Today's Task for Economists[†]

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I. The Allocation Task of Yesteryear

Nearly two score years ago, on the occasion of Columbia's bicentennial celebration, Sir Dennis Robertson gave an address entitled "What Do Economists Economize," the burden of which was that, since presumably economists are the most expert economizers, they should economize the most precious thing in the world, namely, love, or altruism. This would be done in part by so arranging things that in the ordinary conduct of life individual choices made on the basis of self-interest in terms of market prices would at least be consistent with maximizing social welfare, so that the exercise of scarce resources of altruism could be concentrated on situations where Adam Smith's unseen hand could not be made to serve. To me, one implication of this was that economists should see to it that market prices correctly reflect the relevant marginal social cost of various alternatives. I have devoted a major part of my career to the promotion of such marginal-cost pricing, but thus far with a notable lack of practical success outside academia.

At the time of Robertson's address, indeed, there was a certain euphoria prevailing among at least part of the economics profession over the prospect of curbing the business cycle and maintaining a high level of economic activity through Keynesian fiscal policy. Under these circumstances it was reasonable to think that the chief remaining job of the economist was to assure a Pareto-efficient allocation of a given aggregate of resources. The event, however, proved otherwise. The conventional wisdom of regarding budget deficits as improvident prodigality, and government debt as the legacy of a craven deferral of burden to the future, resumed command.

One eminent economist is said to have remarked, in effect, that it was the function of the science of public finance to see to it that nothing of importance is ever done or left undone merely for financial reasons. Alas, the financial reasons have thus far carried the day, and we have not had anything approaching real full employment since the Korean War, or indeed in peacetime at any time since 1925, if then, at least in terms of the Beveridge definition of full employment as a situation wherein there are at least as many unfilled job openings as there are unemployed individuals seeking work.

In the Eisenhower years, the conventional wisdom held sway in spite of the absence of serious contraindications to the Keynesian prescription. In the 1960's, the simple Keynesian analysis began to be called into question by the emergence of stagflation, a phenomenon not contemplated by the earlier Keynesian models. A new relationship, the Phillips curve, relating the evolution of inflation to the level of unemployment was added to the economists' armamentarium, with its "non-inflation-accelerating rate of unemployment" or NIARU.

This NIARU is of course not a fixed datum, but varies over time and place according to the sociopolitical ambience, the mechanics of the labor market, and the vigor of competition. It may have been rising over time as a result of the increased sophistication and differentiation of products, real and factitious, giving sellers, as the ones most knowledgeable about the characteristics of their products and their markets, considerable leeway to raise their prices without unacceptable loss of sales. This process is ultimately held in check only

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by the presence of underutilized labor and other resources. Currently in the United States the NIARU appears to be around 4–6 percent.

In some quarters this NIARU has even been termed the "natural" rate of unemployment, in one of the most vicious euphemisms ever coined. Some have even gone so far as to define "full employment" as being the NIARU. But while 5-percent unemployment might be barely tolerable if it meant that everyone would be taking an additional two weeks of vacation every year without pay, it is totally unacceptable as a social goal when it means unemployment rates of 10, 20, or even 40 percent among disadvantaged groups, with resulting increases in poverty, homelessness, poor health, drug addiction, and crime. Yet the hard political fact is that at such a NIARU the great majority of the voting population, including most of the politically active upper and middle classes, will have relatively little personal experience of severe unemployment, while nearly everyone will have some direct experience of inflation. Many seem to feel that if only prices would stop rising they would benefit correspondingly by having their income go further, giving relatively little thought to the effect on their incomes. Even those with large mortgages or other debts, who would actually gain from inflation, tend to concur in the notion that they suffer from it. It is thus extremely difficult to get political support for anti-unemployment measures that are perceived as involving a threat of inflation, at least until unemployment reaches 7 percent or more, at which point unemployment becomes a more widespread threat.

