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ABSTRACT

Economic policy today is often stated in the terms of "demand managers" and "simple supply-siders" who look upon economic policy simply as a matter of stimulus or restraint. It matters little what programs are cut as long as overall spending is reduced to cool inflation. On the other hand, the real supply-side economists recognize the necessity for an education, training, and social services structure to develop human capital into a productive work force. Current antinflationary policies are especially destructive of human capital development, the real force that will lead to increased prosperity. A plan of moderate, rather than indiscriminate, budget cutting would be more sensible; this plan should scrutinize every expenditure, sparing certain ones, such as for vocational education, that have a potential for encouraging productivity and price stability. As we move toward this type of real supply-side policies, programs that emphasize the development of human capital should become more important. Also, if supply-side policies are to succeed, they must be more decentralized in their application. The real supply-side economics would encourage an increased capacity for bottom-up, subnational economic development. Vocational education should continue to play a major role in this process of development. (KC)

Occasional Paper No. 80

THE REAL SUPPLY-SIDE ECONOMICS

by

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FOREWORD

With the current climate for economic revitalization of the United States, a critical new perspective of how the economy must change is being formulated. Dr. Anthony P. Carnevale, a consulting economist with private industry and the Congress, gave his remarks on this new topic of supply-side economics at a National Academy for Vocational Education conference on productivity and economic development.

In his present and past positions, Dr. Carnevale has been active in the development of economic policy. Prior to his current position as a consulting economist he was the Legislative Director for the American Federation of State, County, and Municipal Employees, and the Senior Budget Appropriations and Authorization Analyst for the U.S. Senate Committee on the Budget. He was also Fiscal Analyst for the U.S. House of Representatives and Senior Policy Analyst for the U.S. Department of Health, Education, and Welfare. Dr. Carnevale is co-author of the landmark U.S. Supreme Court case, Rodriguez vs. San Antonio, concerning the equitable financing of elementary and secondary education. At the local level, he served as a social studies teacher and school administrator.

Dr. Carnevale received his Ph.D. degree from the Maxwell School of Citizenship and Public Affairs at Syracuse University. He also holds a Master's degree in Social Science and Public Administration. His areas of specialty were public finance economics, urban studies, and public administration.

On behalf of the National Center for Research in Vocational Education, The Ohio State University, it is our pleasure to share this insightful presentation by Dr. Anthony P. Carnevale entitled: "The Real Supply-Side Economics."

Robert E. Taylor
Executive Director
The National Center for Research
in Vocational Education

THE REAL SUPPLY-SIDE ECONOMICS

I am here today to talk to you about economics. When I say "economics," chances are that your thoughts flash back to some college instructor who bored you to death with an econometric world that really did not resemble the world of flesh and bone in which you lived.

Well, you may rest easy. I am not going to talk to you about the latest econometric mousetrap. Instead, I am going to talk to you about an economic debate much closer to your hearts—an economic debate whose outcome will largely determine the size and character of the American education, employment, and training system in the foreseeable future.

The debate focuses on alternative approaches for remedying our current economic malaise. On the one hand are the "demand managers" and the "simple supply-siders." The economic policies of both the demand managers and the simple supply-siders are flawed by their reliance on narrow, nationwide policies of stimulus and restraint. The only important difference between the demand managers and the simple supply-siders is that the simple supply-siders favor stimulative measures that channel additional income toward people who are likely to be savers and investors, while the demand managers take a more indirect route. They prefer stimulative measures that channel income toward consumers.

The methods for demand managers and supply-siders are the same. Stimulative economic policies are limited to nationwide tax cuts and discretionary money. Occasionally, spending increases are encouraged for stimulative purposes, but these increases are indiscriminate. For the demand managers and simple supply-siders, it is the *overall* level of spending that is important for economic policy—the way in which this money is spent is not crucial.

Antiinflationary policies of restraint are limited to "tight" money and attempts to hold down or cut spending. To the demand manager and the simple supply-sider, it matters little which programs are restrained or cut so long as the aggregate increase in spending is reduced. It is to be reduced to cool inflation and increased to prime growth.

