern economies. In that case the increase in consumption, the social cost of employing, that follows employment is small and the social gain from added employment appears to be small also. This reduces the apparent margin to cover training and other costs of employment. Nevertheless, the social benefit from the potential added production is no less. The goods and services he consumes are transfers from others. For this reason, welfare payments financed by compulsory payments (taxes) which maintain consumption obscure the social cost that results from underemployment. The correct calculation of social cost of hiring includes not only the difference between present consumption and consumption if employed, but also the increased consumption of those presently employed, who can spend a larger part of their incomes when less is siphoned off in compulsory transfers to others. Part of public transfers to the unemployed should, therefore, be eliminated when calculating the marginal social cost of employment.

We come then to a definition of the optimal level of employment. The optimal level of employment exists when the marginal contribution of each person who is employed or in on the job training is equal to or exceeds the marginal social cost of employing him. Those who consume little when unemployed

but much when employed, those whose training costs are high or who are not capable of contributing much during the remainder of their lifetimes may properly be outside of the labor force according to this definition. They are a labor reserve that may be called on if training costs are reduced, if the value of the goods they are capable of producing rises or if their own consumption needs (while unemployed) rise. In the meantime they "also serve" by standing and waiting, and should not be made to feel useless. They do in fact contribute more in that capacity than they would if work were found for them.

Problems in Making Social and Private Cost Equal

There are two basic ways to equalize the private with the social cost of hiring. Social costs can be increased, or private costs reduced. The latter is preferable.

✓ It is obviously neither feasible nor desirable to raise marginal social costs (i.e., the increase in consumption attendant upon becoming employed plus hiring costs) enough to make them equal to marginal private costs. To do so involves either the reduction of consumption of the unemployed to zero or less, (if one does not work neither shall he eat), or a substantial bonus over and above wages given to those who are employed, sufficient to make the gap between consumption when employed and when unemployed equal to the wage rate plus hiring costs. ✕ Lowering private costs is a more attractive alternative. † The reduction of private costs of hiring can be effected most directly by a subsidy to employers (public and private) sufficient to equalize marginal social and marginal private costs. The size of the subsidy should not exceed the difference between social and private costs, and will normally be much smaller, specifically only that necessary to cover training and other hiring costs.

The marginal new employee's contribution to output will cover these costs, comprising the value the former transfers to them, and the infra marginal people among them will show a net addition to output. A welfare gain results.

Payment of an employment subsidy to business is certain to be unpopular in some quarters, but there is much to recommend it. If the foregoing analysis is correct, the wage rates that enter economic calculation simply are too high, and if that is the case there is virtually no other way to offset this built-in tendency to underemploy labor where a free labor market exists. Schemes of centrally directed manpower, if managed in an optimal way, and rational schemes of worker management, if workers are forced to include the whole labor force at some cost to the regularly employed, provide, in essence, the same sort of employment subsidy if they make an optimal use of manpower. But there are practical advantages to employment subsidies as well. Once the generalized education of an individual is largely completed, specialized training by the organizations that seek to employ him is more efficient than public training for less well-defined opportunities. It seems both logical and desirable that this kind of an external economy be corrected by subsidies to those with the best knowledge of the opportunities and the decision-making power to change the input mix in response to the adjusted factor prices.

Several problems immediately arise: (1) How can the optimal level of employment be determined in the many complex labor markets? (2) How long should a subsidy be continued? (3) Will this not place inflationary pressure on the economy? (4) How is such a program to be financed? We cannot, of course, give complete answers to these questions at this time. Even if the necessary research were completed -- a very great task -- there would be neither time nor means to present detailed findings here. But something can be said in

a preliminary way. The four questions are treated in order.

1. How Can the Optimal Level of Employment be Determined?

Ideally, a direct measure of social cost will be made for various groups, and hiring will be subsidized until the social cost of hiring and additional worker is equal to his marginal product. This may be possible and administrative rules one of which is suggested in the next section can probably be devised to improve effectiveness. But cruder starting points are probably necessary. One can begin the task of determining this proximate optimal level by finding a ^{near} benchmark (minimum) level of unemployment among the existing labor markets. [The word optimal rather than zero unemployment was used because some unemployment is essential to an optimizing economy. As a rule optimal unemployment means the minimum necessary to permit a normal quit and severance rate incident to individuals wishing to change jobs, and dismissals for cause including technological displacement. One is tempted to add seasonal unemployment to the list included in our benchmark, for some seasonal unemployment is also necessary for an economical use of resources. But seasonal unemployment is presently exaggerated because of the discrepancy between private and social costs of hiring. To avoid this influence, the gap may be considered to be zero where unemployment rates are low, by the above definition, and where seasonal unemployment is either very low, or almost completely institutionalized as in the case of school teachers and professors. Other cases can be compared to this benchmark.