Actually it is the uncertainty as to the rate of inflation, and not its level, that does the damage. An assured, moderate rate of inflation can be adapted to by adjusting nominal rates of interest and the terms of long-term contracts involving money payments. The "menu cost" of changing price tags and catalog quotations is probably less important than the mental effort required of consumers in forming an idea of what an appropriate current price is for infrequently purchased items, such as furniture or clothing. An inflation rate assured to stay between 5 percent and 6 percent, say, might even have advantages. Monetary policy would be more powerful in stemming a downturn in that very low and even negative real rates of interest would become feasible as a stimulus to investment. It might in principle be easier to keep inflation within a 1-percent range between 5 percent and 6 percent, than to keep it within a 2-percent range between -1 percent and $+1$ percent, given the smaller real value of non-interest-bearing moneys in circulation, even allowing for the superior political focusing power of a target of 0 percent as compared to one of 5.5 percent.

The base of the income tax would be broadened also, making it possible to have a tax that is more progressive and more productive of revenue with lower marginal rates and less of a distortionary effect. A tax based on nominal accrued income would in effect be a tax on a base consisting of real income plus a percentage of net worth. While this is not what is meant by an ideologically pure income tax, in terms of its practical effects it can be deemed a superior tax.

It is the possibility of substantial changes in the rate of inflation, either up or down, that does the damage. Such changes involve a disappointment of expectations and a redistribution of wealth and income derived from a given national product that is capricious and often inequitable, but it does not of itself substantially reduce the amount to be distributed. Unemployment, on the other hand, directly and definitely reduces the total product to be distributed. Unanticipated changes in the rate of inflation, up or down, may be considered to be a form of legitimized embezzlement, whereas unemployment is vandalism.

Nevertheless, the stance of the politico-financial establishment is still to look at the bottom line as the ultimate reality, whether of the corporation or the national budget, and since money is the measure of all good and evil in this kind of calculus, anything that impugns the value of money is viewed as a kind of sacrilege reinforced by a lurking fear of starting down a slippery slope to

hyperinflation. We find the Federal Reserve System poised to slam on the brakes at the first sign of a resurgence of inflation, a posture not calculated to inspire investment in durable capital.

On the political side, we see the House voting by a substantial majority in favor of a constitutional amendment to require a balanced budget, fortunately falling short of the required two-thirds. This was done in spite of the fact that the nominal budget as currently computed is not a valid measure of any significant economic quantity. The nominal deficit would be reduced by selling the Pentagon to a life insurance company subject to a long-term lease-back and repurchase option; this at least would do no harm, unlike the sale of natural resources to private exploiters which would actually decrease the real heritage handed down to the future, on the pretext of reducing the transfer requirements embodied in the national debt.

II. Recycling Savings Through Public Capital Formation

From a classical standpoint, of course, the difficulty is that no account is taken of the distinction between transactions on current account and on capital account. If AT&T, General Motors, and households had been constrained to operate under the restrictions of the proposed balanced-budget amendment, we would now have far fewer telephones, automobiles, and houses. A capital budget, with a vast expansion of government capital outlays on roads, bridges, research, education, and the like, financed by borrowing, might go a considerable way toward improving the unemployment situation. But there is no assurance that it could do the whole job.

III. Eliminating the Corporation Income Tax

Other classical approaches to improving the unemployment situation exist but have their own political opposition and in any case are too weak to make much of a dent in a very large need. One such measure would be the abolition of the corporation income tax, which is by far the most serious hurdle in the way of private capital formation of a kind requiring equity funding. Unlike the capital-gains tax, the corporate income tax is a tax largely above or before the market, requiring a rate of return on investment sufficient to cover the corporation tax and leave a rate of return after tax comparable to other investments, whereas the capital-gains tax operates largely as a reduction in the return to the investor after or below the market, comparable to the reduction of net income to the taxpayer resulting from the personal income tax on other income. In addition, the corporation tax causes inefficient allocation of investment between equity-type and loan-type investments; it encourages thin equity and resulting bankruptcies and reorganizations, and it lubricates takeovers and mergers of dubious intrinsic merit.

Reduction of the tax on capital gains, on the other hand, might actually depress economic activity if the additional savings out of the tax reduction were to exceed the additional capital formation induced. This is the more likely in that most of the tax reduction is likely to be saved immediately, whereas the inducement to capital formation is in terms of a tax reduction in a relatively remote future, subject to legislative vicissitudes. At best, special treatment of capital gains greatly increases the complexity of the tax law and diverts investment flows from their most efficient use. There is nothing to indicate that investments likely to yield returns in forms defined by the tax code as capital gains will have any superior social value: gains from land speculation, in particular, add nothing to the real availability of resources.