What should concern you most is that demand managers and simple supply-siders, in their allegiance to generalized fiscal and monetary policies, seem to agree that the only economic role possible for public education, employment, training, and social service institutions is, at best, as a "safety net" to maintain those who do not share in the largesse of the American economy. In the worst situations, these systems serve as budgetary cannon fodder in the war against inflation.

Alternatively, the *real* supply-side economists recognize the necessity for an education, training, and social services infrastructure to develop human capital into a productive and mobile work force. The real supply-siders know that, as a matter of course, we must improve the productive quality of the American work force, expedite its continuous integration with applied technologies, and increase the rapidity with which we respond to the relative changes in price between labor costs and other factors of production. It follows that the real supply-siders recognize the necessity for education, training, and retraining if we are to attain consistent growth and stable prices.

In my view the future of vocational education, indeed the future of the American economy, lies with the real supply-side economics. What I hope to do in this talk is to give you a perspective beyond the current battle of the budget, and to look at new demands that will surely be made on you as "simple supply-side economics" gives way to the more urgent realities of the current economic malaise.

Let me begin with some general remarks as to where our economy has been, and where it is today.

The Historical Roots to Our Current Economic Malaise

The Second World War marked the United States' first great economic leap forward. Gradually, a new social optimism was born from this economic success. The hothouse economy of the postwar increase in productivity made it seem as if we could produce enough materials goods to drown social problems in a sea of resources. Social conflict, and the ideologies that fed upon it, would be abolished forever. Our principle problem as we ran pell mell towards the postindustrial society was to provide for meaningful leisure-time activities.

Without repeating the familiar litany of decline, suffice it to say that things have changed for the worse since the forties. Our current concerns are not misplaced. We are finally beginning to react to economic decline. After ignoring our industrial base and presuming our economic invulnerability, Americans have been jolted into the realization that we must attend to the care and feeding of our economy. America's basic economic problems are no longer the exclusive province of wide-eyed futurists and academic economists. We were all warned of the impending economic crisis, but it was only when the Arab oil embargo convulsed us into gas lines and an 18 percent rate of inflation that each of us wondered if this first mild economic stroke was not the harbinger of something worse.

It is commonly explained that our current economic malaise is little more than the evidence of our inevitable adjustment to changing circumstances in the international economy. Descriptive explanations of our current economic status, however, beg the question. The real question is how, with our massive economic lead, abundance of natural resources, and trained work-force, did we lose our economic preeminence in the world? The answer, in my view, is that our economy has not been able to adapt as quickly as the economies of our competitors to the opportunities for production appropriate to an advanced industrial economy. That failure begins with our wornout domestic economic organization, or with the realities of modern-day international competition.

It is my view that our current insistence on wornout policies was firmly established by our dramatic successes of the past forty years. The snake in our garden of successes has been success itself. Experience taught us facile and aloof economic policies that encouraged ignorance of the actual engine of economic growth. An important cog in that engine is the self-conscious development of a productive work force.

In the late forties, the abundance of resources organized for war production remained stimulated during the postwar era by the pent-up demand for consumer goods that war wages provided. The result has been forty years of relatively effortless growth. As a result, our economic policies have been limited to broad-gauged fiscal and monetary interventions necessary to manage growth. There has been no need for a broader and more articulate set of policies to promote production. We have been allowed to largely ignore resource mobilization, the development of human and machine capital, and the process of production itself. Instead, we have remotely and neutrally leveraged the mobilization of resources and the application of technology through the management of demand.

To oversimplify the situation somewhat, we have stimulated economic growth and tempered inflation by moderating the amount of income available for spending. Spending, translated into the demand for goods and services, stimulated production. Production generated employment and wages available for more spending—which created more production and more wages. If this self-sustaining, upward spiral of economic growth was not moving fast enough, we hedged it with broadly based stimuli—usually in the form of tax cuts. If the spiral spurred upward too quickly, we slowed economic growth and the rate of inflation by bleeding money out of the economy until production and income growth achieved some rough balance.

