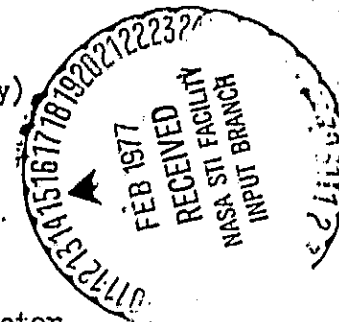


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822 Public Policy; Role of Government

Young, Gifford A. -- Full Employment Maintenance in the Private Sector.

Invariant full employment, in a full production, low inflation mode, can be maintained in a dynamic free enterprise economy only by providing positive, periodically iterated, direction to individual private firms concerning their net numerical employment actions. It is proposed that each private sector entity above a certain size, after submitting a periodic (e.g., quarterly) projection of its hiring or dismissal plans (the procedure being built on experience with the Bureau of Labor Statistics job vacancy statistical series), be required to adjust its net employment actions by a common percentage so as to maintain national employment at a legislatively set rate. Feasibility lies in the frequent opportunity for firms to submit new quarterly projections, increase in consumer demand, realization of savings to the economy through avoidance of unemployment-related expenditures, and growth of overall national production. The proposed policy is justified by regarding cyclical and structural unemployment as consequences of interactive decisions of private firms operating in a "prisoner's dilemma" game situation. Present government policies increase the ineluctable penalties in taxes, foregone production, and limited success of fiscal and monetary policies inherent in competitive strategies, but do not affect the critical decisions that accept such penalties rather than maintain invariant high employment and production. Fourth Annual

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FULL EMPLOYMENT MAINTENANCE IN THE PRIVATE SECTOR

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National Aeronautics and Space Administration

Washington, DC 20546

Fourth Annual Conference

Atlantic Economic Society

Washington, DC

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The interaction of decisions by independent private firms constitutes a "prisoner's dilemma" game situation, in which the firms ineluctably must accept persistent penalties of recessions, high unemployment- and welfare-related taxes, and less-than-potential sales and profit. The "rules" of this game prohibit present fiscal and monetary policies from being fully effective. Optimum macroeconomic efficiency can be achieved only by providing across-the-board positive direction to every individual firm in such a way as to affect (to its and all other firms' advantage) its hiring (customer-creating) and concurrent production intentions. No central planning is needed or desirable: Full employment -- in a full production, low inflation, "everybody wins" mode -- can be accomplished in a dynamic free enterprise economy by reiterated impersonal feedback directives that uniformly modify each firm's own periodically submitted numerical hiring or firing projections.

The author is a specialist in the computerized processing of technical information, and the proposal set forth in this paper applies modern computer capabilities, game and decision concepts, and communication feedback possibilities, rather than accepted economic tools, to the problem of assuring invariant full employment. The views expressed are entirely his own.

FULL EMPLOYMENT MAINTENANCE IN THE PRIVATE SECTOR

I propose a truly new policy alternative for government interaction with the private sector -- operating in an essentially free enterprise, free market economy -- to assure invariant full employment. The proposal is quite different from the more radical policies (in the U.S. experience) of central planning and nationalization of private industry. But it is equally in strong contrast to the traditional primary reliance on fiscal stimulation accompanied by manpower training and public service employment, in fact reducing these policies to collateral or supportive roles.

Our readiness to consider new policy departures, even quite speculative ones, should be motivated by a disquieting awareness both of the present unsatisfactory performance of the economy and of apparent trends toward increasing structural unemployment and loss of production resulting from changes in area growth patterns, automation, consumer demand, and resource availability.

Unemployment remains unacceptably high. Redistribution of goods and services from private industry and employed workers to nonproductive consumers may be meeting increasing resistance. Urban centers and some areas such as the Northeast continue to lose productive, tax-paying jobs -- New York City alone has lost 600,000 jobs since 1970. Welfare is not shrinking; new welfare applications, often from those who have used up their unemployment insurance benefits, are rising at an unexpected rate in many areas.

Loss of revenue from full productive operation of the private economy, and diversion of available federal, state, and local funds to nonproductive unemployment and welfare needs, impact all of us, even if we do not ourselves face immediate job insecurity. We may, for example, have less police and fire protection. Our children may have lowered educational opportunities. Those who are academics may find their tenure threatened. Our retirement expectations, either through private company plans, independent retirement arrangements, or Social Security, represent in total an enormous demand on future production of goods and services. Whether we have secure and comfortable futures may depend very directly on whether the economy can be brought up to full production and maintained there consistently.

Fortunately, full, noncyclical employment can be maintained in an essentially free enterprise economy, and without central planning or even indicative planning. Furthermore, this can be done at no cost to the taxpayer nor to private industry and -- in part as a consequence of full correspondence between employment and production -- at greatly reduced inflation.

Operationally, full employment can be accomplished by applying the data processing and information feedback capabilities of modern computer technology.

Conceptually, however, it will be necessary for policy makers and economists to broaden significantly their perception of feasible policy relationships between government and the private sector. A major change in the prevailing conceptual framework, what is sometimes called a "paradigm shift," must occur.

The new concept to which we must shift is this: The government -- exercising its responsibility of doing for private industry what it cannot do for itself -- must provide positive direction to individual firms concerning the net number of employees that each firm must hire -- or refrain from firing -- to assure national full employment. But to preserve free enterprise and -- it may sound paradoxical -- to preserve the decision making power of the individual manager, this direction must be based on each private firm's own numerical employment projections. Fortunately, as will be apparent, this job creation innovation can be carried out in such a way as to create equivalent new demand and equivalent production to offset each firm's change in its work force. This is an "everybody wins" proposal.