As for the corporate income tax, in spite of its many defects from the standpoint of economic efficiency, it has enormous political popularity due to the fact that nearly everyone thinks that it is paid by someone else. Indeed economists have differed widely in their assignment of the "burden" of the tax, owing to a failure to specify, or even to consider, the macroeconomic policy changes necessarily involved in a change in the tax. Unlike most other taxes, the corporation tax

inflicts a double whammy on the economy in that it both extracts income from the stream of purchasing power and reduces the recycling of savings through investment. If imposed on a revenue-neutral basis it causes unemployment, while if a budgetary adjustment is made to maintain employment constant, its burden can be thought of as falling on future wage earners, who will have less capital with which to work.

Problems of the deferral of income through undistributed profits, as well as the deferral of taxation to the time of realization of capital gains, would ideally be met by putting the personal income tax on a cumulative basis, along lines I developed while working with Carl Shoup in 1938, whereby the deferral of the reporting of income, by whatever means, merely involves the borrowing of the deferred tax at a suitable rate of interest. About two-thirds of the internal revenue code would become redundant, with the possible exception of the need to deal with the international jet set and revolving-door marriages; large numbers of tax techies would be able to apply themselves to more productive employment.

Failing this, an approximation to a level playing field might be had by imposing a small annual tax on the accumulated undistributed surplus of corporations, roughly equal to the interest on the stockholders' postponed individual income tax. Similarly, there should be a surcharge on realized capital gains, proportionate to the length of time held, to offset the gain from the deferral of the tax.

If there is nevertheless a need to cater to a political demand for something that can be labeled a corporation tax, this might be satisfied by levying a corporation tax on dividends, interest, and retained earnings at a rate corresponding to the first-bracket rate of the individual income tax and exempting such interest and dividends from this "normal" rate, going back to the pre-1934 practice of dividing the income tax into a normal tax and a progressive surtax. To even things up neatly, normal tax paid on other forms of income should be deductible in computing the base for the progressive surtax paid by a minority of taxpayers. It would still be appropriate to have an undistributed surplus tax to correspond to this surtax.

IV. Tax-Exempt Bonds

Another measure that might slightly improve investment allocation would be to replace the exemption of interest on state and local bonds by a taxable tax credit at a rate that would maintain the market value of the bonds. Low-bracket taxpayers would be little affected, while the entire loss of revenue to the Treasury would accrue as a subsidy to the issuers. Upper-bracket taxpayers would no longer have an incentive to invest in such bonds rather than in riskier investments more suitable to their status.

V. Taxing Imputed Income

A more important but politically more difficult measure would be to require the inclusion in taxable income of the rental value of owner-occupied residences. This would not only improve the equity and progressivity of the income tax but go a substantial way toward making more units available for rental and, to a modest extent, promoting the construction of additional affordable rental housing and abating the problem of homelessness. A similar case can be made for including in the income tax base a net rental value of nonbusiness automobiles (equal to interest on the market value of the car), in this case reducing the discrimination against the use of public transit.

VI. Shifting Property Taxes from Improvements to Land

A measure that could provide a powerful stimulus to investment in property improvements would be to replace part or all of the property tax by a tax on land value only, a proposal that can be traced all the way back to François Quesnay and the French physiocrats but which is more recently associated with the name of Henry George. This

would remove the very serious deterrent effect of the property tax on improvements. Unfortunately from the standpoint of a national employment policy, this tax is largely levied by local governments, which are often constrained by constitutional provisions or state laws. Nevertheless some means of bringing pressure to bear on these governments to make this change might be found. Some Pennsylvania governments are already doing this. When levied for municipal purposes, it might be appropriate to exempt from the tax a flat amount per square foot as representing the value of circumambient agricultural land for which the urban government can claim no credit; this would also mitigate discriminations at jurisdictional boundaries.

It is perhaps worth noting that the significance of a government debt would be drastically different in a community relying exclusively on a land-value tax. Such a debt would in effect be a collective mortgage on the land, especially if it can be assumed that land values in the community will vary proportionately over time. Since the interest on the community debt will generally be lower than interest charged on individual mortgages, it can be in the general interest of all the taxpayers of the community for the government to borrow as much as the market will take, even to finance current outlays, provided a suitable margin is left to deal with emergencies. On the other hand such debt financing performs no recycling of savings, there is no room for Keynesian fiscal policy, and Ricardian equivalence is in full sway. This does not detract, however, from the powerful stimulating effect of a reduction in the tax on improvements.