Income growth also resulted in increased public revenues that had to be spent so they would not act as a fiscal drag on the economy. However, fiscal drag proved to be a happy problem. We tended to use public revenues to maintain or compensate those who, for one reason or another, did not share in the economy's largesse. Government policies, especially federal policies, evolved as arbiters of economic equity—not as vehicles for the promotion of human capital development or economic efficiency. Public revenues could be used to paper over the social failures of production and to pay for its negative external effects.

Our economic system seemed to have the self-sustaining power and perfection of a social gyro. Once set in motion, it spun freely at ever-accelerating rates. Production generated income, which in turn encouraged production. All that economic policy had to do was to brake or nudge this spinning wheel. Moreover, public interventions such as vocational education, Job Corps, or economic development efforts, largely found in schools or public agencies, could be neutral and remote from production itself. These public sector economic levers braked or nudged the free-spinning economic wheel externally at the point of demand. Economic policies for the general development of human capital, resource management, and the integration of labor and new technologies were unnecessary.

Our past policies are no longer appropriate. They are not responsive to the complexity of our nation's economic problems. They are not compatible with the current organization of our national and international economies. Demand management and its distant cousin, "simple supply-side economics," fall into a "macroeconomic policy trap." The trap consists of an overreliance on broad, nationwide fiscal and monetary policies. The result is an unavoidable vacillation between restrictive and stimulatory policies. Restrictive policies end prematurely when they create intolerable unemployment and unconscionable interest rates. Subsequent stimulatory policies end prematurely when they result in an astronomical rate of inflation. Neither the restraints nor the stimuli ever achieve their desired effects. The trap closes as a persistently high rate of inflation reduces the allowable stimulus, and as economic stagnation makes aggressive restraint unwise. Because of this trap, neither effective stimulus nor restraint is possible.

Stagflation, a combination of stagnant growth and inflation, is the elusive quarry that draws us into that trap. This hybrid calamity is the new test for economic policy. We no longer face the luxury of single-minded assaults on either inflation or stagnant growth. A single-minded, broad-based stimulus is inevitably inflationary because its seeds fall equally on fertile and infertile fields. A single-minded, broad-based restraint frustrates possibilities for productive growth as much as it curbs inflation.

Today, our national and international economies are less responsive to traditional macroeconomic policy tools. The free-flowing international marketplace has long since been replaced by a system of government-to-government trade patterns and the aggressive intervention of multinational corporations that dwarf most governments in size and power. Scarcity in natural resources, the need for new product markets in developed nations, and the new independence of resource-rich, underdeveloped countries can only accelerate that trend.

At home, the "invisible hand of the marketplace" has been slowed by the "invisible handshake." Economic decisions are determined by a complex set of relationships and expectations between firms, workers, and customers. As a result, wage, price, and production decisions are becoming increasingly independent of overall economic conditions.

The effect of this complex economic reality is evident in the intransigence of the current inflation rate in the face of traditional monetary and fiscal restraint. We reduce demand, but wage and price decisions are increasingly independent of overall demand conditions. The mutual trust and loyalty between firms, their workers, and their customers (not to mention the cost of finding and training workers and cultivating customers) make firms loathe to disrupt expected patterns in wages and prices. Other factors such as multiyear wage contracts, wage and price indexing, fixed percent pricing, and the publicly provided social safety nets further reduce the leverage in traditional demand restraint.

The intransigence of the current inflation rate in light of traditional economic restraints is evident in the increasing economic and social costs enacted for marginal reductions in wages and prices. The social and economic costs of our policy-induced recessions weaken our resolve to continue an aggressive restraint long before the desired antiinflationary effect is achieved.