The unemployment rates for well-educated males in the 35-45 age group who are employed on an annual basis or in non-seasonal industries probably provide a reasonably good benchmark figure of unemployment. Perhaps a narrower category such as teachers, physicians employed by clinics or other employed professional people can serve better. This provides a rule of thumb

estimate of the minimum unemployment rate that is feasible. The optimal level is probably larger than this in most categories.

Consider the situation where an employed person becomes unemployed. When employed, his wage (private cost) measures social cost since the output produced in present employment is equal to social opportunity cost. The contribution made to production is equal to his withdrawals. Net marginal social cost is zero. A person in a benchmark group is normally reemployed so quickly that no important discrepancy between private and social costs arises. But should such a person quit or be fired, and choose not to seek employment yet continues to consume at the same level society in general loses an amount equal to the value of his output since he supported himself when employed, but now is supported by transfers from the others. The longer a person is unemployed the more his consumption is likely to fall, and the lesser will be his social cost as an unemployed person. The declining social cost is accentuated if there are deteriorating skills and work habits that reduce his potential output. So, in general, large social gains accompany efforts to maintain the employment of high productivity-high spending members of the labor force. But hiring and related costs are typically small and within the resources of the individual. Except where technology or age has made skills obsolete or absent employment subsidies need not be large.

a. New Workers

The discrepancy between private and social costs is also likely to be large when a person enters the labor force for the first time, particularly so if he is a member of a minority, alienated group. In this case larger and longer-lived subsidies will be required to approximate benchmark levels of unemployment. His consumption is likely to be low, and the wage for regularly employed people in appropriate jobs relatively high. The social cost is

raised because the first employer faces larger risks of high turnover rates and incorrect placement of the individual. It is important over the long run that his training both be in work at which he can succeed, and which makes the maximum use of his talents.

There is another aspect of social costs that is particularly relevant to the employment of youth, especially those from minority or disaffected groups. At first glance the externality argument would seem to suggest that these are candidates for non-employment under an optimum employment policy. Not only is the hiring cost, inclusive of the training and turnover costs, high, but the consumption level when unemployed is low, and the prospective earnings (and consumption) when employed, considerably above the level when not employed. Thus the social cost if they remain unemployed is low and the social cost of getting them employed is rather high. But analysis of this type overlooks a very important aspect of the modern situation -- the destructiveness of some members of these groups. If the value of this destruction is included with the "consumption" when unemployed and can be assumed to be absent when the people are employed at one of their higher skills, the social cost involved in getting them employed may even be negative. Or, to state the conclusion in a less paradoxical fashion, the social benefits may exceed the social costs by a very large margin.

If, for example, increased consumption after employment were \$3000, and reduced destruction of property, etc., were \$10,000, a net social gain of \$7000 ensues. That is, the marginal social cost of employing is a negative \$7000. Let us suppose that the job for which the former bad citizen is fitted contributes \$5000 to national production, as measured by his wage. Then the total social gain is \$12,000, and employment subsidy costing \$12,000 or less

is consistent with the optimal employment of labor resources. Were costs to exceed that limit penal detention at lower cost is strongly indicated by this analysis, and might be less costly to the rest of society by the time a subsidy reached \$2000 or \$3000.

2. How Long Should a Subsidy be Continued?

✓ The duration of particular employment subsidies is related to the length of time and cost of in-service training required to make a person qualified in every significant way for his job. A subsidy that is too high, or is not continued long enough, will result in too high dismissals when it comes to an end because the firm can increase its profits by firing and rehiring. This provides an objective administrative check on the appropriateness of the subsidy to any particular age-job class.

No attempt has been made to estimate the cost of a program of employment subsidies, but it could turn out to be less costly than present programs. ✓ Individual subsidies would be short-run and diminishing and often small because they are based upon alternatives which are often close to what is paid to the subsidized employer. Moreover, ✓ the cost of present programs is high.

Unemployment compensation alone in 1964 for the United States was in excess of \$3 billions which provided transfers to recipients at an annual rate of approximately \$1700. The same funds diverted to an employment subsidy for those hired (but continued as a relief payment to those not hired) can restore many of the recipients to employment. ✓ If so, transfers are continued at the same level, but total production is increased. A net social gain results. An optimal subsidy could require either a larger or a smaller amount. If more is required one available source can surely be found in other programs of social security such as aid to dependent children which will have reduced needs.