VII. Limitations of "Supply-Side" Measures

Under current conditions, however, such "supply-side" measures designed to operate by reducing the cost of capital are likely to be severely limited in their effect as long as nearly all types of capital facilities are idle or underutilized. Very little "widening" investment is likely to take place as long as there is excess capacity in place. At most, some "deepening" investment in new products or technologies may take place, or there may be corners of the economy where relatively rapid growth has kept capacity fully utilized. Even in such cases, investment in capital facilities may depend more on appraisals of an uncertain market for the product than on the cost of capital.

This is likely to be true not only of tax policy but even more of monetary policy. In any attempt to emerge from present rates of unemployment even only down to the NIARU within any reasonable time period, monetary policy is likely to prove a weak reed, sometimes aptly described as pushing on a string. The main difficulty is that monetary policy bears primarily on short-term interest rates and credit availability and in its usual practice does not directly control long-term rates, which are the important rates for most decisions involving real durable capital formation. The posture of the Federal Reserve System in holding itself ready to slam on the brakes at the first sign of resurgent inflation is poorly adapted to bringing long-term rates down. It does not appear that the Fed has either the will or the resources to do enough about long-term rates to do very much to increase capital formation, especially when idle and underused capacity pervades much of the economy.

VIII. Savings Recycling by Government

This brings us inevitably around to fiscal policy. Here it is necessary to stop thinking of the conventional nominal budget deficit, or even of a current-account deficit in a budget drawn up in terms of distinguishing capital and current-account items, and to start thinking of fiscal policy in terms of its role in recycling savings, in excess of what is recycled by private investment, into the stream of purchasing power. The conventional wisdom seems to argue that increased employment requires that the economy grow, growth requires investment, and investment requires savings; therefore let's encourage saving through IRA's, tax expenditure rather than income, and tighten our

belts to restore the economy to its normal state of health.

It doesn't work that way. Savings are not like a sack of potatoes which if not sold at the current price will stay on hand and put a downward pressure on the price until sold. Savings not immediately taken up to create capital simply vanish in reduced income, without even exerting a downward pressure on interest rates. If I yield to the allurements of tax concessions to IRA's to the point of not having my hair cut, this puts $8 more in my bank account, but $8 less in the barber's account; there is nothing that makes it any easier for anyone to obtain funds with which to create capital, nor anything that makes the prospect more attractive. As Gertrude Stein remarked, "the money is always there, it's the pockets that keep changing." If the barber reacts by curtaling his consumption, this further reduces national income and saving. I may succeed in my attempt to save, but only by reducing the saving of others by even more. Savings are an extremely perishable entity. Say's law fails as soon as part of the income generated in the process of producing the supply is shunted off into savings that fail to get converted into new capital goods.

On the other hand, if some genius invents a new product or process and obtains a credit or borrows the funds needed to finance the capital involved in its production, this added real wealth is, ipso facto, someone's saving. Instead of Say's law, we have "capital formation creates its own saving." Similarly, if the government borrows funds created by credit expansion and recycles them into purchasing power through outlays, whether on current or capital account, this creates both income out of which additional savings will be attempted and demand that may induce the private investment to meet it.

Not all deficit financing, however, results in recycling of savings, whether measured by the current capriciously defined nominal deficit or by a more rational definition involving accounting for government assets. We have seen that in a community relying exclusively on a land tax, recycling does not take place. Nor would the sale of the Pentagon, or the purchase of an office building currently being rented by the government, offset by bond transactions, involve any change in the level of recycling. Government recycling is in principle the excess of those government outlays that are regarded by their recipients as income over those government receipts that are regarded by their payors as reductions in their disposable income. Even this is subject to some caveats: if government investment in a power plant, for example, substitutes for investment that would otherwise have been made by private enterprise, there is no net recycling.

