

War and famine. Peace and milk. —Somali proverb

“The Future of Growth” Issue

The [technology] revolution has failed the Total Factor Productivity test in two ways: First, the TFP growth rate since 1970 ... has been only about a third of the growth rate of the previous 50 years. Second, the temporary boost in the growth rate from the Internet revolution lasted for only about nine years.

~Robert Gordon, pg. 4

Jonathan Ostry:



The dominant narrative over several decades has been that we should worry about growth (making the pie as large as possible) and not about its distribution (how the pie should be divided). Growth will trickle down, and redistribution is harmful to growth. We know what delivers growth: structural reforms, liberalization, deregulation, macro stability of fiscal and monetary rigor, getting public debt to below, say, 60 percent of GDP, getting inflation down to 2 percent.

However, my view departs from that dominant narrative. My strong feeling is that growth and distribution need to be analyzed together, and that we should scrutinize more than we have the nitty-gritty effects on growth of the policies in our recipe book.

An important constraint on growth is likely to come from inequality. In a lot of places inequality has reached alarming

levels, levels not seen since the 1920s. While it might be tempting to say, let's just get growth going and distribution will look after itself, I think that's a dangerous prescription. There's a lot of evidence to suggest that financial growth and high inequality are two sides of the same coin; that levels of inequality such as we have in the US and the UK today are likely both to undercut economic growth and to make the growth we do achieve more fragile.

There are many reasons why that might be the case. There's a demand side argument to be made that inequality can be bad for growth. When large segments of your society don't have decent access to education, health, nutrition, credit, nor even the political process, they're likely to be economically less productive as well. High levels of inequality have been associated with political instability, which is not very conducive to private investment nor to growth.

Societies where there's a lot of inequality may lack trust in that society. In hard times, when bad shocks occur, as they inevitably do, it is difficult to get buy-in for the adjustment policies needed to right the economic ship from citizens who have not enjoyed the fruits of the good times. When they're told, tighten your belt, sit through this difficult period, things will be better tomorrow, that population will take it *con grana salis*, because why would tomorrow be different from yesterday in terms of their access to economic power?

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This issue is comprised of edited transcripts from an EPS session presented at the American Economics Association meetings in Chicago, January 2017. The panel was chaired by James K. Galbraith.

Panelists:

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Robert J. Gordon is Stanley G. Harris Professor in the Social Sciences and Professor of Economics at Northwestern University. He is one of the world's leading experts on inflation, unemployment, and long-term economic growth. His recent work on the rise and fall of American economic growth and the widening of the U. S. income distribution have been widely cited, and in 2016 he was named as one of Bloomberg's top 50 most influential people in the world. Gordon is author of *The Rise and Fall of American Growth: the US Standard of Living Since the Civil War* (published in January 2016 by the Princeton University Press) and several other books. Gordon is a Distinguished Fellow of the American Economic Association and a Fellow of both the Econometric Society and the American Academy of Arts and Sciences.

Anwar Shaikh is Professor of Economics at the Graduate Faculty of Political and Social Science of the New School University. He is an Associate Editor of the Cambridge Journal of Economics, and was formerly a Senior Scholar at the Levy Economics Institute of Bard College from 2000-2005. In 2014 he was awarded the NordSud International Prize for Literature and Science from Italy's Fondazione Pescarabruzzo. His most recent book is *Capitalism: Competition, Conflict, Crises* (Oxford University Press, 2016). He has written on international trade, finance theory, political economy, econophysics, U.S. macroeconomic policy, the welfare state, growth theory, inflation theory, crisis theory, national and global inequality, and past and current global economic crises.

Gerald Friedman is professor and undergraduate program director in the Department of Economics at the University of Massachusetts at Amherst. His books include *Microeconomics: Individual Choice in Communities* (Dollars and Sense, 2015) and *Oxford Companion to United States History: Labor and Economic History*, ed. with Melvyn Dubofsky and Joseph McCartin. Oxford, Oxford University Press, 2013. Dr. Friedman became nationally prominent during the 2016 US Presidential election when he wrote that Bernie Sanders' economic policies could produce significant economic growth in the United States.