3. Effect on the Wage-Price Spiral

The argument of the previous sections suggests that the use of employment subsidies sufficient to equalize private and social costs may cost less than present programs of social security and will increase output. If so, they will be less inflationary, perhaps even deflationary. They should largely divorce increased employment from increased prices by providing an alternative to the almost exclusive reliance upon income effects which has characterized full employment policy since the middle 1930's. Rectifying private and social costs in the labor market will have other advantages. It tends to reduce the attachment of individuals to specific jobs by making him less dependent upon them. This, in turn, reduces the heavy pressure on government to engage in price-support, price-fixing, and wage-fixing programs all of which have inflationary tendencies via monetary expansion which tends to offset their initial employment effects.

As long as private and social costs of employment diverge, increases of money income can overcome unemployment tendencies only temporarily, via money illusion or higher levels of aggregate demand that swamp rigid wages or prices. A continuing tendency toward wage and price increases remains. Institutional arrangements that organize these pressures and perhaps accentuate them are a natural consequence. Once private and social costs are made equal, the pressures toward inflation abate because of a rectification of the structural imbalance that underlies the wage-price spiral and a relaxation of the social tension that rests at least in part on that imbalance. [It is reasonable to expect that a reduction can then occur in those uses of the monetary and fiscal policies that fuel the modern reaction to these structural imbalances and social tensions.]

4. Who Should Pay the Subsidy?

It is shown elsewhere that where an external technological economy in the production of some good exists, the benefits of expanded production which accrue to the consumers of that particular product are greater than the cost of the subsidy required to induce production up to the optimal output. A clear welfare gain accrues to the community if the consumers of a product subject to external technological economies are taxed enough to cover the subsidy because those consumers gain and no one loses. The net gain is questionable if, instead, the government imposes a general tax. For such a tax is paid both by those who benefit and those who do not. In that case interpersonal comparisons of utility are unavoidable. Approximately the same principle applies in the labor markets, but it is more involved and less satisfactory because workers do not benefit from a lower wage while consumers do benefit from a reduction of price that accompanies expansion.

Each labor market should be studied separately, and in practice a considerable amount of disaggregation will be necessary because the optimal level of unemployment, the size of marginal social costs, the supply curve of the different types of labor in particular labor markets differ. We avoid the problems involved in the disaggregation process by treating labor as if it were a homogeneous factor of production. A normal downward sloping short run demand for labor is assumed to exist. Its slope reflects both diminishing utility of consumers and declining marginal productivity of labor. The short run supply curve of labor to the firm is regarded as horizontal. The supply curve of labor to the industry or to society may be rising, even backward bending. But that is not important to us here. What is important is that at existing wage rates there are people who desire employment but are unemployed

for lack of training or good work habits, or for other reasons, and whose social cost of employment is enough less than their cost to prospective employers as to produce a net gain to society if part or all of their present cost to society were paid over to the prospective employer so that the productive capabilities of the presently unemployed people can be realized.

In the absence of a subsidy, a competitive economy can hire labor only to the place where the marginal revenue product is equal to the wage rate, i.e., the average cost of labor to the firm. Yet at that point the marginal social cost of hiring lies below marginal revenue product and a suboptimal level of employment exists. An optimal subsidy added to the marginal revenue product of labor will induce firms to hire and train enough additional labor to make marginal value product of labor equal to the marginal social cost of labor. Others are better paid a welfare check because their employment costs exceed their contribution. The gross social benefit is the area under the added segment of the marginal value product curve, while the added social costs are the hiring costs plus the area between the consumption level when unemployed and the consumption level when employed. A welfare triangle emerges.¹

Note that all of the gains go to labor if the wage to those employed without the subsidy is maintained, and that the return to other factors remains unchanged. If the cost of the subsidy is borne by a tax on labor income, there is a transfer among laborers, but the previously employed workers benefit if taxes on their incomes covered the former transfer costs.

Labor is the chief beneficiary in another way which is especially evident in this example where it is treated as a homogeneous commodity. If it is homogeneous, each unit has an equal risk of unemployment. In that case, a tax assessed against labor is equally borne by each worker and no transfer

is involved over the long period, for each also benefits. ✓ Even where labor is not homogeneous there are substantial benefits of this type for many workers sometime during their working lives. ✓ But by far the larger gain to society is the presence of jobs for more of those who wish them and an end to the structural imbalance that plagues economies with free labor forces.