Let me develop the rationale for this complex -- but nevertheless practicable -- full employment maintenance proposal, then illustrate how the system might work in actual practice.

SLIDE 1

The first slide lists some desirable characteristics that an effective full employment program, operating in a free enterprise system, should have. Of particular note, one characteristic is that such a program should not be costly; it should not, that is, require Congress to appropriate billions of dollars. Just as at the micro-economic level of the private firm, in which setting up a production system such as an assembly line may produce output all out of proportion to the cost of the management and engineering skills that went into its design, so a macro management system to assure full employment should incur only very modest expenses, such as those for systems design and computer operation.

SLIDE 2

The next slide is merely to remind us of the very considerable concern being shown by Congress over the continuing loss of national production caused by persistent unemployment, as well as the personal loss to the unemployed. These representative bills emphasize differing aspects of the problem in accordance with the sponsors' differing perception of the result of government action. Some propose increasing economic planning, offering the private sector tax credits and wage subsidies, or assuring jobs by having the government act as the employer of last resort. Others emphasize fiscal measures to encourage investment, to reduce discrimination because of youth or age, or to break down other barriers that the sponsor perceives as inhibiting

workers from entering the labor force. It does not appear that any of these bills is positive in the sense that it would assure invariant full employment, preclude future recessions, and offset new hiring by correspondingly increasing consumer demand and production; the reasons will become apparent with the development of my proposal.

SLIDE 3

This slide is presented to illustrate the prevailing perception of the permissible framework within which the government may seek solutions for unemployment. This is a report of a study requested by Senator Muskie on measures that might stimulate the economy temporarily, then expire when no longer needed. Economists of the Congressional Budget Office, under the direction of Alice Rivlin, put a great deal of effort, using several econometric models, into this report. Note the alternatives that were studied. Together with monetary policy, these pretty well bound the prevailing concepts of possible means to counter recessions and stimulate employment. Clearly, these traditional procedures do not exhibit all the desirable characteristics shown on my first slide. They may help achieve a somewhat greater number of jobs in the short term, but neither separately nor in combination can they promise a positive, satisfactory answer to the problem of maintaining invariant, noncyclical full employment.

However, if applied in support of a more positive program involving direction to -- and feedback from -- individual firms and organizations in the private sector, they might make an effective contribution to achieving this goal.

SLIDE 4

Certain critical perceptual defects that underlie the ineffectiveness of prevailing approaches to analyzing and designing full employment programs are indicated on this slide.

Econometric modeling, of course, uses the computer extensively, but not to act specifically on the unique data elements that each one of millions of individual firms might submit nor to feedback information to specific firms on what might be called an individualized basis. Providing direction to individual firms concerning employment action has apparently received no consideration by policy analysts and economists, although there is a willingness to consider overall planning of the economy; for example, setting production goals. That the private sector, with its expertise in marketing analysis and production engineering and economics, could effectively decide and meet optimum output in a full employment economy, provided the government could provide some information and numerical direction concerning employment actions, has not, to the best of my knowledge, ever been evaluated as a promising government policy.

The last item on this slide, concerning the failure to analyze the interactions of competitive private firms as a non-zero-sum game, one in which all firms can lose by certain decisions they make, or all

can win, touches on a hypothesis. The hypothesis is that much of cyclical and even structural unemployment -- and of course loss of production and profit -- is the consequence of interactive business decisions and is best explicated by game and decision theory. As this hypothesis is so basic to understanding the feasibility of a program of directed private sector full employment, I would like to expand in some detail on this particular point.

SLIDE 5

Let's imagine two hypothetical economies as suggested on this slide. In the first, Economy I, the entire economy consists of only one vast firm, which hires everybody, produces everything, and provides the only sales outlet for all consumer goods and services. However, there is a government which requires the firm to pay substantial benefits to anyone that it might dismiss or retire.

Under these circumstances, would there be any unemployment?

Obviously not. The firm, with its full information as to income and outgo, would be well aware that it was actually producing all goods and services being turned over to unemployed or retired non-producing individuals. It would be aware that a worker on the job normally produces more than he consumes, the surplus going into replacement of capital equipment and, justifiably so, to the income of top management. The firm would certainly have a strong preference for keeping the worker on the job. Furthermore, the government's insistence on high unemployment and retirement benefits would increase the cost penalty to the firm of dismissing a worker so as to make it worthwhile to retain him even if the value of his production dropped somewhat below his wages. But actually, and based purely on economic interest, the firm would be strongly motivated to plan its operations in such a way that all its workers would be continuously productive. Only those who became truly unemployable would be retired.

Very importantly, the unit firm could take the long view. There would be no youth unemployment. The firm would hire all new job entrants, even if necessary at pay somewhat above the worth of their actual output, and provide them with on-the-job training, knowing that in time they would become productive employees -- and also knowing that they would have no opportunity of offering their experienced services to any competitor. The single firm would, by the benign compulsion of economic interest, see to it that structural unemployment never developed.

But suppose that this single vast organization were split into two competing firms (Economy II). There would be apparent advantages, but unfortunately the economy would suddenly have unemployment, enforced early retirement in lieu of dismissal, a sizable portion of the population on welfare, and a growing government sector attempting to overcome the private sector's failure to provide full employment. This would all cost a great deal in taxes imposed on the private sector -- necessarily, as it has all the production capabilities and taxes are,

we sometimes forget, really the redistribution of goods and services. It would also be accompanied by inflation because of the loss of the proper tradeoff between production (by employed workers) and consumption (now by both employed and unemployed workers) as well as by the government's adherence to Keynesian principles --perhaps incorrectly applied -- in attempting to stimulate the economy.