When we advise countries on how to get growth going, we probably shouldn't separate the aggregate effects of policies from the distributional effects. The main policies that we recommend to get growth going have salient distributional effects. It's a puzzle to me why economists don't talk about this. Perhaps they believe distributional effects to be of a second order; or it may be that they think that distributional effects can be fixed ex post, so we don't need to worry about them too much ex ante, at the stage at which we design policies.

But there is evidence emerging that the distributional effects of a lot of these policies are not second order; so it makes sense to put together policy packages that will alleviate some of the untoward distributional effects.

How do we design such strategies? We need to step back and ask whether a single-minded focus on growth is right.

There's a kind of global tax competition that can trigger a "race to the bottom." By lowering everyone's revenues, this may pose significant challenges for governments in providing necessary public goods and fiscal redistribution.

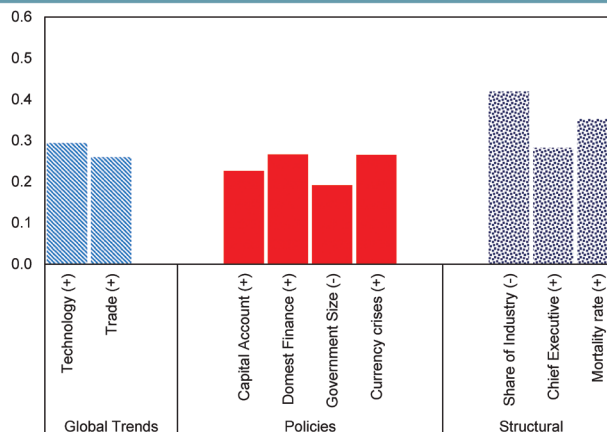
The old model says we know what delivers growth: trade liberalization, capital account liberalization, product market deregulation, legal reforms, and fiscal and monetary rigor. Many countries have adopted and followed this advice, resulting in more deregulation and less state.

The raw data on inequality and growth suggest that higher levels of inequality are antithetical to growth; and redistributive policies, such as social security, health care, job training, etc., have a very weak relationship to growth, which, if anything, looks to be positive in the data. Redistribution, because it does have a favorable effect on equality, far from being an anti-efficiency policy, can actually be pro-growth.

We find that inequality damages the *sustainability* of growth. More unequal societies tend to grow less sustainably and in a more fragile way; whereas redistribution doesn't seem, on average, to have any first-order effect on the sustainability of growth.

Much of the rising inequality since the 1980s is due to forces beyond our control:

POLICIES ARE A KEY DRIVER OF INEQUALITY



Determinants of the Gini measure of inequality based on a panel regression (90 countries; 5-year averages over 1970-2015 period). Each bar shows the percentage point increase in the Gini from a 1 standard deviation increase in the variable.

Global trends: 'Technology' is share of ICT capital in total capital stock; 'Trade' is openness variable from Penn World Tables. Policies: 'Capital Account Liberalization' is measured using the Chinn-Ito Index. 'Domestic Financial Reform' is measured as in Ostry et al (2009). 'Government Size' is share of government in GDP; note (-) impact: higher government size reduces inequality. 'Currency crisis' is from Laeven and Valencia; Structural: 'share of industry' is manufacturing value added in GDP; 'Chief Executive' indicates whether govt. head is a military officer; 'mortality rate' (commonly included in inequality regressions).

technology, trade, and so forth. But they are not the only contributing factors. Some of the policies that derive less from the state and more from the market have had first-order effects on inequality that are quantitatively in the same ballpark as factors such as trade and technology.

Market-friendly deregulation policies may increase growth, but they also have first-order effects on inequality that we should worry about. Capital account liberalization's positive impact on growth is elusive, while it causes income distribution to suffer. Fiscal consolidation actually lowers growth and increases inequality.

We all agree that lower public debt lays a firmer foundation for growth. This has led to some claims that strict limits on debt-to-GDP ratios are needed to foster growth, which in turn leads to calls for rapidly scaling back current debt. But consolidation may be costlier than letting the debt-to-GDP ratio decline organically with growth.

