ECONOMICS U$A
21st Century Edition

PROGRAM #23

PRODUCTIVITY: CAN WE GET MORE FOR LESS?

AIRSCRIPT

ECONOMICS U$A: 21ST CENTURY EDITION

PROGRAM #23

PRODUCTIVITY: CAN WE GET MORE FOR LESS?

Final Transcript

Annenberg Learner (Logo and Music)

NARRATOR: FUNDING FOR THIS PROGRAM IS PROVIDED BY ANNENBERG LEARNER

(EFC LOGO appears on screen)

DAVID SCHOUMACHER: Throughout most of the 20th century, America enjoyed the highest rate of productivity growth in the industrial world. But by the late 1970's, something was drastically wrong. What was happening to American productivity? By 1981, the nation was ready to try a new approach…Can less government lead to more productivity? There is general agreement that new technologies increase productivity, but is there an extra return to society that makes the government's investment worthwhile?

Productivity is a crucial element of our nation's economic growth. Yet, it is an almost invisible element in our economic wellbeing, something we take for granted until it begins to slow down. But that hasn't happened in the 21st century. To the contrary, American productivity has increased. Productivity: How do we produce more with the same or fewer resources? With the help of economic analyst Richard Gill and Nariman Behravesh, we'll examine that question on this 21st- century edition of Economics U$A I'm David Schoumacher.

(MUSIC PLAYS – OPENING TITLES appear on screen)

PART I

DAVID SCHOUMACHER: Economists see the world in terms of supply and demand…with, simply, demand as the appetite to consume…supply as the ability to produce. It is productivity that holds the supply side together. As long as productivity continues to improve, our standard of living continues to improve. This is the classic widget factory. These workers are building a machine to put the stick in a stick deodorant tube. If it works, we'll have more deodorant and less sweat…that is, fewer hours of work putting the tubes together. That's productivity for you.

American productivity has been one of the economic marvels of the industrial age. But, by the late 1970s, our rate of productivity growth had slumped alarmingly. Why did productivity grow so fast for so long and then suddenly decline in the 1970s? At the beginning of the 19th century, America was predominantly a farm economy…our buildings were made of brick and wood. By the year 1900, we were a nation of steel. Vast deposits of iron and coal fed the blast furnaces of Pittsburgh. Immigrants poured in from Europe to work in the steel mills…to be part of an industrial miracle that was creating a better life for American workers. Rapid productivity growth led to an ever improving standard of living…and the miracle was not just confined to the steel industry. Throughout the economy, American workers were the most productive in the world. What was responsible for this phenomenal explosion of productivity? Economist Edward Denison singles out one factor as paramount…

EDWARD F. DENISON: "Much the most important is the advances in knowledge of how to produce at low cost. This includes both technological knowledge and what you'd call managerial or organizational knowledge…how to run a business, organize it. And actually, over a long period, like 1929 to '82 actually, this accounts for almost 2/3 of the total increase."

DAVID SCHOUMACHER: In agriculture, advances in knowledge led to new seeds, machinery and chemicals…and more crops from fewer workers. Displaced farm workers

migrated to the cities to more productive jobs in the factories and steel mills of industrial America. Throughout the 1950s and '60s, productivity soared. But by the 1970s, something was drastically wrong. Throughout the economy, productivity growth was slowing down. The reasons were not immediately clear, but, in retrospect, several factors stand out. The beginning of the 1970s brought a new era of concern about the environment. Regulations aimed at cleaning up pollution had an immediate and costly impact on American industry. Bethlehem Steel president, Walter Williams…

WALTER WILLIAMS: "We spent, if I remember the numbers correctly, in the equivalent of 1980 dollars, almost a billion dollars in the previous 15 years on environmental facilities. Now that meant that that money was not available for modernization projects."