Why would the mere split into two firms result in this seemingly irrational, "everybody loses," behavior? The answer may be made clear by considering the game-theory payoff matrix on the next slide.

SLIDE 6

This is the familiar "prisoner's dilemma," which, in so many game situations, brings afflictions on mankind ranging from armament races to unemployment. In this game, both players suffer because each one fears that the other will double-cross him if he acts rationally. In this particular case, each player is a firm which has the optional strategies of hiring or not hiring its share of the last increment of the unemployed. Here, "share" means the respective proportion of new hires that would, by their purchases, generate a certain additional demand for the firm's products and services, the production of which would be just met by the on-the-job efforts of the new employees. (It is assumed, of course, that the new workers are free to shop at either firm's sales outlets and will do so, and that the firms are able by market analysis to forecast their respective increase in sales.) "Increment" means the difference between the actually observed rate of unemployment and a certain optimum, probably just the transitional, between-jobs rate.

If both firms would hire their share, as in Block 1, both would benefit. Neither would have to transfer goods and services, in the form of taxes, to the nonproducing unemployed. Both would have higher sales, in proportion to their share of the workers hired. Both would have a better force of trained employees. There would be lower or no inflation.

But this is not what happens. The firms do not employ their share and do not choose this "everybody wins" strategy. Firm A realizes that if it hired its share, Firm B might not, and then B would benefit at A's expense (Block 2). Firm A's new employees would spend part of their paychecks at B's store. Firm B would likely hire away some of A's workers after they had gone through A's expensive training program. (For this reason, youth unemployment would be high, for neither firm could count on reaping the benefit of training a particular new worker -- unless both firms hired their respective shares, in which case any job-hopping would balance out.)

Firm A also finds its payroll taxes for unemployment insurance to be increasing, and it pays large taxes to the government for redistribution to welfare recipients and for other unemployment-related purposes, but it has lost all information as to who gets what. If A hired an additional worker, it would have no assurance that its tax payment would be reduced proportionately; A would then be paying B's taxes.

(Management's loss of information is furthered by taxes being imposed on his employers, stockholders, and interest recipients, although, because the management mediates between all income and outgo, the firm actually pays all these as well as those levied directly.)

Firm A also, quite rationally, tends to avoid committing any resources to expansion, until convinced that a trend is developing and both it and Firm B appear to be moving in the direction of meeting increased demand, which clearly comes about less rapidly just because of the firms mutually dragging their feet.

As Firm B anticipates corresponding behavior in all these ways on A's part (Block 3), both firms end up choosing the no-hire, mutually harmful strategies of Block 4.

Furthermore, both firms might be caught up in various common social attitudes and prejudices that lead them to harmful decisions. Neither firm might hire some particular minority, and thus both lose out on potential abilities and competence, yet what they perceive as a rationale for this may be just the result of the other firm's also having practiced the same prejudice. Firms might not locate stores in the central city because they perceive such a step as presenting crime problems and as not earning much profit from the low-income inhabitants. Yet the basic reason for the poverty and other perceived social problems may be just the mutual interaction of competing organizations operating under this "prisoner's dilemma" type of strategy.

Reacting in this way, the firms -- and by extension our present complex economy of millions of firms -- could by competitive but interactive decisions "redline" entire areas and large populations, effectively placing them outside the functioning economy of production and consumption. This clearly is happening today, although as a result the private sector must pay out billions of dollars in rising unemployment insurance; in providing welfare, food stamps, and other social services conditioned by the existence of high unemployment; in fighting crime -- more of which may have subtle roots in long-term unemployment than commonly thought; and in the lost opportunities for making use of more experienced, better trained workers. At the same time, the private sector must forego hundreds of billions of dollars in lost production. And all because private business entities are caught in a "prisoner's dilemma" type of game and must play by its rules.

Now we may judge why the present efforts to achieve full employment are not effective. Extending unemployment and welfare benefits, granting revenue sharing funds to cities, offering employment tax credits to industry, and in other ways transferring goods and services from the productive portion of the economy to nonproductive consumers, simply increase the penalties that are incurred by firms choosing the mutually harmful strategies in Block 4. But these policies do not affect the decision process that leads the firms to accept these penalties.

Fiscal and monetary policies (by changing the rules of the game slightly) may cause fluctuations in business decisions that temporarily

cause the firms to hire part of the unemployed, but this will not be sustained -- a downturn in the business cycle will occur sooner or later -- and for the same reason: the natural equilibrium decision between competing firms is to opt for the mutually harmful Block 4 strategies.

No present government policies tackle the real problem: How are business firms to be led invariably to choose Block 1, the "everyone wins" strategies, instead of Block 4. Clearly, some change in the rules of the game is in order.

It is interesting that the authors of a text on games and decisions (Luce and Raiffa) speak directly to this point concerning the "prisoner's dilemma" type of business interactions:

"...some hold the view that one essential role of government is to declare that the rules of certain social "games" must be changed whenever it is inherent in the game situation that the players, in pursuing their own ends, will be forced into a socially undesirable position."

Precisely. This is just saying that the government should do for private industry what it cannot do for itself. And the one rule change that would assure that firms invariably choose the "everybody wins" solution, in which each hires its share of the last increment of unemployed, would be for the government to step in and direct them equitably to do so. The firms would then perforce consistently adopt the strategies in Block 1, and both would benefit substantially.

The question, of course, is: "What is each firm's numerical share?"