Eventually, the single-minded emphasis on overall fiscal and monetary restraint fails. The effects of such policies overwhelm the nation's social and economic capacity to pay for them. At some point, policies move abruptly from aggressive restraint to emergency stimulus. The government inevitably falls into a pattern of stop/go policies that are disruptive of consumer and investor confidence.

The Effect of Current Antiinflationary Policies on Human Capital

Our current antiinflationary policies are especially destructive of human capital development.

The cost of wages constitutes more than half of the nation's annual economic activity. Because of the importance of wages in economic activity and the sheer visibility of wage decisions, antiinflationary strategies have historically tended to concentrate on reducing wage increases as an indirect means of reducing prices. We attempt to reduce wages by encouraging slack labor markets through generalized economic restraints. But these restraints are merely a euphemism for budget cuts and tight money in the interest of encouraging unemployment.

In the wake of the failure of public efforts to increase employment and in the face of mounting evidence that wage and price decisions have little to do with overall economic conditions, it appears that we are using *people* as common fodder in the war against inflation. It also appears that we are using them to no avail. The current reliance on restrictive demand policies encourages unemployment in the short term, and discourages investment in the work force in the long term. Alternatively stated, our current policies have a "double negative" effect on the quantity of jobs and the quality of the work force.

Unemployment is bad politics. It is an even worse economic policy. The losses in human capital (and eventually, in economic productivity) are mammoth. Current estimates suggest that as much as 30 percent of our current, precipitous drop in productivity results from underemployment and unemployment of human capital. In order to reduce inflation by 1 percent, we must throw one million people out of work for three years. Moreover, maintaining even one million unemployed people costs as much as $25 billion in federal budget deficits for a single year—roughly $10 billion in various support payments and $15 billion in lost revenues.

The psychological impact of unemployment has its economic costs as well. The negative economic expectations derived from high unemployment are every bit as powerful as those that result from expected inflation. Where unemployment is high, so is economic insecurity. Few people take risks when they live on the ragged edge of economic necessity. High unemployment discourages self-initiated improvement in skills and training because an immediate economic payoff is not apparent. Alternatively, the economic security that comes with an almost fully employed economy provides longer planning horizons for both individuals and economic institutions. Security encourages people to take risks. Security builds trust in economic futures.

Trust and confidence in the economic future is built with the measure of choice and opportunity that high levels of employment provide. It is of inestimable economic value. The Japanese and some of our other competitors are willing to subsidize export prices in order to ensure full employment at home because they know the economic value of the longer-term investment horizon, for both labor and capital, that full employment allows.

The current public debate over the level of unemployment necessary to fight inflation is also being fueled by a consideration of the losses in national economic output that are occasioned by the persistent and high levels of unemployment. Such high levels of unemployment have characterized the American economy for the past several years. According to the late Arthur Okun, for instance, our current antiinflationary policies cost $200 billion in lost output for every single percentage reduction in inflation. Professor Steven Sheffrin calculates that the failure of the American economy to sustain an unemployment rate equal to the 4.1 percent attained in the Eisenhower years has cost the nation more than $2.3 trillion in lost output.

The dynamics of fiscal restraint in the form of budget stringency is especially destructive of human capital. In order to reduce inflation one-tenth of 1 percent, for instance, we must eliminate some $15 billion in federal spending. These spending cuts inevitably fall on what little human capital development monies there are in the federal budget. The federal budget—at roughly $600 billion plus—seems huge; but in reality, there is little room for cuts. Fifty percent of the budget is for income maintenance programs such as Social Security, unemployment compensation, retirement benefits, and similar programs that have grown almost uncontrollably with the relaxation of eligibility requirements. Seventy-five percent of this fifty percent figure is for Social Security and Medicare expenses only. These benefits are mandated by law and are difficult to cut. While these programs provide resources to maintain individuals, they provide little in the way of human capital development. Another quarter of the budget goes to the military. Theoretically, that money is perfectly cuttable; but in the practical politics of Congress, military spending is and will continue to be a sacred cow.