As stated above, there are many types and ages of workers, each with its own employment expectancy. The foregoing argument applies to each identifiable sub-group. A separate tax on the employed members of each group, I believe, is justifiable according to the usual rules of welfare theory. It also provides incentives to get into "better" groups. Still, such taxes on the most disadvantaged groups may be so high as to make a wider sharing of the tax burden more desirable from certain important points of view. ✓ It is even possible that a tax on the owners of non-labor resources will be desirable because just as there is a tendency for labor to be priced too high at the margin, there is a corresponding tendency for the other factors to be priced too low. ✓ But a tax on other factors will make it more difficult to obtain the added cooperating factors needed to equip the increased labor force. It also changes the distribution of real income in a questionable way from a welfare point of view since some workers are the beneficiaries while others are taxed.

Miscellaneous Comments

The fact that the supply curve for labor may be backward bending in no way affects this analysis for it properly abstracts from income effects. ✓ If there is unemployed labor that would like to be employed at existing wage rates which are above the social cost of employment social gain results if employment is found for it. ✓ If as a consequence of higher incomes (and greater security of employment) workers choose to work fewer hours that is only one

aspect of gains from the higher income. The effective supply curve of labor lies to the right of the one that fails to allow for the externalities.

So far only competitive markets have been considered. One effect of monopoly in labor markets is, of course, to restrict production whether the marginal revenue is set equal to the wage rate (where the labor market is competitive) or to the marginal outlay (where the firm also is the only employer in the labor market). The same principles as analyzed above can be applied up to a point, when monopoly exists. The subsidy is larger, but so is the gain in employment and increased value of product but the adjustment is not optimal. Elimination of monopoly power is preferable.

The case of simple monopsony is somewhat different where the firms have no monopoly power in their product markets. When an external economy exists under this condition the supply of labor is falling and marginal outlay is below it. The optimal result emerges when marginal outlay for each firm (which is equal to marginal social cost) is set against marginal value product. The wage paid is of course, equal to average outlay, which is higher than marginal value product (or marginal social cost) as it should be when there are external economies in the labor market.

It would be interesting to pursue these complications, but this is not the place for additional formal niceties. Their pursuit could easily draw attention away from the main point which I hope you have found interesting and provocative.

It is that many important labor markets, especially those relevant to the young, the minority groups, the less skilled and those who are approaching the retirement ages, are characterized by external economies. The effect of these externalities is aggravated by minimum wage laws, fringe benefits with

long term consequences for costs, rather rigid union wage scales and government policies for contractors working on government jobs. ✓ The effect of these is to increase the gap that would in any case exist between the private cost of hiring additional workers and the social cost of having them hired. ✓ This makes the full employment potential lower than it should be in the sense that it will exclude some workers who would be happy to be employed at existing wage rates and who can be employed in such a way as to increase net national output measured in terms acceptable to utility theory. For thirty years the western economies have tried to rectify this situation by various policies that utilize income effects alone, and which have tended to aggravate the structural imbalance that is outlined above. These policies have produced a moderate to ✓ strong tendency toward inflation and an acceptance of moderate inflation as a necessary device to expand employment closer to the "full" level.

We have discussed ways in which microeconomic analysis can be brought to bear on this problem. [We have found that an employment subsidy funded from a tax on the beneficiaries can, in principle, remove the externality, or more properly speaking, convert a technological effect into a pecuniary one. This will expand employment to the optimal level which is on a production possibility curve presently beyond our capability. This should relieve much of the tension that produces alienation -- the feeling of not being needed or wanted by one's society --] which a host of government policies have attempted to assuage with partial success, but with increasing difficulties.

D. A. Worcester, Jr.

FOOTNOTES

*I wish to thank José Encarnacion and John H. Power for their helpful suggestions. The latter pointed out that W. Arthur Lewis in his Development Planning (London, 1966, pages 62-64) also finds a discrepancy between the wage an employer must pay and the social cost of getting him employed.

¹These relationships may be shown geometrically as in Figure A.

When externalities are not recognized OA labor is employed at wage AD. When externalities are recognized OB is employed, also at wage AD, for at that point marginal social costs $= CE - C_u + H =$ Marginal Value Product. The added workers produce ABCD more which more than covers the added social costs ABCE, which includes hiring and training costs, MECF. The other members of society gain by the amount of the former transfer costs which are AFGDC (if we assume the consumption when employed equals the wage). The welfare gain is ECD, all of which accrues to the workers. The optimal subsidy appears to be DCG, but this is probably not the case because $C_E - C_u + H$ is not a supply curve related to the potential workers decision to work. Still it does reflect social costs and a subsidy to the employer sufficient to reach OB is desirable. The necessary subsidy may be either larger or smaller than DCG, depending on the nature of the supply curve of labor.

Figure A