DAVID SCHOUMACHER: Government regulations forced industry to spend billions cleaning up the environment and protecting the safety of its workers…and millions of these workers were new to the jobs…baby boomers eager to work, but still young and untrained. Their inexperience led to lower output per hour of work…less productivity. In 1973, war in the Mid East led to an embargo of oil from the Persian Gulf. Energy prices soared. Productivity growth took a nosedive. And throughout the 1970s, an economy reeling from spiraling energy costs saw all its other costs rising, too. Inflation seemed to be an incurable cancer eating away at the American economy…creating a climate of economic fear and uncertainty…discouraging the capital investment that might have improved an increasingly dismal productivity performance. If many different factors had been responsible for the growth of American productivity, it seemed that an equal diversity of factors was conspiring to retard that growth. Productivity performance during the 1970s dropped to less than half the rate of the previous half century…and productivity expert Edward Denison was not encouraging about the prospects for an "easy cure."

EDWARD DENISON: "I think the most important thing to recognize is that no one thing is going to make an enormous difference. And I once was given the task of trying

to find some "quick fix" for the growth rate…and my conclusion was it takes an enormous amount of doing to get even a tenth of a point addition."

DAVID SCHOUMACHER: Productivity is an illusive concept. You'll find the tale of a kingdom lost for want of a nail in poetry, not in economics. Just as there were many factors that contributed to the phenomenal growth of American productivity, so there were many factors that contributed to the decline in growth in the 1970s…factors that resist "quick and easy" solutions. We asked economic analyst Richard Gill to comment on the long-range significance of productivity growth and the factors that might cause it to decline.

(MUSIC PLAYS – COMMENT & ANALYSIS I appears on screen)
(ECONOMICS U$A LOGO appears on screen)

RICHARD GILL: Many people fail to understand the true significance of productivity growth because the numbers we use to express it…one or two percent a year…seem very small. The first thing to realize is that these "small" numbers involve really huge changes in output per capita and living standards over long periods of time. Our historic rate of productivity increase, of between one and one half percent and two percent a year, has meant a fivefold increase in our real incomes over the past century. So productivity growth is important and any decline in it is necessarily a matter for concern. But was the decline we observed in the 1970s a permanent one or merely temporary? There certainly were many special factors at work during the 1970s. The oil shocks made energy inputs suddenly much more expensive; rapid inflation increased economic uncertainty; the composition of the labor force, with many young and inexperienced new entrants, was changing; and so on. On the other hand, certain factors…for example, government regulations to protect the environment…may be with us for some time to come. Nor do we know that the 1970s bout with high inflation will be our last, or for that matter, what new supply shocks may hit us in the years ahead. Whatever the future, the experience of the 1970s strongly suggested that productivity growth was something we could no longer take for granted. Was there anything we could do to improve it?

PART II

RONALD REAGAN: "We have the highest percentage of outmoded industrial plant and equipment of any of the industrial nations. I stood in Ohio in a great empty shell of a building that was once a steel plant. The weeds are beginning to grow up, closed because they could not afford to modernize. And punitive taxes and those excessive regulations mandating additional costs on them had been responsible."

DAVID SCHOUMACHER: Ronald Reagan promised to get the government off the backs of the American people. He argued that less government would give us greater productivity. The keystone of his play was a $750 billion tax cut. In 1981, the crucial question was: How could we get more productivity with less taxation? The 1970s had been difficult years for America…for the people, for the government, even for economists. By 1980, a growing number of people saw the government as the source, not the solution, of economic miseries. A new group of economists began to say, "Let's unshackle private enterprise…let's get the government out of the marketplace…let's give the people an incentive to produce." These economists were called "supply siders" and their spokesman was Arthur Laffer.

ARTHUR LAFFER: "People don't work to pay taxes…People work to get what they can after taxes. People don't increase the productivity of their capital or their labor or their production processes to give the money away to the government…They do it to make more profits themselves. And when you cut the taxes, you increase their incentives for doing that activity…They'll increase productivity output and employment. Who cares about productivity when you don't get any benefits from it? And frankly, people don't work for nothing…they work to get paid and when you increase the amount they get after tax…you'll find them doing more of it."