One -- a government analyst, that is -- could try to decide this by taking into account the size of each firm, its number of employees, its product line, its sales volume and profits, its labor intensiveness, and so on, with due consideration of continual demand changes in a dynamic economy. The difficulties of such a scheme in an economy of millions of firms is obvious as soon as stated. Instead, let's accept the fundamental free enterprise proposition that each firm's own management is best able to make such judgments in its own interest. The relative shares can then be determined in a natural and dynamic manner on the basis of each firm's own periodic hiring projections.

Here are the steps that might be involved in such a full employment procedure:

SLIDE 7

The first step, very reasonably, would be to find out, say each calendar quarter, what every private sector entity --not just business firms, but also hospitals, research institutes, large farms (which have recently had to begin paying unemployment insurance), and any other nongovernmental organization that hires people -- plans to do in the way of hiring or firing during the coming three months.

(A shorter or longer period might be used if experience so indicates, just as some lower limit might be placed on the size of participating organizations.)

SLIDE 8

Fortunately, we find that systems designers and computer experts at the Bureau of Labor Statistics have made our job conceptually easier by their development and testing of statistical programs to produce useful data to print in the Monthly Labor Review. The form shown in this slide is used to collect data from individual companies on their monthly, not just quarterly, hiring, firing, quits, layoffs, departures for military service, etc.

Part III, located by the arrow, is the significant part for our purposes. Here the company reports the number of job openings for which it is actively recruiting by advertising, registering with the employment service, and so on.

The first column under Part III lists the number of openings that the firm is ready to fill immediately, while the second column (filled out the next month) gives the number of these job openings that the firm has not filled for a month or longer. The third column is a true projection: the number of job openings that the company plans to fill in the future; to staff, say, a planned branch office, or because the firm expects more business. (A company that was retrenching could conceivably report negative numbers in the job openings spaces on such a form, although the Bureau did not collect such data.)

Also note Part IV, where reasons may be entered for hiring or not hiring workers, or conceivably, laying off or discharging them.

Part III is not now in use by the Bureau of Labor Statistics, but job vacancy data were collected over the period 1969 up to 1974 from manufacturing and mining firms. At one time the Bureau considered extending this test program to all service and nonagricultural industries.¹ I want to stress that the Bureau is interested only in statistical tabulations. The individual firm's identity is lost in the data analysis and publication of columns of figures -- quite different from what I propose. What is important is that we experience a sense of reality concerning a directed full employment program by being aware that at least 40,000 firms already have had the experience of submitting their hiring projections to a government agency. Furthermore, they have done this on a completely voluntary basis.

SLIDE 9

The next step, although this one would involve only infrequent changes, not quarterly reiteration, would be for Congress, on the best advice of economists and businessmen, to set an upper limit on permitted level of unemployment. This would have to be high enough to permit flexibility in business operations, as by not creating too tight a job market, and perhaps to permit some degree of unemployment swing during

1. Job Vacancies in Manufacturing, 1969-73. Paul M. Armknecht, Jr. Monthly Labor Review 97, No. 8 (August 1974) pp. 27-33

a business cycle, down to, say, 3 percent and back if the legislatively set standard was 4 percent. (The full employment maintenance program would be a powerful device to dampen cyclical swings in business, both by maintaining customer expectations and motivating more careful market projections and investment timing.)

During initial implementation of the directed full employment program, a phased approach downward from the present excessively high level would probably be desirable for optimum private sector adjustment, but this should not be allowed to drag on too long, of course.

SLIDE 10

It would be necessary to make a fairly accurate determination of the number of expected additions to the labor force during the coming quarter. Once a full employment maintenance program was well into its permanent operation, this should not be difficult. The number to be dismissed would have been projected by the participating firms, and the new labor force entrants, assuming that the problem of hidden unemployment will have disappeared by then, should be rather limited in number. Knowing the total work force, and subtracting the fixed percentage set by Congress, it would be a straightforward computer computation to compare the result with the sum of the positive and negative job projections by all the participating firms. If the overall private sector projections did not come up to the total needing jobs (this need not be the case; the sum could equal or exceed the number seeking work), a uniform percentage would be calculated by which private industry must adjust its hiring -- or, for some firms, firing -- to assure full employment, and with it the full aggregate demand and production feasible with existing technology and resources.

Use of a simple percentage multiple across all the firms' projection may be questioned. The set of numerical projections would consist of hundreds of thousands, perhaps millions, of unique data elements. Hiring plans would range widely from zero to fairly large numbers, while retrenchment plans by firms intending to reduce the number of their employees likewise would range from a few to very many. The problem is to raise this set of numbers along an axis of net new hiring so that the overall total increases by just the necessary amount to insure full employment. It is important that the transitions the individual firms must make are equitable in the sense of not disturbing their immediate competitive position, as well as being appropriate to their shares of the increased business that will result from all the firms raising their sights just a bit. A simple percentage upgrading applied to all the projections should work as well as any more complicated algorithm.

SLIDE 11

The computer-printed notifications that the participating firms receive would be rather simple, perhaps merely repeating the original projection by the firm, the uniform percentage change that all firms must

make, and the resulting permitted hiring or firing figure. One firm intending to accession 100 net individuals during the coming three months might receive a notice that the uniform percentage adjustment had been found to be 2 percent; therefore the firm must accession 102 net individuals. Another firm planning to separate 100 net workers would receive notification that it is permitted to drop only 98 during the period. (Both firms would, of course, have the opportunity of making new projections at the beginning of the next quarter, generally a short period in business operation.)

