

ECONOMICS U\$A
PBS PROGRAM #3

U.S. ECONOMIC GROWTH:
WHAT IS THE GROSS NATIONAL PRODUCT?

BY FRANK PHILLIPI

AIRSCRIPT
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3. U.S. ECONOMIC GROWTH: WHAT IS GNP?

PURPOSE:

To introduce the viewers to GNP and other concepts of the National Income accounts and to show how they help us understand the extraordinary growth of the U.S. economy in the 20th century.

OBJECTIVES:

1. Gross national product (GNP) in current prices is the sum of all final transactions in the product markets.
 - a) Gross national product in constant prices represents real GNP from which the effects of inflationary price changes have been removed.
 - b) GNP involves only final transactions (eliminating intermediate goods) or, equivalently, values-added (eliminating purchases by firms from other firms).
2. The total production of an economy and the total income of the economy represent two different ways of looking at the same thing, as represented in the circular flow.
 - a) In a simplified economy, from the product side, GNP is composed of consumer goods (C), investment goods (I) and government purchases of goods and services (C).
 - b) In a simplified economy, from the income side, GNP is composed of: before-tax wages and salaries, rents, interest and profits; or consumption (C), saving (S), and taxes (T).
3. The growth of real GNP and GNP per capita over this century has meant vast increases in U.S. living standards. However;
 - a) continued growth of GNP is not automatic, but involves continuing development of new products and methods; and
 - b) the growth of GNP itself involves important costs, and thus GNP is a very imperfect measure of economic well-being.

KEY ECONOMIC CONCEPTS:

circular flow	taxes	government spending
current prices	gross national product	
constant prices	real vs. money	
consumption	economic growth	
investment	product = income	
saving	double-counting	

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TEASER

(MUSIC PLAYS—OPENING TITLES)

DAVID SCHOUMACHER: In the 1930s, the American economy went bust...A frustrated Congress asked, 'Was there no way to measure the depths of the Great Depression?' As the United States was pulled into World War II, how did a system of accounting become the key to building the American arsenal? By 1970, America was uncovering the negative effects of pollution...Should we measure these hidden costs of economic growth? Most of us tend to decide how well we're doing economically by what we can afford to buy...new clothes, new cars, or a new home. But can we calculate an entire nation's economic well-being by adding up all those individual measurements? And can we compare those national figures over a period of time to determine if our economy is making progress. U.S. Economic Growth: What is the Gross National Product? With economic analyst Richard Gill, we'll explore that question on this edition of Economics U\$A. I'm David Schoumacher.

(MUSIC PLAYS-SERIES OPENING TITLES)

(U.S. Economic Growth: What Is the Gross National Product? appears on screen)

PART I

DAVID SCHOUMACHER: These computer tapes, at the Bureau of Economic Analysis in Washington, hold the record of America's economic growth in the past fifty years. They provide instant access to the accounting system known as GNP. But when the United States faced its worst economic crisis...the Great Depression...no such measuring tool existed: until this report went to the Senate. A copy of "National Income 1919-to-1932" is pretty hard to find today but back in 1934 it was something of a best seller...4500 copies were sold in just eight months...at 20-cents a copy. The report was put together by a team from the Department of Commerce in response to a Congressional demand for more information: What was the Great Depression really costing the American economy as a whole?

(Jazz MUSIC up full, then under.)

DAVID SCHOUMACHER: Led in part by the rise of the auto industry, the economy grew rapidly in the 1920's, generating more jobs, more income and more free time to spend enjoying it. As long as the factories were humming, the cash registers ringing, and the paydays arriving, there was little concern about how well the nation was doing economically. But when the bottom dropped out in 1929, Congress was at a loss to decide how bad things actually were. As the lawmakers rushed to pass New Deal programs to bring the country out of the Depression, Senator Robert LaFollette wanted to know what was the state of the economy?

SENATOR ROBERT LAFOLLETTE: "...The greatest economic crisis in our history is a grave national emergency, which makes it imperative that we fight the Depression on all fronts. Congress must formulate a sound program to this end..."

DAVID SCHOUMACHER: LaFollette's Senate Resolution directed the Commerce Department to make estimates of national income for the three previous years. Dr. Carol Carson has studied the developments of the national income accounts during the Depression.