On the whole, however, recycling tends to vary in rough correlation with the nominal deficit, and the strength of the notion in the minds of the public and their representatives that deficits are bad and that the "budget" should be balanced may make it difficult to achieve an adequate level of recycling. Some help in this respect may be obtained by going to a capital budget system, in which balance would be sought only for the current-account part of the budget, borrowing for the capital account being justified by comparisons with corresponding private practices and by the thought that future generations being burdened with the debt would also reap benefits from the capital passed on to them. While this may constrain choice away from what rational voters would have chosen as the optimal level of government capital formation, there would seem to be sufficient scope for government capital investment to provide sufficient recycling to bring about full employment, particularly if investments in education, research, space exploration, and the like are considered eligible for treatment as capital investment. Some of these projects, even if they would not stand scrutiny aside from their function in justifying income recycling, may nevertheless have the same kind of justification as the building of the Egyptian pyramids had for Keynes. On general welfare grounds, one might well prefer recycling in terms of borrowing to finance health care to borrowing to finance space stations, but if borrowing for health care is deemed to create an ideologically sinful current-account deficit, space stations it will have to be.

IX. The Need for Direct Inflation Control

Long before the economy reaches a really satisfactory level of full employment, however, as employment gets to the NIARU level, and inflation threatens to accelerate, the Fed is likely to try to slam on the brakes, and demands for a more stringent budget balancing and cutback of "government waste" are likely to be heard in the halls of Congress. To get anywhere near a satisfactory level of unemployment, some method of dealing with inflation will have to be devised. We are short of tools.

In effect, the economy can be thought of as having three major parameters that we would like to control: the level of employment of human and other resources, the price level, and the division of the resulting total product between provision for current wants and investment in growth and the future. At the same time, we have only two major policy tools: monetary and fiscal policy. In an era when inflation was not a threat, one could think of these two tools as controlling the level of employment and the rate of growth, with low interest rates combined with a deficit or surplus sufficient to maintain full employment leading to high investment and growth, and conversely. However, with a need to control inflation as well, relying on only two dimensions of control is like trying to fly an airplane without ailerons, which were the third dimension of control that was the key to the success of the Wright brothers. A new tool is needed.

Over the past three decades a number of proposals for direct control of inflation have been made, but none has achieved general acceptance. Wartime control of specific prices, accompanied by rationing, was accepted as an emergency measure and worked in part because of patriotic willingness to conform and in part because, being temporary, past prices could be continued without becoming absurd. As a permanent scheme this is probably unworkable and certainly unacceptable. More recent schemes have involved tax incentives of various kinds to provide a countervailing downward pressure against the inherent inflationary tendency of an imperfectly competitive system. Such schemes have generally suffered from difficulties in measuring price changes at an individual-firm level, capriciousness of results when tied to such taxes as the corporation income tax, and possible time lags in adjusting the strength of the incentives to changing circumstances.

X. Market-Based Inflation-Control Plans

A few years ago David Colander came to visit me and reported on a proposal by Abba Lerner for a market in rights to raise prices. Those wishing to raise their prices would be required to purchase the right from those prepared to lower their prices, thus assuring a constant overall price level. While this neatly circumvents the problem of adjusting the strength of incentive to changing inflationary pressures, the problem remains of how to measure price changes in the face of quality changes, new products, and variations in the terms of sale such as delivery, reliability, service, credit terms, tie-in sales, and the like.

More pregnant was the question of how to deal with cases in which prices paid to suppliers have risen. A somewhat similar problem arises with gross receipts taxes, which discriminate in favor of vertically integrated operations and against situations in which the product passes through several hands on the way to the market. In Europe this problem has been solved by shifting from gross receipts taxes and retail sales taxes to value-added taxes, which immediately suggests that instead of a market in rights to raise prices we have a market in rights to value added.

XI. Control with Marketable Gross Markup Warrants

For semantic reasons I have chosen to speak in terms of "gross markups" rather than value added, as being more suggestive of something to be restrained rather than promoted. In principle, gross markups simply refers to the excess of sales revenue over amounts paid for nonprime inputs. In operation, warrants for gross markups for a

prospective accounting period would be issued to each firm on the basis of the gross markups for a corresponding preceding period, plus or minus adjustments for changes in prime inputs such as labor and invested capital. These warrants would be issued in sufficient total face value to correspond to the value at a desired price level of the output expected to be produced by the inputs against which the warrants were issued. They would be freely tradable for cash in a competitive market, and if at the end of the accounting period a firm is found to have retained or acquired fewer warrants than the actual amount of its gross markups for the period, a penalty tax would be assessed. This tax would not be a substantial source of revenue, but would serve merely as an enforcement device. It could be set at a level fairly certain to be higher than the market price of the warrants.