A firm projecting zero change would, under this simple formulation, not be required to change its plans at all.

After the program had been well established, with all that means in the development of public consciousness of its operation, adjustment of management's personnel concepts, establishment of advisory services, etc., it might be expected that most firms would plan their operations so closely in line with anticipated results of the full employment feedback directives that they would not in general be required to make any significant adjustments.*

I have found in preliminary discussions that many find this particular prescription for directing full employment hard to picture in operation, with two commonly expressed difficulties: (1) that the firms will be harmed in some way; (2) that the firms will cheat or somehow escape from the program's operation.

It is important to consider whether the participating firms are being imposed upon. In spite of our discussion about "everybody wins" game strategies, are these companies in fact being taxed in some way to take care of a few superfluous workers for whom they have no meaningful productive jobs? Well, let's consider the situation from the point of view first of the manager of the firm that is expanding. He is looking out at an economy in which aggregate demand is being raised across the board. A share of this can be expected to come in to his firm as additional customer orders, either directly from individuals or from firms adding to their inventories or production equipment, and this share should be reasonably proportionate to his projections, assuming market analysis has some degree of accuracy. What has happened is that his firm, together with all others, must have been somewhat low, on average, in its market surveys and production planning, otherwise the combined projections would have matched the number of new labor force members and their potential aggregate demand perfectly. Through the full employment maintenance program, the government has sent each firm a powerful message that its projections were somewhat off. This advice alone should result in his firm changing its marketing and production plans to accommodate to a larger economy. Reasonably, he, too, would need to gear up to better demand than he had projected and in doing so would readily find a place for the few additional employees in his greater than expected business. In the case of the company that was retrenching, it is reasonable that its projections were too pessimistic, and that because of the overall growth of the economy enough additional business will have been generated to justify keeping a few men on a few weeks longer.

*It is important to note that the firms would still have all the advantages of individuality shown on Slide 5 (Economy II) while the economy gains the advantages of no unemployment, etc. (Economy I).

Of considerable help in raising the number of employees or slowing down the rate of discharges is the very great turnover that actually takes place in all industries. The figures are reported in the Monthly Labor Review.

Another element of feasibility is the fact that the program is based on projections of incremental hiring, not on each firm's overall work force. This automatically takes into account the important factor of relative labor intensiveness. For a given expansion of the economy, a petroleum refinery would not project that it needed as many new employees as would a furniture factory, so the uniform percentage adjustment would closely relate the number of workers to the number of jobs needed to meet the actual growth in business in each case. (Relative turnover among various industries also is reported in the Monthly Labor Review.)

But the most important reason for successful operation with benefit to every participating firm is the reiteration of the whole process every three months. If a firm is somewhat off in its planning, it can correct it in its next quarter's projections. Remember, after the full employment maintenance procedure had been implemented, each firm would have experienced its operation during the preceding three months and will again during the quarter after the one being considered. There would be a constant adjustment process going on that not only would iron out any difficulties but would be a strong factor in smoothing out the remaining business cycle.

As for the possibility of a firm cheating, there would be two powerful motivating forces to counter any such effort:

- (1) Substantial penalties would be assessed for failure to comply with the full employment directives. Actual imposition of such penalties would likely be as infrequent as fining someone for driving 90 miles per hour, for, with experience, responsible concerns would come to the rational conclusion that the regulations were of substantial benefits to them as well as to society in general.¹
- (2) Each firm would recognize that if it deliberately set its hiring projection low -- as it would have a perfect right to do -- it would tend to lose out in its competitive position. In a full employment economy it might have trouble catching up on production during the coming months. Management would, of course, be fully at liberty to make its own expansion plans, and the added competitive thrust of participating in the full employment process might be a strong stimulus to encouraging productivity gains, with benefits to all -- now that automation and efficiency would not result in displaced workers possibly suffering an indefinite period of lost time until being relocated, and the overall economy not suffering the loss, even a relatively short term loss, of their productive capabilities.

¹. All firms must eventually report on the number of those actually employed by their payment of Social Security taxes and unemployment insurance.

Note that in this procedure for continuous adjustment of employment projections, there is no central planning, just a computerized response to each firm's own independent and competitive intentions. The operation is essentially free enterprise. Feedback of information in this way simply facilitates the working of the "invisible hand." Firms that can most effectively develop and meet consumers' needs and desires will grow, while others will decline, just as they do today. Within reason, it is probably desirable that government retire from excessive intervention in this process, and the proposed full employment maintenance program would make it practicable and humanely feasible for government to do so.

Some aspects of government disentanglement may not necessarily be welcomed by businessmen. For example, in the full employment maintenance program here proposed, there are no tax credits or wage subsidies to employers. Where would the funds for such payments come from? The private sector, of course. One consequence of the directed hiring program would be the automatic adjustment of workers to productive jobs. Any such transfer of funds from one pocket to another would simply distort the normal relationship between production and consumption; e.g., by taking money from a consumer so that he would have to give up his hopes of buying, say, an automobile, and paying it to a worker to produce the automobile. Such attempts to externalize a firm's actual costs, as by providing it with income from other than its own productive efforts, are normally undesirable. (It is recognized that during the initial implementation of the full employment maintenance procedure, or during crises such as the oil embargo, some type of temporary transfer of resources between parts of the economy might be needed, with full recognition of the probable disruptive economic effects.)