DR. CAROL CARSON: “You could look up and down your home block and see that people were unemployed and that incomes were dropping, but they had no idea nationwide what was going on. And the numbers that they were after were aggregate statistics.”

DAVID SCHOUMAKER: (MUSIC IN) The man called in to direct the official government study was Simon Kuznets. He had been working on income estimates for the National Bureau of Economic Research. At the time of the Great Depression, the lack of information about the economy was, in Kuznets’ words, “a scandal.” The data available were, as he put it, “neither fish nor flesh nor even red herring.” When he arrived at the Commerce Department, Kuznets found he would be working with economist Robert Nathan, one of his former students. (MUSIC OUT)

ROBERT R. NATHAN: “So, he put me to work measuring some things for which we didn’t have very direct data...we never had a service census...we never had a retail census...we never had a construction census...and the result was that there were a lot of gaps. And that’s what made it so tough. But conceptually, Simon gave a degree of depth and measurement...a degree of reality that had never prevailed before.”

DAVID SCHOUMACHER: (MUSIC IN) One of Kuznets’ basic concepts was to limit measurements to the marketplace. Thus the amount people were paying for goods and services could be used to measure the consumption component. And the money spent on new production facilities...plants and equipment...gave a total for the investment category. But there was a problem: how to avoid double counting? In the flow of payments through the economic system, where do you measure? Take the creation of an automobile. The mine operator gets income from the sale of iron ore. The mill owner gets income from the sale of finished steel. The manufacturer gets income from the sale of the finished car. To avoid the inaccuracies of counting the same money three times, Kuznets decided to use only final sales. In this case, the

amount paid for the automobile at the dealer's. If there is a need to know how much value was added along the way, say, at the manufacturer's, that can be found by deducting the cost of the finished steel from the amount paid for the car. But not all the nation's work is performed on assembly lines or in department stores. As much as one-fourth of the work in the economy is at home and no one gets income for it. Kuznets decided to exclude this work, primarily the cooking, cleaning and childcare provided by housewives, because it was too hard to measure and because of the kind of work it represented. (MUSIC OUT)

DR. CAROL CARSON: "he was shrewd – he didn't say, just 'housewives' ...he said, 'housewives and other family members' services.' He considered that an integral part of the family rather than part of market production. And his emphasis was on market production. So, he felt that on that basis it could be excluded. Also, he recognized the difficulty of estimating housewives' services."

DAVID SCHOUMACHER: (MUSIC IN) Illegal activities were also excluded ...money earned from bootleg whiskey and beer, smuggling drugs, gambling and other criminal acts. This was also hard to estimate, but Kuznets had another reason: (MUSIC OUT)

DR. CAROL CARSON: "Illegal activities were excluded largely because he had an orientation that wanted to measure the goods in society and he felt that this was not a good, but a bad...or you could put it in terms of, he was interested in measuring services and illegal activities were considered a disservice. And the mere fact that there were laws against certain activities were what he used as the...criterion for deciding what was a good or a bad, or a service or a disservice."

DAVID SCHOUMACHER: (MUSIC IN) And goods and services that are exchanged or bartered are also not included because they cannot be measured. So, money had to be paid for the product or service for it to be included. Kuznets spent a year working with government departments and private agencies in Washington and

across the nation. On January 4, 1934, the completed report was sent to the Senate and the nation had its most comprehensive economic measure: one that brought home the bad news...National income had fallen more than \$40 billion since 1929. Unemployment had increased seven-fold...12 million people were thrown out of work in three years. In the future, this concept would be renamed the Gross National Product, and when it was adjusted for inflation, REAL GNP would give an accurate measure of growth in the volume of the economy's production. Thirty-seven years later Simon Kuznets was honored for his work on national income and economic growth with the Nobel Prize. He was cited for "giving quantitative precision to economic entities." (MUSIC OUT) Today, the Gross National Product is the ultimate benchmark that measures the expansion and contraction of our multi-trillion dollar national economy. It covers everything we make and sell in the marketplace. It's used by bankers, brokers and government officials to decide interest rates, investments and tax rates. But how can any measure so large and so complex be made simple enough to be useful? We put that question to economic analyst Richard Gill.