DAVID SCHOUMACHER: Laffer believed that tax cuts would cause people to work harder…Economist Norman Ture argued that the result would be increased savings…

NORMAN TURE: "Every dollar of additional savings represents an additional dollar of capital of some sort. It is a fundamental law of economics…which to my knowledge has not been repealed either by John Maynard Keynes or the United States Congress…that the most effective way of increasing the productivity of labor is by increasing the quantity and the quality of the capital with which it is employed."

RONALD REAGAN: "We move on to the individual…you and me…and my proposal is for a 10 percent cut in the income tax across the board, not a special cut for someone while someone else…you know, rob Peter and pay Paul…we're all named Peter today. 10 percent …a 10 percent in 1982, and another 10 percent in 1983…a 30 percent cut over a three year period."

DAVID SCHOUMACHER: But mainstream economists like Nariman Behravesh remain sharply critical of Reagan's "supply side" tax proposal…

NARIMAN BEHRAVESH: "I think the issue was that most people believed that there was some impact of reducing marginal tax rates on work effort and savings…but most analyses suggest that that impact was very small…in fact, so small that it would not have the kind of "supply side" effect that was being talked about by people like Art Laffer."

DAVID SCHOUMACHER: The American people were ready for a change. Ronald Reagan swept to victory in the November election…but his battles had only begun. Democrats in the House of Representatives were determined to block the new President's tax plan. But, as Reagan prepared to take his program to Congress, he found some new friends along the way…and some new ideas for his tax package. Congressman Barber Conable added a carrot for business in the form of faster depreciation of capital investment.

BARBER CONABLE: "The basic Reagan idea was to have a simple proposal of two parts…rate cuts, and cuts for business that would be given in such a way that would encourage investments and therefore improve productivity. And the ACRS 1053 Jones Conable Bill was the second half of the proposal. I felt it was very necessary, in short, to encourage productivity growth…to encourage savings. I am not a Keynesian. I don't believe that you can handle economic policies solely by taking those steps that will stimulate consumption. I think you've got to give some incentives to savings too."

DAVID SCHOUMACHER: For months, Reagan, Conable, and the Republicans hammered away at the Democrats in Congress, trying to pry loose enough votes to pass the tax package. But the opposition held…the Reagan program was going nowhere. The tax bill was amended…then amended again in an effort to attract more votes. Then, the President took his case directly to the people.

RONALD REAGAN: "This is absolutely essential…if we're to provide incentives and make capital available for the increased productivity required to provide real permanent jobs for our people."

DAVID SCHOUMACHER: When the votes were counted, the President had muscled through a great political victory. But was it an economic victory as well? Did the tax cut increase productivity?

ARTHUR LAFFER: "Yes, clearly, it not only led to better productivity…It also led to an increase in employment. See, to increase output and employment production in the system, there are two ways of doing it. One is productivity, which means you get more for each worker, and the other is to increase the number of workers. And what you found happening is…both went up. We not only got a lot more employment…we also got a lot more productivity per employee, which is just the perfect combination."

NARIMAN BEHRAVESH: "I think, by all estimates, it really did not succeed terribly well. Part of it is that it was swamped out…the "supply side" effects were really

swamped out by all the demand effects…in other words, the boosts in consumption that occurred and the boost in investment spending. The one "supply side" effect that did come through was that the '81 tax cut did provide very generous benefits to businesses for investment purposes, and this did boost investment, which in a very traditional, Keynesian way, led to a higher capital stock…led to increased productivity in the long run."