SLIDE 12

This slide stresses that the important role that monetary and fiscal policies will continue to play in smoothing the operation of the economy, nevertheless is the last step in the full employment maintenance procedure. That is, these policies are subsidiary to and supportive of the primary process, the automatic data processing of employment projections and feedback to the individual firms involved. Because the full employment procedure is self-stimulating, by creating customers as new workers are hired, fiscal and money managers could apply their skills modestly to meet real business and consumer needs rather than excessively and erratically to stimulate the economy. Perhaps it would be possible to reduce the normal growth of the money supply to the 2 per cent or so that Arthur Burns has sometimes mentioned as desirable. In any event, lifting the burden of almost sole responsibility for tuning the economy from fiscal and monetary policies should be a powerful factor in bringing inflation down to a more reasonable annual rate.

SLIDE 13

I have presented what I believe to be the definitive and unique solution to the problem of ending unemployment in a free economy.

Certainly it must be regarded as speculative; there are many aspects that need in-depth analysis, such as the problem of layoffs as contrasted to dismissals, the impact of import-export fluctuations, how rapidly the economy could move back into the vacuum that has developed in cities, crisis management in the event of a new oil embargo, the problem of slowing national growth, and so on. Many of these difficulties are not barriers to acceptance of the principle of maintaining full employment by positive direction, but involve quantitative decisions on precise size of the permitted rate of unemployment or the schedule on which this figure could be approached so that the complex interactions of millions of firms could best adjust smoothly to a higher production, higher employment economy. Such evaluations fall naturally within the competence of professional economists.

What I hope for from my presentation is that economists and policy makers will have (1) a flash of insight, of recognition that direction to the private sector by the flexible feedback system I have proposed is the viable route for progress toward full employment, and (2) a readiness to commit some effort and resources toward fully exploring the concept by economic analysis and simulation. I believe that the resulting evidence would be so compelling that the investigators, and Congress and the Administration, would confidently move on to the further implementation steps listed on this slide.

SLIDE 14

To justify investigations on this concept, the tremendous payoff for a successful working procedure to maintain full employment is shown on this last slide. These are just rough estimates, of course; the benefits in 10 years could be much greater than shown -- because, if you will recall my introductory remarks, the present trends in lost production, lost revenue, growth in nonproductive demand, even lost capital stock and production capabilities as the cities decay, are all adverse and indicative of accelerating costs to our economy if we persist in our failure to find a full-production solution.

You will note the analogy on this slide that the cost savings and added production that would be gained by implementing the proposed full employment program are so vast that they would pay the ^{median} typical incomes of 20 million Americans. In closing, I would like to draw another analogy suggested by a rough equivalent to the actual wealth represented by the figure of \$265 billion: One hundred and seventy-three years ago, President Thomas Jefferson's diplomats closed the Louisiana Purchase, buying all or parts of 13 of our present states and some of Canada, for the sum of only \$15 million. Resource-rich continents are no longer to be discovered or purchased piecemeal. Today, the sources of wealth are to be found in advanced technology and mathematics, in operations research, in systems studies, and in the application of computers to industrial operations and management. By applying these modern tools, as I have attempted to do superficially in this presentation, economists could add the equivalent of one Louisiana Purchase to the nation's gross national product every year. And, curiously, if the method used were the computerized positive direction method I have proposed, the cost would be equivalently as small as its purchase price.

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BECAUSE THE CONCEPT PRESENTED IS SO DIFFICULT, YET SO IMPORTANT, PLEASE RE-READ.

DESIRABLE CHARACTERISTICS OF FREE ENTERPRISE FULL EMPLOYMENT PROGRAM

COSTLESS (OR VERY HIGH BENEFIT/COST RATIO)
POSITIVE (ASSURED RATE OF EMPLOYMENT FOR GIVEN ACTION)
NOT DISTRIBUTIONAL (NOT SUPPORTED BY TAXES OR TRANSFERS OF GOODS AND SERVICES)
INTRINSICALLY STIMULATING (CREATES CUSTOMERS AND AGGREGATE DEMAND)
INCREASE PRODUCTION PROPORTIONATELY (THEREFORE MUST BE IN PRIVATE SECTOR)
PERMIT FLEXIBILITY OF PRIVATE BUSINESS DECISIONS (NO CENTRAL PLANNING)
PERMANENTLY OPERATIONAL (PREVENTIVE, NOT MERELY RESPONSIVE)
AUTOMATICALLY OPERATIONAL (NOT DISCRETIONAL)
ADAPTABLE TO GROWTH, SLOW GROWTH, OR NO GROWTH
PROMOTE PRODUCTIVITY; NO RESTRICTION ON TECHNOLOGICAL ADVANCES
NOT INHERENTLY INFLATIONARY (NOT DEPENDENT ON FISCAL OR MONETARY ACTIONS)
REDUCE WELFARE, IMPROVE SOCIAL CONDITIONS IN NATURAL MANNER
HELP SOLVE URBAN PROBLEMS; STRUCTURAL UNEMPLOYMENT
FREE CONGRESS AND ADMINISTRATION FROM EMPLOYMENT CONSIDERATIONS IN POLICY DECISIONS

SLIDE 2

REPRESENTATIVE CONGRESSIONAL BILLS AND ACTS DEALING WITH UNEMPLOYMENT

FULL EMPLOYMENT AND BALANCED GROWTH ACT (HUMPHREY-HAWKINS)
HUMAN RESOURCES DEMONSTRATION ACT (LUNDINE)
NATIONAL FULL EMPLOYMENT AND ANTI-INFLATION ACT (DOLE-SCOTT)
COMPREHENSIVE EMPLOYMENT AND TRAINING ACT
PUBLIC WORKS AND ECONOMIC DEVELOPMENT ACT
MIDDLE-AGED AND OLDER WORKERS EMPLOYMENT ACT (ABZUG)
WORK INCENTIVE (WIN) PROGRAM AMENDMENTS
JOBS CREATION ACT (KEMP-MOCLURE)
JOB OPPORTUNITIES AND ECONOMIC REFORM ACT (HEIMS)
SUPPLEMENTAL COMMUNITY DEVELOPMENT EMPLOYMENT ASSISTANCE ACT (GRIFFIN)
YOUTH OPPORTUNITY INDUSTRIALIZATION CENTERS (STOKES)
FEDERAL EMPLOYMENT SYSTEM ACT (JAVITS)