Likewise, the cost of 4 percent inflation is probably not terribly salient, and so driving your economy from 4 to 2 percent is probably not a growth-friendly policy even if, at the same time, it is likely to have positive effects on equity and distribution. Larry Ball (2014) argues that long-run inflation targets

should be raised to 4 percent. It "would ease the constraints on monetary policy arising from the zero bound on interest rates, with the result that economic downturns would be less severe." This benefit "would come at minimal cost, because 4 percent inflation does not harm an economy significantly."

Business as usual would continue to focus on pro-growth policies, engaging in redistribution as needed to pacify the discontented. But growth and distribution are two sides of the same coin; we should focus on both. We should be cognizant of the growth-equity tradeoffs in macroeconomic and structural policies, and we should be asking how we can design those policies so the growth benefits go up and the equity costs go down. We should redress, not merely express anguish over, adverse distributional effects. We should design policies which mute extreme distributional impacts. We should use complementary policies, such as job retraining and assistance with search, to help workers bounce back from job displacement. And we should be much less cautious about redistribution, while moving towards greater reliance on wealth and property taxes, more progressive income taxation, and better targeting of social benefits.

Robert K. Gordon:

The last six years have been the most miserable years for American productivity growth in US history. For the 25 years before 1973, the US economy grew at close to 4 percent per year. In the 30 years between 1974 and 2004, it grew at 3.12; and then, from 2004 up to 2015, it grew at 1.56, coincidentally exactly half of 3.12. Since unemployment and capacity utilization were more or less the same from 2004 to 2015, 1.56 is a shockingly low number for growth and potential output.

The history of productivity growth is tied to three different industrial revolutions. The original 1770–1840 industrial revolution everybody's familiar with took us from wood to steel and introduced steam power, making possible railroads and steamships.

But those innovations pale in comparison to the multiplicity of inventions produced by the second industrial revolution. The innovations of electricity, the internal combustion engine, and the telephone in the 1870s led to electric light, electric machines and manufacturing, motor transport, and, later, air conditioning and air transport. Running water and sewer pipes arrived in urban America between 1890 and 1930, and with them came the conquest of infant mortality. A whole complex of innovations with chemicals and plastics came in the late 19th, early 20th centuries.

The third industrial revolution starting in 1960 or so was in entertainment, information, communications, and technology. In entertainment, television evolved all the

way from black-and-white through cable; in information, computers evolved from main frame and mini-computers to personal computers and the Internet; in communications, we transitioned from an AT&T monopoly to a world of portable and smart phones. Along the way we gained productivity-enhancing innovations such as ATMs, barcode scanning, and fast credit card authorization that utterly changed the whole process of the retail sector.

In conventional growth accounting, Total Factor Productivity (TFP) is the growth of output minus the cost of input. It's used to measure the impact of technology and innovation on the economy. Total Factor Productivity was three times greater from 1920 to 1970 than it was at the end of the previous period or the most recent period, despite the benefits of the computer age and the digital revolution.

The 1950s and '60s showed healthy growth in Total Factor Productivity; in the '70s and '80s, it was much less. There was a strong but temporary revival of TFP with the dot.com revolution in the late '90s and the early 2000s; but we've been back to very low rates of TFP and also labor productivity growth over the last 10 years. Labor productivity growth for the total economy has been only about a quarter of one percent in the last six years.

The third industrial revolution has failed the Total Factor Productivity test in two ways: First, the growth rate of TFP since 1970, during the third industrial revolution, has been only about a third of the growth rate of the previous 50 years. Second, the temporary boost in the growth rate from the Internet revolution lasted for only about nine years.

Has the benefit of the computer revolution to business sector productivity already happened? The third industrial revolution started from mechanical calculators, repetitive re-typing, file cards, and filing cabinets. In the 1970s, along came memory typewriters and electronic calculators. In the 1980s, we got personal computers with word processing and spread sheets. Much of the computer revolution had already happened before the arrival of the Internet. Then, in the 1990s, came the Internet, search engines, and e-commerce. In the early part of the 2000s, a

lot of these new innovations were put to work and made efficient with such innovations as automatic check-in kiosks in airports.