The remaining 25 percent includes virtually all state and local aid, in the form of education, employment, social services, and economic development spending. Budget cuts inevitably focus on this final quarter of the federal budget—to the detriment of human capital development.

What is worse is that no one really believes that balancing the federal budget will have a direct, beneficial effect on the rate of inflation. In fact, even proponents of this strategy will agree that the current proposal to cut $40 to $45 billion from federal spending will, at best, reduce inflation by three-tenths of 1 percent. Common sense tells almost everyone that cutting $30–$45 billion from the federal budget will not change the course of a $2.7 trillion economy. Tails do not wag dogs, even in economic theory.

The federal deficit has very little to do with inflation; even Milton Friedman has conceded this point. The current deficit is about 2 percent of the Gross National Product (GNP). In 1976, when inflation was about half the current rate, the deficit was twice its current size. Nor is the national debt the culprit where inflation is concerned. The national debt has not grown as a percentage of the GNP. At $1 trillion, it is roughly 57 percent of the current GNP. In 1960, the debt was only $290 billion, yet it constituted 57 percent of that year's GNP of $506 billion.

We are caught in a vicious circle in our attempts to control inflation. Depressed demand, in the interest of price stability, atrophies our basic productive capacity and encourages the upward creep in the noninflationary (and therefore immutable) rate of unemployment. That rate, the rate of unemployment at full employment, is now nearly 6.0 percent. As our human and physical resources wane, output declines further and unemployment rises. Panicked attempts at increasing employment through tax cuts and other general stimuli only result in further inflation as increased spending power falls equally on growing and stagnant industries.

I do not mean to imply that national budgetary stringency is unimportant. Federal borrowing crowds out private borrowing. I would like to say, however, that our narrow reliance on budgetary stringency as a principle tool for antiinflationary fiscal restraint has led to "meat axe" budget cutting that results in illusory budget savings.

We all need to be reminded that it is not the budget that drives the economy, but the economy that drives the budget. For instance, every 1 percent increase in unemployment adds $27 billion to the federal deficit and every 1 percent in interest rate increase adds $15 billion to the deficit. In the long run we will realize our budgetary goals only if we are successful in expanding our nation's economic capacity.

It is shortsighted to reduce commitments to programs, such as vocational education, that can have a positive effect on the nation's productivity and growth possibilities. Short-term economies in our investment in a productive work force are illusory. I carry no brief for current programs or their concentration in the public sector. Programs may justifiably disappear, but the problems they were intended to address will not. The alternative to the promotion of employability among the disadvantaged is greater public dependency and even higher income maintenance costs. The alternative to policies that provide retraining and relocation of experienced workers is a vigorous protectionism and a waste of our experienced workers.

Budgetary stringency is good economic management. But the current, indiscriminate budget cutting, with its disregard for the potential economic worth of individual programs, is not our answer. A plan of more moderate budgetary stringency would be more sensible. A deliberate and persistent budget strategy would scrutinize every program and tax expenditure for their effect on productivity and prices. Those such as vocational education, which have a potential for encouraging productivity and price stability, should be spared the budget cutters' axe.

The Real Supply-Side Economics

If we are to escape the self-destructive economic policy trap, with its characteristic, indiscriminate reliance on generalized policies of restraint and stimulus, we must broaden the scope of economic policy. The hallmark of a successful economic game plan is a reduced reliance on traditional monetary and fiscal policies—supplemented by a broad array of new supply-side policy levers.

To reiterate, the only important difference between the demand managers and the simple supply-siders is that the simple supply-siders favor stimulative measures that channel additional income toward likely savers and investors. Demand managers tend to channel stimuli toward consumers.

Their methods are the same. Stimulative economic policies are limited to nationwide tax cuts and discretionary money. Occasionally, spending increases are encouraged for stimulative purposes, but those increases are indiscriminate. It is the overall level of spending that is important for economic policy—the way in which the money is spent is not critical. Restraint is limited to tight money and attempts to hold down or cut spending.