(MUSIC PLAYS - COMMENT & ANALYSIS I)

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RICHARD GILL: GNP is not really a simple concept. Yet it is extremely important for the whole area of macroeconomics. A careful consideration of this concept, for example, brings out the basic equivalence of production and income---the cornerstone of much macroeconomic analysis. In a very simple economy, we can describe economic transactions by means of what economists call the "circular flow." We have businesses here producing goods and services---GNP---and selling them to consumers like ourselves. We call them households. This is the upper loop. Down below we have these same households selling their services---their labor, for example---to businesses who use these services to create goods and commodities in the upper loop. The businesses pay the households for these labor and other services, thus creating a flow of money income to the households. The households, of course,

use this income to buy the goods that businesses have produced. Now these two flows are basically equal. What, after all, is the source of the real income of the economy? Answer: the goods that the economy produces. So the studies of Kuznets and his colleagues did much to illuminate the macroeconomic structure of the economy, but also they did more. Imagine, for example, trying to plan a major war effort without knowing the size of the real GNP that your economy is producing. As the nation prepared for World War II, this was no academic question.

PART II

FRANKLIN D. ROOSEVELT: “The militarists of Berlin and Tokyo started this war. But the massed, angered forces of common humanity will finish it.”

DAVID SCHOUMACHER: (MUSIC IN) January 6, 1942. President Franklin Roosevelt is giving the country its marching orders. The success of those orders as a strategy to win World War II would depend on the American economy. (MUSIC OUT) For months, the issue of how to prepare for war without getting involved in the actual fighting swung back and forth along Pennsylvania Avenue: from Congress to the White House. In the middle were the economists at the Commerce Department and other agencies. They were trying to answer the critical question: how much could the economy produce and how fast?

DAVID SCHOUMACHER: (MUSIC IN) As the German armies moved through Western Europe in 1940, pushing Allied forces into the sea at Dunkirk, FDR could take only tentative steps in the face of pressures to keep America out of the war. In 1940, Congress agreed to only token increases in defense production and Roosevelt had to wait until after that year’s presidential election to make his major move. On December 29, in a fireside chat to the nation, he called for a lend-lease program to aid the allies and \$1 billion for arms production. (MUSIC OUT)

FRANKLIN D. ROOSEVELT: “We must be the great arsenal of democracy. For us, this is an emergency as serious as war itself.”

DAVID SCHOUMACHER: (MUSIC IN) As the war in Europe led to more allied losses, plans for American aid increased. Special envoys were dispatched to London and Moscow to find out what war materials were needed. At home, the first mobilization committees were set up, bringing together business and labor. Robert Nathan, the chief economic planner for the arsenal of democracy, recalls that the first problem was convincing depressed industries to expand. (MUSIC OUT)

ROBERT R. NATHAN: “The steel industry, with great impact, came around and said, ‘You’re silly!’. We were down to 15-20% of our capacity utilization for some years at the depths of a Depression. It was a heck of a fight. But I can tell you this, I don’t think that we would have ever won that battle if we hadn’t had the GNP weapons to demonstrate what an overall, fully employed economy could accomplish.”

DAVID SCHOUMACHER: (MUSIC IN) When the first plants began shifting toward munitions and as the first liberty ships were being designed, there was another capacity that had to be measured and planned for: civilian needs. Why was it important to know how much could be diverted to the war without jeopardizing the basic supply of food, clothing, housing and transportation? (MUSIC OUT)

ROBERT R. NATHAN: “So if you didn’t put it into civilians, people wouldn’t be alive and who would produce the products? And you had to keep the schools going and, as much as you cut back, there was an awful lot that had to go to civilians. So we translated that...”

DAVID SCHOUMACHER: (MUSIC IN) As the economists were paring estimates, Roosevelt and Churchill met in the North Atlantic. The meeting in August, 1941 is best known for the Atlantic Charter of Rights for Free People. It was also the

culmination of months of bargaining over what war materials the U.S. would supply the Allies. Shortly after the meeting at sea, Roosevelt asked the Army, Navy and Air Force to estimate the costs of an all-out war. Their total for the next two years: \$150 billion, almost double the Gross National Product in 1939. Nathan's next task was to take the military's production needs and determine what was feasible. He started by breaking out the key sectors from the national income and production accounts.