Adjustment of the warrant issue for changes in investment could be made simply on the basis of a uniform percentage of such change. Adjustment for changes in employment is somewhat more difficult: a flat amount per employee or man-hour takes too little account of variations in qualifications, while to allow adjustments equal to payrolls would run a danger of allowing inflationary wage increases. Some formula such as a percentage of payrolls plus a flat amount per employee might be satisfactory; such a formula would involve a certain bias in favor of the employment of low-skill labor, which may be considered desirable in view of the fact that this is where the unemployment problem is most serious.

Administration would seem to pose no insurmountable problems. Determination of gross markups is essentially no different than the assessment of a value-added tax such as is widespread in Europe. Adjustment for investment can be made on the basis of accounts already needed for income-tax purposes, while adjustments for employment can be related to the social-security records. Some special methods may have to be developed for dealing with the self-employed and very small firms, and possibly some classes of firms could be excluded from the scheme, as is sometimes done with the value-added tax.

XII. Prospects for Rapidly Reaching Genuine Full Employment

With such a scheme in place, what can we plan for in terms of getting from where we are to full employment? Currently unemployment is reported as about 7.5 percent, and full employment can be reckoned at about 1.5 percent, giving a slack to be made up of 6 percent. Using Okun's ratio of percentage change in GNP to percentage change in reported unemployment of 2.5, we have a slack of 15 percent to be made up. If this slack can be taken up within two years, this will be 7.5 percent per year; if to this we add 2.5 percent for growth in the labor force and in productivity, we get 10-percent annual growth in GNP over two years. After two years, we hit the full-employment ceiling, and growth thereafter will be limited to the labor force and productivity factor, possibly between 2 percent and 4 percent.

Is public finance up to the job of reaching the goals thus defined in terms of the limits of our real resources? Possibly, but it requires breaking new ground. One would have to begin with increasing government recycling as rapidly as possible by 8–10 percent of GNP in order to inaugurate the 10-percent growth rate. How rapidly this could be done would of course depend on the political and legislative ambience. From some points of view the fastest and easiest way to do this is by tax cuts. Unfortunately, if tax cuts are temporary they tend to be viewed as windfalls to be saved rather than spent, so that only part of the tax cuts are effectively recycled. Alternatively, if not announced as temporary, tax cuts tend to create a resistance to later tax increases called for by full-employment conditions and large debt-service requirements. This is especially threatening in the present context of political campaigning on the basis of promises of no new taxes. Perhaps the best tax cut would be a cut in the payroll taxes, as promising the maximum proportion of recycling, if this

can be done in the face of outcries that this would be jeopardizing the financial soundness of the social-security system.

Outlays on actual programs, on the other hand, are somewhat harder to start and stop rapidly. There is also the need not to get too far ahead of the effective operation of whatever anti-inflation program is put in place, whether the program of gross markup warrants proposed above or some other, lest anticipatory speculation and inflation get out of hand. The exact program for the start-up period will require careful study.

What happens after the first few months will depend to a large extent on what Keynes called the "animal spirits" of the financial community. At one extreme there could be such horror and alarm at the violation of the conventional wisdom concerning the sinfulness of deficits as to produce a widespread hibernation and flight to foreign shores. More likely, once the financial community has become convinced of the seriousness of the administration's purpose to bring about full employment, and once it is anticipated that demand will shortly use up the spare capacity of existing productive facilities, private capital formation may pick up to the point of absorbing and recycling individual savings sufficiently so that government recycling may for the time being become unnecessary. At the same time, government revenues from increased GNP will increase and outlays for unemployment insurance and welfare will decrease. Also, there may be a need to shut down those governmental programs that compete for real resources with private capital formation, in order to avoid a real "crowding out" (as contrasted with the financial crowding out alleged to occur as a result of government borrowing associated with a tax cut). As a result, a brief period of budget balance or even of surplus may become appropriate.