ARTHUR LAFFER: "You can call it anything you want…the question is…it works. Now, those of us in sort of the academic garb who like to get into the footnotes and argue there…sure, you can say, was it a demand shift or was it a supply shift? Who cares? Production output…employment… increased enormously. Now I think it was a supply shift…"

DAVID SCHOUMACHER: 1981 was a bad year for the economy. 1982 was even worse. But 1983 was a boom year…a year that saw many of President Reagan's economic predictions come true. To many it seemed we really had improved productivity by cutting taxes…Workers and businesses alike were working harder and investing more. But to the economics community as a whole, the relationship was by no means that simple. We asked Richard to summarize. How does a tax cut stimulate productivity?

(MUSIC PLAYS – COMMENT & ANALYSIS II appears on screen)
(ECONOMICS U$A LOGO appears on screen)

RICHARD GILL: The ways in which lowered taxes can improve productivity are fairly obvious. Higher take home pay may encourage workers to work harder and more efficiently. Lower taxes may provide businesses with more funds for investment and greater incentives to take the risks of introducing new technologies. The real issue is: How large are these effects? Take the Reagan tax cuts of the early 1980's. The supply side enthusiasts argued that lower tax rates would lead to much higher productivity, which would lead to a greatly increased GNP, and that this greater GNP would actually

result in higher total government tax revenues, even at the lower rates. In short, we'd get such spectacular increases in productivity and growth that we wouldn't even have to think about government deficits! The less enthusiastic view was that lower tax rates would indeed lead to big budget deficits, that government borrowing would lead to high interest rates and that this would result in lower business investment and growth. Obviously, the effects of the Reagan tax cuts are very complicated…and many of these effects are still with us. If we simply compare the two years, 1981 and 1984 we can say: yes, productivity did increase; yes, there was growth; yes, in fact, total federal tax revenues did increase slightly. But also yes, there were huge budget deficits and yes, real interest rates stayed at damagingly high levels. Perhaps, on one point both sides might agree: If you're going in for massive tax cuts to spur productivity growth, it would probably also be at least prudent to do something to keep the government spending side of the equation in check.

PART III

DAVID SCHOUMACHER: The Internet -- linked to satellites, combined with software, operated by computers and smart phones – the Information Age is upon us. Transforming technological innovations allow us to be more productive personally and in all varieties of occupations and industries. It appears to be a national addiction.

MARK DOMS: "The idea of waiting around just doesn't happen as much today… And for businesses, that's just really important…They are just able to be productive all the time."

DAVID SCHOUMACHER: The benefits of technological innovation are not confined to the innovators or firms that financed the innovation but to society as a whole.

MARK DOMS: "I wish more people would go back into a time machine when it was back in the early '90's, back before the Internet and communication technology, when

landline phones were still kind of all the rage. You know, life was much more difficult, communicating with people was a real hassle."

DAVID SCHOUMACHER: After years of being stalled, productivity growth in the United States was kick started in 1995 when the technology industry began to boom. Robotics revolutionized the automobile industry. Big box retailers put barcodes and inventory tracking to productive use. Banks made use of electronic banking and ATMs to streamline their business. Telephone and telecom businesses, automating many services, also had huge increases in productivity.

DAVID SCHOUMACHER: The federal government has long recognized the spillover effect of technological innovations, that is, the extra return to society from research and development investments made to develop new products. But research and development can be costly and time consuming. Is it then appropriate for the federal government to invest in research and development?

MARK DOMS: "If you look, then, within the non defense portion of R&D you see a lot of money is spent by the National Institutes of Health, and a lot of that is for basic biological research, and the thinking there is that if we better understand the human genome, if we better understand how cells work, then the NIH spends a lot of money on these very basic principles, which will then help us propel new medical discoveries… So that is a clear example of where if we think we do this basic research we will have a better understanding of how things work, then that will be a good platform for other inventions to occur."

DAVID SCHOUMACHER: The classic examples of platforms that the government nurtured were satellites and the Internet. Government support has resulted in the flowering of thousands of offshoots. Take for example, weather forecasting.