(MUSIC OUT)

ROBERT R. NATHAN: "One was steel, because we knew that steel would be a limiting factor for tanks, ships, the big guns and the like. So, how much steel was involved in all these numbers? Then we translated the airplanes mainly into aluminum, because you couldn't build airplanes without aluminum. Then we translated ammunition into copper – so we had the key elements. Then, it seemed to us very soon that we were going to build factories to process a heck of a lot more steel than we had. So, you'd have fabricating plants that weren't being used, or partly used, but more serious you wouldn't have any end products. You know, you'd end up with wheels over here and generators over there or parts of this and..."

DAVID SCHOUMACHER: You'd build planes without propellers...

ROBERT R. NATHAN: "That's right, and no underpinnings and things of that nature."

DAVID SCHOUMACHER: (MUSIC IN) In the late fall of 1941, Nathan and his team sent their numbers to the White House as the debate continued over what production goals were realistic. Roosevelt was using them to reconcile the conflicting demands from the American military and from the Allies when the Japanese attacked Pearl Harbor. The United States was at war. Now the ability to convert the American economy, using the GNP information, would be critical for our own survival as well as for our Allies. (MUSIC OUT)

FRANKLIN D. ROOSEVELT: "...Our war program for the coming fiscal year will cost \$56 billion, or, in other words, more than half of the estimated annual national income...We shall produce 60,000 planes...We shall produce 25,000 tanks...We shall produce 55,000 anti-aircraft guns...We must convert every available plant and tool to war production."

DAVID SCHOUMACHER: When Franklin Delano Roosevelt led the country into World War II, he depended heavily on the GNP framework to predict the kind of arsenal our democracy would become. In fact, the economy exploded during those four years...17 million new jobs were created, the index of industrial production doubled and the GNP grew 75-billion dollars. Economic analyst Richard Gill points out that estimates of the GNP were helpful in a number of ways during the war.

(MUSIC PLAYS - COMMENT AND ANALYSIS II)

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RICHARD GILL: Without knowing the size of our REAL GNP, it would have been virtually impossible to judge how much war production was physically possible. Also, there was the question of how many goods would be left over for civilian consumption and what taxes the government would have to levy to keep the economy from overheating. Look at our circular flow again. Production would normally flow from businesses to households who would pay for these goods with their money incomes generated by that production. Now the government steps in. At one point, we were using half our GNP for war production. And suddenly we faced a problem. Consumers still have these big incomes but they have only this much smaller trickle of consumers' goods coming to them. Knowing what these numbers are, one can at least make rough estimates of how much purchasing power the government has to drain away from the civilian economy so that we won't face a terribly inflationary situation. So, GNP Figures were very useful during the war, as they have in fact been

in all of the decades since, which is not to say that they give a complete picture of the progress of our economy.

PART III

DAVID SCHOUMACHER: (MUSIC IN) The former head of the space agency said: “On the way to the moon we discovered the planet earth.” That discovery drew national attention in April of 1970 as people protested against pollution from automobiles and factories...against chemical poisoning from pesticides...against the trash of a throwaway society...and ultimately against the idea that bigger is better. The man who had the idea for Earth Day, former Senator Gaylord Nelson, recalls why so many people got involved. (MUSIC OUT)

GAYLORD NELSON: “...So, over a period of years, there was a growing public awareness that our environment was being degraded in ways that were affecting the quality of the lives of the people. And they wanted something done about it. That’s why the response to Earth Day, I think was so great...”

DENIS HAYES: “An estimated 20 million people participated in that event. It was almost certainly the largest planned event in this nation’s history, and it may have been the largest planned event in world history. So, as a consequence, it got enormous attention and political figures who had thought of environmental and conservation issues as the elite concerns of a...small number of lovers of birds and squirrels, suddenly recognized that this was an important constituency.”

DAVID SCHOUMACHER: The protectors who gathered in Washington and dozens of other cities across the nation called into question a key ingredient of the American Dream: growth that leads to prosperity. Were they simply leftovers from the turbulent 60’s or had they discovered some fundamental flaw in the way we measure economic success?