As the economy hits the ceiling of full employment, however, still another transition becomes necessary. For a while capital formation may continue on its momentum, recycling savings but producing excess capacity that either cannot find labor with which to operate or cannot find markets in which to sell its product. Within a short time after hitting the full-employment ceiling, capital formation will have to drop from that appropriate to a 10-percent growth rate to that suited to a far slower growth rate. At this point attempted savings may again exceed what can be absorbed by private capital formation, even at very low rates of interest. Other ways to recycle the excess will again become necessary, one of which will be renewed government recycling.

XIII. Long-Term Excess of Demand Saving over Private Investment

There is, indeed, no principle of economics that says that there will always be a feasible rate of interest that will equate desired savings and private capital-formation under conditions of steady full employment. Current trends seem to be such as to make such a possibility unlikely. One factor has been a spate of capital-saving innovations and practices. Fiber optics, when fully utilized, costs less per unit of service than previous technologies by orders of magnitude, leaving ductways planned for copper conductors forever surplus; electronic exchanges occupy a fraction of the space formerly required by equivalent electromechanical exchanges; just-in-time practices reduce investment in inventory; improved communications enable more freight to be carried on a single track line with sidings than was formerly carried by a full two-track line; a man assembling electronic gear with a soldering iron uses far less capital than the man in the pulpit of a rolling mill, and service industries generally use less capital per employee than manufacturing, mining, or transportation.

Moreover, before gross investment can begin to recycle private savings, it must first recycle funds set aside in depreciation, amortization, depletion, and obsolescence charges, while rapid obsolescence due to accelerating technological progress makes capital formation relatively insensitive to changes in interest rates. Very low or negative interest rates may stimulate investment in nondepreciating assets such as land, but

even this is limited by the possibility that speculative bubbles may burst, and in any case relatively little recycling is produced thereby, except to the extent that the enhanced asset values cause owners to feel wealthier and spend more.

On the savings side, increased longevity and the high cost of old-age illness lead to increased savings through funded pensions and other provisions for retirement. For this purpose, the lower the rate of interest, the greater is the amount of current savings that must be put aside to provide a given level of retirement security. More recently the increased concentration of income among the very wealthy, who have a high propensity to save, not so much for eventual consumption but largely to accumulate chips with which to play financial games and exercise economic power, has further added to the savings-recycling problem. Some recycling may take place through investment abroad, reflected in a positive trade balance and the production of goods for export, though it is uncertain how far this can be carried in the face of political instability, the danger of creating repayment problems, and the resistance of foreign governments that do not have an effective full-employment policy of their own to our exporting our unemployment to them in this way.

On balance, it may prove impossible, for the foreseeable future, to maintain a steady state of genuinely full employment without a substantial amount of government recycling of savings, a chronic budget deficit, and a long-term increasing trend in the national debt, however distasteful this may be to those ideologically addicted to a balanced budget. It may even prove necessary for the debt to grow at a rate faster than the growth of GNP. The burden of servicing this debt might be kept within bounds by reducing real interest rates, close to zero if need be, though this might imply a higher level of private investment than would be chosen on its own merits. Even contemplating such prospects calls for a significant expansion in our range of habitual thought.

XIV. The Task Before Us

This, then, is the challenge I lay before the economics profession. There is no reason inherent in the real resources available to us why we cannot move rapidly within the next two or three years to a state of genuinely full employment and then continue indefinitely at that level. We would then enjoy a major reduction in the ills of poverty, homelessness, sickness, and crime that this would entail. We might also see less resistance to reductions in military expenditure, to liberalization of trade and immigration policy, and to conservation and environmental protection programs.

I lay before you a plan I believe can accomplish this. It involves government recycling of excess savings plus a method of keeping inflation under control. I believe it can do the job while preserving the essentials of a free-market system. There may be some details to be worked out, but I am confident that the basic concept is sound and workable.

We simply cannot carry on as we have been doing without falling apart as a community and losing what is left of our status of world leadership. If you don't think that something like this can be made to work, then it is up to us to get together to find something that will. Otherwise, if we continue to tie our hands with financial shibboleths and models that tacitly assume a fixed total of resource utilization, we are no better than the feckless castaway whose contribution to the solution of the problem of dealing with cases of canned goods was "let's just assume we have a can-opener."