REPRESENTATIVE ECONOMIC STUDY OF EMPLOYMENT
STIMULATION METHODS

SLIDE 3

TEMPORARY MEASURES TO STIMULATE EMPLOYMENT:

An Evaluation of Some Alternatives

September 2, 1975
(Revised September 26, 1975)

ALTERNATIVES CONSIDERED

- ACCELERATED PUBLIC WORKS
- PUBLIC SERVICE EMPLOYMENT
- ANTIRECESSION GRANTS TO STATE AND LOCAL GOVERNMENTS
- MEASURES TO STIMULATE THE PRIVATE SECTOR:
 - INCOME TAX REDUCTION
 - INVESTMENT TAX CREDIT
 - TAX CREDITS ON HOUSING AND OTHER DURABLES
 - EMPLOYMENT TAX CREDIT
 - ACCELERATED GOVERNMENT PURCHASES
- COMBINATIONS OF ABOVE



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SLIDE 4

DEFECTS OF PREVAILING FULL EMPLOYMENT POLICIES

- I. IGNORE MODERN COMPUTER CAPABILITIES IN
 - (a) FAST, REPETITIVE PROCESSING OF DATA, AND
 - (b) INTERACTIVE (FEEDBACK) COMMUNICATION WITH INDIVIDUAL FIRMS
- II. DO NOT CONSIDER POSSIBILITY OF PROVIDING DIRECTION TO INDIVIDUAL FIRMS CONCERNING EMPLOYMENT ACTIONS
- III. FAIL TO ANALYZE PRIVATE SECTOR INTERACTIONS AS NON-ZERO-SUM GAME
("EVERYBODY CAN WIN OR EVERYBODY CAN LOSE")

TWO HYPOTHETICAL ECONOMIES

ECONOMY I

ENTIRE ECONOMY = ONE VAST FIRM
REQUIRED TO PAY SUBSTANTIAL
UNEMPLOYMENT AND RETIREMENT
BENEFITS DIRECTLY TO RECIPIENTS
THUS, FULL MANAGERIAL INFORMATION

CHARACTERISTICS

POSSIBLY REPRESSIVE, NONINNOVATIVE,
LOW PRODUCTIVITY
BUT
NO UNEMPLOYMENT
NO FORCED EARLY RETIREMENT
LITTLE WELFARE
LONG RANGE VIEW IN HIRING
FEW BUREAUCRATS
STABLE PRICES

ECONOMY II

ECONOMY = TWO COMPETING FIRMS
REQUIRED TO PAY TAXES TO GOVERNMENT
FOR REDISTRIBUTION TO UNEMPLOYED
AND RETIREES, WELFARE, ETC.
THUS, LOSS OF MANAGERIAL INFORMATION

CHARACTERISTICS

AGGRESSIVELY INNOVATIVE, MORE FREE
CHOICE, HIGHER PRODUCTIVITY
BUT
UNEMPLOYMENT
INVOLUNTARY RETIREMENT
EXTENSIVE AND GROWING WELFARE
SHORT RANGE VIEW OF WORKER UTILITY
MANY BUREAUCRATS
INFLATION

PAYOFF MATRIX: HIRING OR NOT HIRING LAST INCREMENT OF UNEMPLOYED
 (ABOVE 2 PERCENT)

FIRM B'S STRATEGIES

HIRES ITS SHARE

DOES NOT HIRE ITS SHARE

1

2

HIRES ITS SHARE

FIRM A GAINS
 FIRM B GAINS

FIRM B GAINS
 FIRM A LOSES

(THE "EVERYBODY WINS" STRATEGY
 BUT UNSTABLE: NOT CHOSEN)

3

4

DOES NOT HIRE

FIRM A GAINS
 FIRM B LOSES

FIRM A LOSES
 FIRM B LOSES
 (MUTUALLY HARMFUL STRATEGY
 BUT EQUILIBRIUM: ALWAYS CHOSEN)

ITS SHARE

FIRM A'S STRATEGIES

SLIDE 7

POSITIVE FULL EMPLOYMENT MAINTENANCE IN THE PRIVATE SECTOR

1. OBTAIN INDIVIDUAL FIRMS' OWN EMPLOYMENT PROJECTIONS EVERY CALENDAR QUARTER. BUILD REPORTING FORM ON BUREAU OF LABOR STATISTICS EXPERIENCE WITH JOB VACANCY SERIES.

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Office of Management and Budget No. 44-R1054
Approval expires January 31, 1975.

MONTHLY REPORT ON JOB OPENINGS AND LABOR TURNOVER

U.S. DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS
and
THE MANPOWER ADMINISTRATION
WASHINGTON, D.C. 20212

Enter the data requested and return in the enclosed envelope as soon as the information is available each month.

CHANGE NAME AND MAILING ADDRESS IF INCORRECT—INCLUDE ZIP CODE

SAMPLE COPY

The Bureau of Labor Statistics, the Manpower Administration, and the State agencies cooperating in their statistical programs will hold all information furnished by the respondent in strict confidence.