DAVID SCHOUMACHER: (MUSIC IN) In the years following World War II, U.S. economic growth was the envy of the world. From sea to shining sea, Americans worked and consumed at record levels. From 1950 to 1970...Americans built and bought some 60 million new homes...Americans built and bought 141 million new cars and added thousands of miles of new roads on which to drive them...American farmers increased production by 45 percent...From 1950 to 1970...the Gross National Product more than tripled to \$977 billion. Real income, or purchasing power per person, rose by 68%. During this period the growth created 25 million new jobs...The nation built thousands of new schools, and trained several million new teachers. The average American who had only a grade school education in 1940, now had completed high school. While Americans were making more money, they were working fewer hours.. They had the leisure time to enjoy the good life and the means to pay for it. For most people, the benefits of economic growth were there for the taking. But by the end of the 1960's some hidden costs of this growth started appearing. Automobiles were dumping 230 thousand tons of carbon monoxide a day into the air. Doctors warned the air in Los Angeles was hazardous most of the year. Drilling for oil in the Santa Barbara Channel, created spills which fouled miles of beaches. Pesticide spraying was threatening many species of birds...And pesticide spills killed some 15 million fish in Arkansas...In the east and south, 3 million acres of hillsides lay stripped bare for their coal...And in Cleveland, the local industrial sewer, the Cuyahoga River, caught fire. The environmentalists had found a loophole in the way we monitor growth. The GNP measures goods and services traded; for example, the scrubber that is bought to take the sulfur out of smokestack emissions. But the clean air is not bought or sold so it's not counted. Nor is the dirty air. If sulfur is not cleaned up, the resulting pollution is not subtracted. GNP is not reduced. (MUSIC OUT)

ALFRED KAHN: "The failure of GNP to take into account environmental values...the fact that, for example---if we produce a lot of goods and services, if we use up machinery---that's deducted, a depreciation from GNP (or from net national product). But---if we dirty the atmosphere, if we pollute the air, if we make more

people sick, if we cause more houses to have to be painted---that deterioration is not taken into account. Moreover---if it makes more people sick and they have to go to more hospitals and go to more doctors---that increases GNP, because doctors' services are part of GNP.”

DR. JOHN KENDRICK: “By now, I think that most national income statisticians can see that we can never produce a measure of aggregate economic welfare, in the sense of well-being. Because, for one thing, it's very hard to add together people's satisfactions. And if you are looking primarily at GNP as a production measure, you don't need that additional kind of a series.”

GAYLORD NELSON: “You can't have a country that is rich, and poor in its resources or its access to them. Because these resources determine the standard of living, the physical quality of our lives, and if you dissipate them and call it on the profit side, after some generation, then it has lost all of its capital resources and we will have left them a debt they can't pay.”

DAVID SCHOUMACHER: What's better for society: increased production or a cleaner environment? Now, whether that's an ethical, a moral or an economic question, it does point out the difference between measuring growth and measuring welfare. Economic analyst Richard Gill explains.

(MUSIC PLAYS - COMMENT AND ANALYSIS III)

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RICHARD GILL: It's sometimes said that an economist, like a cynic, is one who knows the price of everything and the value of nothing. And it's true that economists, when they measure GNP and its growth over time, tend to concentrate on goods and services that have market prices, numbers that can be added up, subtracted, multiplied, divided and so on. The more intangible benefits and costs of growth, however much they may affect our economic welfare, are much harder to assess. It

isn't really just an economist's problem, however. All of us tend to have different personal evaluations of the desirability or undesirability of economic growth. Some people for example genuinely like the buzz and bustle of a rapidly growing economy. Others prefer stability and tranquility. Who is to say which preference is correct? Still, these GNP numbers that scholars have pieced together do tell a rather remarkable story. The curve of real U.S. GNP has had its ups and downs, but basically it has been ascending dramatically over the past century...the total production of goods and services rising perhaps 20 times or more during this period! What has this meant to us? More pollution...more noise...more congestion...more anxiety---all these and more, without question. But also: longer life expectancies, more food, clothing, shelter, an enormous increase in leisure time, and – not least – the added resources for correcting some of the unfortunate side effects of growth itself. GNP does not measure economic welfare, but it is certainly something worth measuring in its own right. Our hats are off to the scholars who made such measurements possible!

DAVID SCHOUMACHER: The development of the Gross National Product began more than 50 years ago as economists tried to explain the boom and bust swings of the business cycle. They needed a quantitative foundation to measure how nations grow and income is created. We've seen its development as a planning tool in times of crisis. Today, when economists and government officials try to manage the economy to create jobs or raise revenue, it changes in the Gross National Product that tells them how well their decisions are working. I'm David Schoumacher for Economics U\$A.

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