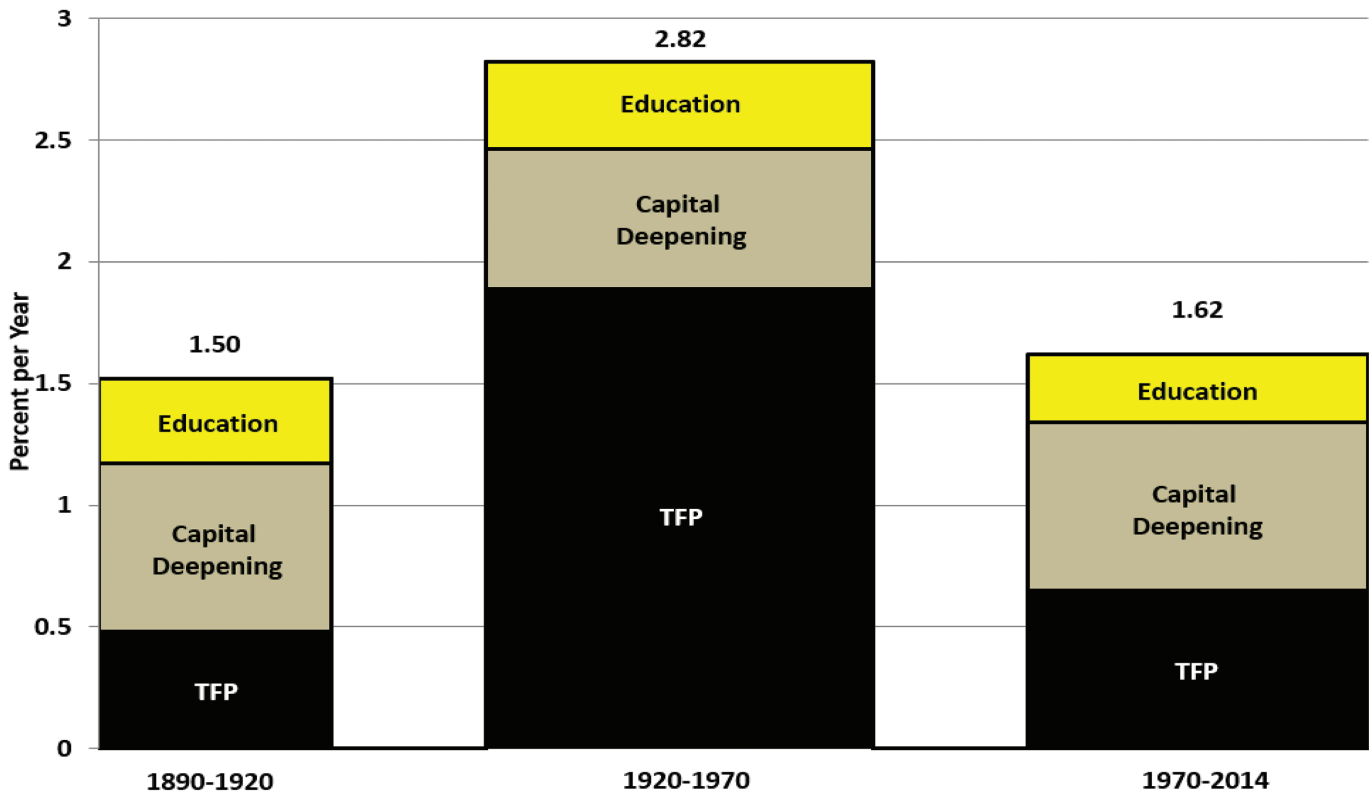
The revolution in the private business sector through the computer revolution was pretty much completed by 2005. Since then, we've had stasis. In offices, desktop and laptop computers are doing much of what they did 10 or 15 years ago. In retail, humans still stock the shelves, slice the meat behind the deli counter, and staff the checkout counter. In finance, ATMs happened three decades ago, and the transition from trading a million shares a day to a billion shares or more a day happened more than two decades ago. In medicine, we have electronic medical records, but very little change in what doctors and nurses actually do on a day-to-day basis. Higher education is extremely guilty of a productivity stasis, with enormously increasing costs in tuition fueled by an increase in the ratio of administrative staff to instructional staff, but with very little change in what the students are learning.