LOCATION _____ (City) _____ (County) _____ (State)

Before entering data see explanations on other side

YEAR AND MONTH (1)	I. LABOR TURNOVER DURING CALENDAR MONTH										II. EMPLOYMENT (one pay period) TOTAL NUMBER who worked during or received pay for any part of the pay period which includes the 12th of the month (12)	
	PERIOD COVERED (Cols. 4 through 11)		ALL EMPLOYEES							ACCESSIONS (during calendar month)		
	From (2)	Through (3)	SEPARATIONS (during calendar month)					Total Accessions (Sum of cols. 10 & 11) (9)	New hires (10)	Other Accessions (11)		
			Total Separations (Sum of cols. 4 through 8) (4)	Quits (5)	Discharges (6)	Layoffs (7)	Other Separations (8)					
1973 Dec.												
1974 Jan.												
Feb.												
Mar.												
Apr.												
May												
June												
July												
Aug.												
Sept.												
Oct.												
Nov.												
Dec.												

III. JOB OPENINGS for which workers from outside the firm were actively being sought as of close of last business day of most recent month. (If "NONE," enter "0"; do not leave blank.)

IV. YOUR COMMENTS

YEAR AND MONTH	CURRENT JOB OPENINGS (uncovered and ready for immediate filling)		NUMBER OF OPENINGS WITH FUTURE STARTING DATES (not included in column 13)	DO NOT USE Expl Code (16)	Enter main factors responsible for any significant month-to-month changes in SECTIONS I, II, and III. Examples are: Mine business Strike Fire Weather Temporary summer help Seasonal increases
	Number of Current Job Openings (11)	Not included in col. 11 remaining unfilled for a month or longer (14)			
1973 Dec.					
1974 Jan.					
Feb.					
Mar.					
Apr.					
May					
June					
July					
Aug.					
Sept.					
Oct.					
Nov.					
Dec.					

(Person to be addressed if questions arise regarding this report)

(Position)

(Telephone No.)

SLIDE 9

POSITIVE FULL EMPLOYMENT MAINTENANCE IN THE PRIVATE SECTOR

II. CONGRESS SETS INVARIANT UPPER LIMIT ON UNEMPLOYMENT RATE; e.g.: 4 PERCENT
(PHASED APPROACH DURING IMPLEMENTATION)

POSITIVE FULL EMPLOYMENT MAINTENANCE IN THE PRIVATE SECTOR

- III. SURVEY LABOR SUPPLY FOR COMING QUARTER
- IV. SUBTRACT PERMITTED UNEMPLOYMENT RATE
- V. COMPARE WITH SUM OF JOB PROJECTIONS. DIFFERENCE IS NUMBER FOR WHICH THE PRIVATE SECTOR MUST PROVIDE ADDITIONAL JOBS
- VI. COMPUTE UNIFORM PERCENTAGE ADJUSTMENT BY WHICH FIRMS MUST REVISE THEIR JOB PROJECTIONS TO ASSURE FULL EMPLOYMENT

SLIDE 11

POSITIVE FULL EMPLOYMENT MAINTENANCE IN THE PRIVATE SECTOR

- VII. NOTIFY EACH REPORTING FIRM OF UNIFORM PERCENTAGE ADJUSTMENT
AND NUMBER OF EMPLOYEES BY WHICH IT MUST:
- (a) INCREASE ITS HIRING, or
 - (b) SLOW ITS PLANNED DISMISSALS, or
 - (c) BE AWARE THAT EXPANSION PLANS EXCEED THE LABOR SUPPLY

SLIDE 12

POSITIVE FULL EMPLOYMENT MAINTENANCE IN THE PRIVATE SECTOR

VIII. APPLY FISCAL AND MONETARY ACTIONS TO MEET GROWTH NEEDS;
NOT TO STIMULATE

IX. REPEAT ALL ABOVE EVERY CALENDAR QUARTER

WHAT NEEDS TO BE DONE

EVALUATE ALL POSSIBLE CONTINGENCIES
SIMULATE

(ECONOMETRIC MODELS PERMIT FIXED UNEMPLOYMENT RATE AS AN
EXOGENOUS VARIABLE. COMBINE WITH LOW MONETARY GROWTH,
REDUCED DEFICIT, etc.)

DETERMINE COLLATERAL FISCAL, MONETARY, MANPOWER NEEDS, IF ANY
DESIGN OPERATING SYSTEM
DRY RUN

(TEST INPUT BY PARTICIPATING FIRMS, OBSERVE EFFECTS OF ADVISORY
NOTIFICATIONS)

ESTABLISH LEGISLATIVE AND ADMINISTRATIVE FRAMEWORK
IMPLEMENT BY PHASES; e.g., 7, 6, 5, 4.5, 4 PERCENT

ANNUAL COST SAVINGS UNDER DIRECTED FULL EMPLOYMENT

	YEARS AFTER IMPLEMENTATION	
	<u>3 YEARS</u>	<u>10 YEARS</u>
UNEMPLOYMENT PAYROLL TAXES	\$5 billion	\$10 billion
MANPOWER PROGRAMS	3	5
POSTPONED RETIREMENT		
SOCIAL SECURITY	5	10
OTHER PUBLIC AND PRIVATE SYSTEMS	7	15
WELFARE, SOCIAL SERVICES	2	15
CRIME	3	10
INCREASED PRODUCTION	<u>100</u>	<u>200</u>
TOTAL	\$125 billion	\$265 billion

N.B.: \$265 billion would pay 20 million private or public employees an average of \$13,250 annual wages.