To the demand manager and the simple supply-sider, it matters little which programs are restrained or cut so long as the aggregate increase in spending is reduced. It is to be reduced to cool inflation and increased to prime growth.

A reduced reliance on nationwide monetary and fiscal measures, supplemented by additional supply-side policies that target restraint on inflationary economic activities and stimulus on possible productive growth, allows the nation to pursue competing economic goals of inflationary restraint and growth simultaneously. Moreover, such a tactic would allow for more moderate (and thereby attainable) monetary and fiscal policy targets, putting an end to the restrictive stop/go policies of the past.

An expanded supply-side policy will require increased priority for programs such as vocational education that can have beneficent effects on productivity and price stability. New supply-side policies will also require other changes, including a reformulation of current programs and policies to reflect a more careful balance between economic and social purposes, a shift in the current top-down nationwide perspective in our economic policies toward a perspective that encourages bottom-up subnational economic development consistent with the geographic diversity in the nation's economic base, new policies targeted on the price and wage structures of individual economic sectors, and new cooperative arrangements among government, business, and labor.

The Quantity of Work and the Quality of the Work Force: The Importance of Human Capital

As we move toward more articulate supply-side policies, programs that emphasize the development of human capital should become more important. The current deliberations in the Congress ignore human capital in favor of tax incentives for an increased supply of machine capital. In our rush to ensure a steady supply of applied technology and machinery, we ignore human capital. We do so at our peril.

The evidence that we have ignored and continue to ignore the economic importance of human capital is compelling. One striking bit of evidence is the dramatic rise in corporate expense for educational remediation and training. Recently, the Conference Board, a respected private sector association of Fortune 500 companies, reported that 35 percent of the firms it studies now provide significant remedial training in reading, writing, and arithmetic. Some put the cost at $20 billion. More general evidence of our neglect is available in an analysis of the composition of our recent growth in employment.

Between 1973 and 1979, about 13 million new nonagricultural jobs were added to the American economy: a remarkable achievement that far outstrips any of our competitors. Many take comfort in this fact as the final proof of the health of the American economic system. I do not. What disturbs me is that the growth was concentrated in low-wage and labor-intensive jobs. These jobs offer short hours (generally less than thirty hours a week), low wages (usually minimum wage), and tend to be dead-end jobs. What is most disturbing is that these jobs tend to be concentrated among women and new entrants to the labor market: the people upon whom our future productivity depends. In summary, most of the growth in the American economy is leading toward an economic structure characterized by poorly paid and unproductive work.

We have arrived at a point where neither the quantity of available work nor the quality of the work force is sufficient. While the disappointing overall growth in the American economy encourages unemployment and low-skill/low-wage work, shortages in high-skill/high-wage jobs mount. The federal government's proposed synthetic fuels program, for instance, originally assumed production levels that would have required fully half the available engineering and professional labor pool in that industry. According to the National Tooling and Machinery Association, we currently lack about 60,000 skilled machinists. If present trends continue, the shortage will mount to 250,000 by 1985. These shortages persist in spite of the fact that machinists can make annual salaries of $30,000 or more.

Massive new public commitments to defense and energy production are likely to result in further shortages of skilled labor and consequent inflationary bottlenecks in production. We are currently planning a surge in defense production three times that necessary to fight the Vietnam War—and we intend to spend the money in roughly the same time span. In addition to policies to ensure the availability of a skilled work force for military and energy production, we will need to cater carefully to the skill requirements of civilian industry lest it become starved for skilled workers and capital. A second-rate economic power cannot afford a worldwide military presence.

The gap between available skilled jobs and skilled workers is already evident. We see more and more statistics that demonstrate severe skill shortages among American workers. In a statement to the press on March 16, 1981, the President noted that he had found thirty-three and one-half pages of want ads in the Sunday, March 15 *Washington Post*. A close analysis reveals that at least 1,900 of the advertised jobs required some specialized, institutional training. Approximately 85 percent required institutional training of one year or more.