[W]e have in the United States an almost unique life expectancy gap: If you're a 50-year-old male and you're in the top 10 percent of the income distribution, you can expect to live to age 87. If you're in the bottom 10 percent of the income distribution, you can expect to live only to age 73.

Between 2014 and 2015, life expectancy in the US fell. Almost everybody knows that US life expectancy is three to five years shorter than it is in Canada, Europe, and Japan. And we have in the United States an almost unique life expectancy gap: If you're a 50-year-old male and you're in the top 10 percent of the income distribution, you can expect to live to age 87. If you're in the bottom 10 percent of the income distribution, you can expect to live only to age 73.

The Three Eras of Productivity Growth

Figure 1-2. Average Annual Growth Rates of Output per Hour and Its Components, Selected Intervals, 1890-2014



Innovations continue, but how important are they? 3-D printing has greatly speeded up and improved the making of prototypes, but it's not mass production; you can't make 17 million cars a year with 3-D printing. Robots date back to the 1960s, and by the 1990s, robots were already well along in putting together auto bodies and taking over the paint shop, freeing workers from all those noxious fumes. But there are still a lot of things robots cannot do—like turn a doorknob.

Driverless cars and trucks are coming along, but it's going to take a long time to develop vehicles without a human behind the wheel that can navigate dark rural roads at night with no lane markers. Artificial intelligence is the most promising of the new innovations. We've had an evolution of artificial intelligence in legal searches, radiology reading, and voice recognition; but when a survey of corporate leaders asked

what degree of revenue or cost improvement had been achieved through the use of artificial intelligence, three-quarters said that they had seen less than one-percent change. Artificial intelligence is evolutionary, not revolutionary. It's not going to take all the jobs away immediately. We have, after all, *created* 15 million new jobs over the last seven years at a rate of 2 to 2.5 million per year.

Some innovations have adverse consequences. Auto deaths increased last year due for the most part to distracted texting. Technology has brought viruses, identity theft, even interference with elections.

There are genuine reasons for worry. It's not that we're not creating enough jobs; it's that we're not creating enough *good* jobs. We're seeing an erosion of middle-income blue-collar and clerical jobs, while we have an increased demand for low-skilled

jobs—making beds and flipping burgers—and high-skilled jobs with added educational requirements that not every unemployed person can meet.

There are four headwinds slowing growth: 1) the diminishing contribution of education to economic growth; 2) the demographic headwind; 3) rising inequality; and 4) the fiscal headwind.

A major contribution to 20th-century growth was rising educational attainment. High school completion was only 10 percent in 1900; it rose to close to 80 percent by 1970. There's been very little improvement since. College completion has very slowly increased; it's up to about 40 percent. A big problem, however, is that roughly a third to 40 percent of college graduates cannot find jobs requiring college education. They graduate carrying the burden of student loans unable to find a job that uses their talents.

The demographic headwind is the decline in working hours per person due both to the retirement of the Baby Boom generation and the reduction in the participation rate of prime-age males from 98 percent in 1953 to only 88 percent in 2015. For high school graduates, labor force participation is down to 84 percent, and we're the second lowest in the whole OECD after Italy.

This decline in labor force participation is a turnaround from the rise in labor force participation that occurred in the last quarter of the 20th century due to the addition of women to the labor force. In the last 15 years, women's labor force participation has plateaued, even declined a bit.

Inequality is an obstacle to growth. In the last 20 years, fully half of all income gains in the United States went to the top

one percent. The top one percent income growth adjusted for inflation was 95 percent; the bottom 99 percent had an income growth of 15 percent.