BOB RYAN: "Some of the early experiments -- there's a great story -- in the numerical weather forecasting process were done in the '50s where it took about two or three days

of computer time to generate a 24-hour forecast. So the great increase in computer power has allowed us to ingest much much more information and data and then generate a forecast... information in a very timely manner and also make it then that much smaller scale. And also very accurately now…days…five, six, even seven days in advance, something we couldn't do twenty, thirty years ago."

DAVID SCHOUMACHER: Technological innovation has increased the productivity of weather forecasters and has made weather information readily available, increasing our productivity as well.

BOB RYAN: "Now we have also a variety of tools where we can put these onto… our home page, onto our website, so somebody that says, 'I only want to see the winds,' well, here's a graphic. You can see the winds. You can see what the temperatures would be at eight, nine, ten o'clock tomorrow."

DAVID SCHOUMACHER: Never was this ability to make accurate weather predictions more pronounced than in the winters of 1993 and 1996.

BOB RYAN: "Back in the 90s, when a lot of these very accurate local numerical simulations were coming on, I was able to see the potential for this big, big snow event. And I remember communicating and telling people, 'wherever you are tomorrow, plan on being there for a long time.' "

MARK DOMS: "This is an example of weather, but more in general what we are talking about is, you're able to get information that you need to make the right decisions…
It is very easy, it's very cheap, to get information, and lots of companies are basically trying to customize this information to you. We're just flooded with information now because of all of this information technology, and now I think we are beginning to use that information better, and it makes us more productive."

DAVID SCHOUMACHER: There is no more often sighted example of government's contribution to America's productivity gain than that represented by its investment in space and satellite communication. But would this increase have occurred anyway, without government research and funding? We asked Nariman Behravesh to comment.

(MUSIC PLAYS – COMMENT & ANALYSIS II appears on screen)
(ECONOMICS U$A LOGO appears on screen)

NARIMAN BEHRAVESH: Technological innovation has been a major factor in the growth of productivity in the United States. The development of new products and processes allow people to do what they were doing before, using less time, and—just as important—to do what they never dreamed of doing before. There is a catch, however. Since the benefits of innovation do not accrue only to the person or company that developed the new technology, but are often enjoyed by society as a whole, there can be a disincentive to the developer. Specifically, others can use or exploit the innovation without compensating the innovator. Economists classify this type of technology spillover as a positive externality.

Unfortunately, given the disincentives associated with such spillovers, the free market, left to its own devices, will encourage less innovation than is socially desirable. To remedy this problem, the government can "internalize the externality" in multiple ways: by sponsoring research and development at one of the many government-run labs, by giving subsidies for private sector R&D, and by strengthening patent protection.

There are lots of examples of government-sponsored technologies transforming our lives. The NASA moon program spurred the development of the all-pervasive microchip. The Department of Defense's DARPA Net was eventually transformed into the Internet. And the Global Positioning System—GPS—developed for the military, has made it easier for all of us to find our way around.

These success stories have led some economists to advocate for an even bigger involvement of the government in innovation. Other economists are more skeptical of this type of industrial policy. They worry that the government is not in the best position to pick technology winners, and that the process can become highly politicized. They advocate, instead, for greater use of the patent protection system, which gives inventors a temporary monopoly on new technologies.

DAVID SCHOUMACHER: In the last few decades, American productivity has shot up. Whether it came though the necessity of competition, the creation of new technologies, or government funded research and development, one thing remains clear. Increased productivity will always be the life blood of the American economy. For this 21st-Century Edition of Economics U$A, I'm David Schoumacher.

MUSIC & ECONOMICS U$A CREDITS
NARRATOR: FUNDING FOR THIS PROGRAM IS PROVIDED BY ANNENBERG LEARNER

NARRATOR: FOR INFORMATION ABOUT THIS AND OTHER ANNENBERG LEARNER PROGRAMS CALL 1-800-LEARNER AND VISIT US AT WWW.LEARNER.ORG