The most disturbing evidence of the problem comes from a series of studies which suggest that our failing competitive advantage in foreign markets is due to our short-sighted government policies. Recently, the Bureau of International Labor Affairs in the U.S. Department of Labor reported that the decline in United States trade performance since the 1960s is the result of differences in the growth of net real investment in equipment and in the acquisition of labor skills through education and training. Between 1963 and 1975, the United States' share of the world's skilled workers fell from 29 percent to 26 percent. We have dropped from second to seventh in the measured "skilled endowments" of our workers. The result of this ominous trend is that the skill content of American imports increases while American exports steadily lose their competitive advantage.

In light of accelerating economic changes, our tendency to ignore the economic importance of vocational training will cost us dearly in the future. The coming decades will see rapid industrial change as national competitive advantages sort themselves out in an increasingly competitive world economy. Highly skilled labor and highly productive industries will increasingly concentrate in industrialized nations. Unskilled labor and unproductive industries will concentrate in those developing nations that substitute labor-intensive production for technology in their first steps up the developmental ladder.

Competition for highly skilled labor and highly productive industries will increase among industrialized nations. That competition is accelerating right now. We will maintain our international economic preeminence only if we learn to continuously integrate new capital and labor to produce new products with newer, more efficient methods.

If we are to succeed, national economic policy must recognize labor as an economic resource to be developed and continuously refined.

A rapidly shifting industrial base and accelerating international competition will increase the need for occupational and geographic mobility in the nation's labor. Both will be more difficult as the labor force ages. Nothing threatens growth more than the proliferation of defensive "protectionist" measures that protect workers from structural changes. In order to avoid protectionism, we need a long-term commitment to continuous skill upgrading and education and training for all workers. The primary tools for such a policy already exist. They must be expanded and consolidated into a comprehensive policy with much greater involvement and cooperation from private industry and labor.

The Shift to Human Capital: From Redistributive to Developmental Strategies

A new economic role for human resource development, including vocational education as an important contributor, will not come without a careful reformulation of current policies. Our current policies and programs were crafted in an era of effortless growth. Current public programs were crafted in an environment when the essential economic and political issue was the equitable distribution of a growing economic pie. Policies and programs were designed to allow able-bodied workers an equal opportunity to partake of the largesse that growth provided, and to maintain those who could not fully participate in the nation's economy. Human resource policies were focused on production. They presumed a competitive and successful private sector.

Effortless growth no longer prevails. The dominant economic issue has shifted from the distribution of a growing economic pie to growth itself. Human resource policies that focus exclusively on the distribution of the economy's largesse and income maintenance are no longer appropriate. Instead, there is a shift in emphasis to developmental policies that emphasize the use of human capital as a productive resource.

Programs such as vocational education, the stepchildren of the "War on Poverty," assume a new importance. Vocational education's ties to the private sector and its concern with the general productivity of the labor force (especially prior to amendments in 1968), encourage its sudden preeminence among human resource programs.

The realization of that preeminence will not come without change. Federal dollars, for instance, are likely to shift from general programs to more targeted economic purposes. Already there are rumblings to use current federal dollars for a Vocational Education Opportunity Grant—a VEOG, if you will. There is additional pressure to attach vocational funds to industrial policies for high technology and other industries. There are additional proposals to close the new U.S. Department of Education and move all educational involvement into the Departments of Labor and Commerce.

There are more than political currents at work. The demography of labor markets will demand change. As the members of the baby boom age and the incentives for early retirement recede, vocational education's clientele will age. If fertility rates hold steady or decline, more clients will be female. More directed job training and more retraining of the work force will be required. The complexity of career decisions made by adults will require more sophistication and supportive services. Moreover, it is likely that these services will be delivered in environments further removed from the traditional classroom and closer in concept and actual physical location to the world of work.

From National to Subnational Economic Development

If supply-side policies are to succeed, they must also be more decentralized in their application. New policies, if they are to be effective, will devolve from a national to a subnational policy focus. Earlier, I explained that our current national policies fail in part because they do not satisfy the industrial and geographic variability that underlays the so-called "national economy." As a result, the stimuli contained in these national economic policies fall equally on fertile and infertile economic fields—simultaneously giving us growth from productive sectors and inflation where growth possibilities do not exist. Similarly, economic restraints cool *overheated* economic enterprises, but simultaneously stymie growth in industries where growth is possible.

A reduced reliance on broad-gauged economic policies, supplemented with more articulate policies that are targeted separately on stimulus and restraint, will bring some relief from the current situation of stagnancy and inflation—a situation that present policies encourage.

Current proposed national industrial policies are a step, but only a step, in the right direction. "Picking winners" on the basis of national industrial performance ignores the geographic heterogeneity that is characteristic of individual industries (i.e., an industry may be doing badly nationally, but may be doing well in some specific locale, and vice versa).

The fundamental flaw in such proposals is that they continue the top-down perspective of current policies. The national economy is a statistical creation. It exists largely in the computer banks of federal statistical agencies and in the econometric niceties of the major economic models. It is a useful tool for descriptive and predictive purposes, but it is overused as a rubric for policy. It has no flesh and bone. Economic growth does not proceed from the top down; it begins with infinitesimal sympathetic uses of labor, capital, and resources, and proceeds from the bottom up.

The real supply-side economics would encourage an increased capacity for bottom-up, subnational economic development. The dim outlines of subnational economic development systems exist in many places, born of inter- and intra-area competition. Vocational education is already a companion to many of those systems. Where it has not already done so, it should assume its proper responsibilities in local and area development.

The federal government has much to learn from these efforts in its own attempt at national policies. At a minimum, federal policies should not set asunder what local self-interest has joined. Instead of discouraging the national arrangements that are evolving in many areas, the federal government should attempt policies and programs that allow their nascent systems a perspective beyond the inter-area economic competition that gave rise to them. In vocational education or in other areas, the federal government should supply encouragement, information, dissemination of research on best practices, and should encourage linkages and complementarity in federal programs.

Cooperation

The keystone to the success of an expanded supply-side policy is in increased cooperation among government, business, and labor concerns. Our history of effortless growth has organized us into adversarial groups for the purpose of distributing the growth dividend. A society organized for distribution is inimical to growth. Economic production is a cooperative venture by its very nature.

The success of vocational education as an economic policy will rest on its ability to cooperate with its sister institutions in the public sector: the employment services, CETA, the private industry councils, and others. Its ability to move closer to private sector training will be equally important. This is especially true as the vocational education client increasingly becomes an adult with prior work experience.

The relationship between vocational education and private training is already strong when compared to its public cousins. It needs to be stronger. The substantive and physical distance between public and private training should be reduced. Neither will replace the other. Private training follows the short-term boom and bust of the business cycle, while public training can afford a longer and more persistent view. Public training maintains the constant quality of the labor force when the business cycle discourages private investments in human capital.

In addition, closer cooperation can be of mutual benefit. Public and private entities can share personnel, equipment, capital, and facilities. National policies to expand allowable tax expenditures for the transfer of instructors, updated equipment, and for mixed public and private teaching facilities are currently under consideration.

One can agree or disagree with much of what is heard at this conference. Your head may buzz with ambiguous new phrases that you have heard from me and from others. Some of them may occasionally stumble sideways out of your own mouth: supply-side economics, subnational economic development, economic revitalization, reindustrialization. The aftertaste of such phrases tells each of us different things. Our analytic bent recognizes an attempt at corralling a new mix of ideas. The politician in all of us knows a fast train when he or she sees one. Some will catch the train before it leaves the station. Some will choose to wait for a wreck. But the buzz of artful phrases does signal one common theme. That theme is change. It is the business of institutions such as the National Center for Research in Vocational Education to absorb the shock of change for the vocational education community—to separate wheat and chaff—to sort the sense and nonsense. I offer my remarks as more grist for your milling.

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