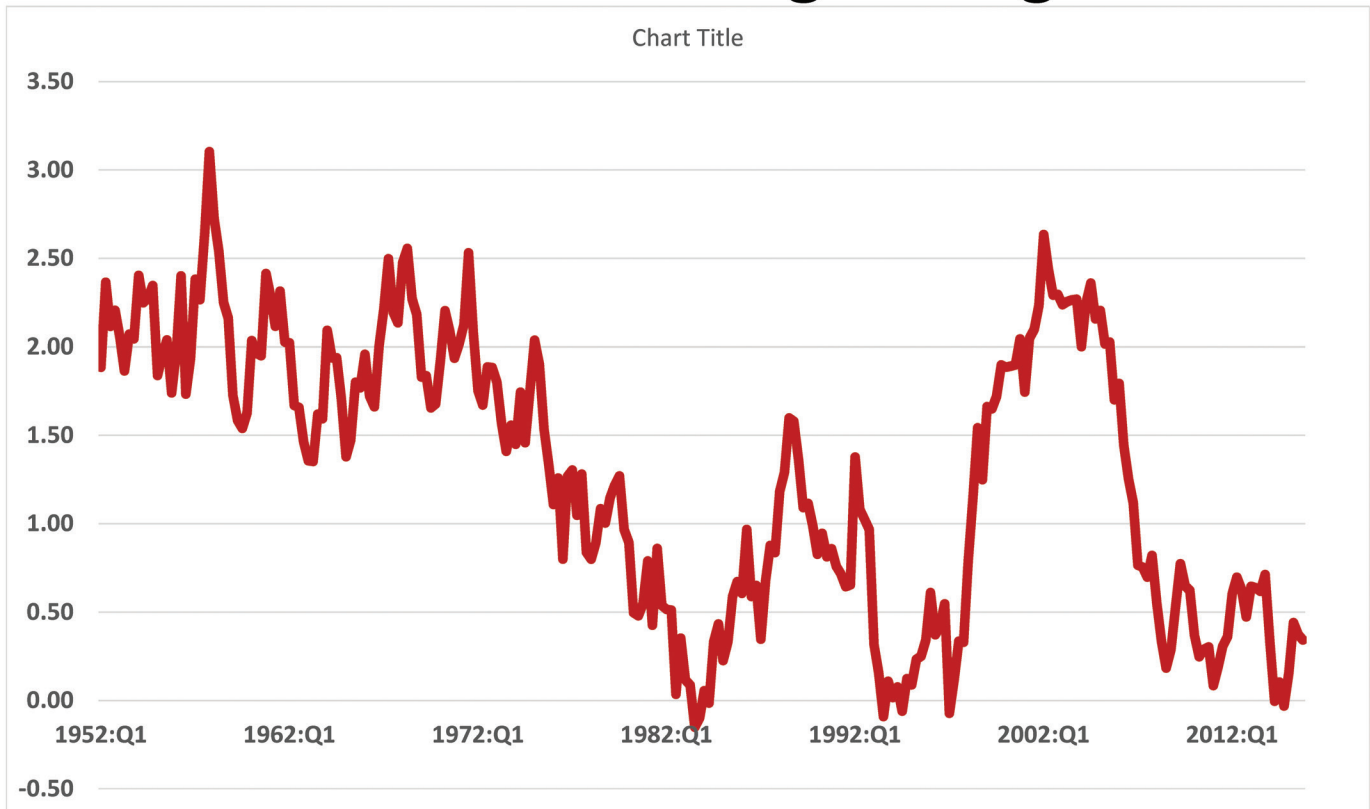
The fiscal headwind is coming up. In 2015, about 75 percent of federal debt was held by the public. I predict it will be over 100 percent in 10 to 15 years if we continue with current policies. Of course it will rise even faster if Trump succeeds in reducing corporate income taxes as much as he wants without tax reform offsets.

So, educational problems reduces productivity growth, the demographic headwind reduces hours per person, inequality reduces median growth compared to average growth, and the fiscal headwind will cause in the future some combination of higher taxes and reduced benefits.

My most optimistic forecast is that productivity will be down from 2.25 over the last 100 years to 1.2. Seventy percent of all TFP growth since 1890 occurred in the five central decades of the 20th century. The big impacts of Total Factor Productivity caused by the digital revolution were largely over by 2005. Innovation continues in many spheres, but it's having less impact on labor productivity than it once did. Much of the slowdown in future growth is caused not by productivity problems, but by the headwinds.

To end on a more optimistic note: The fact that productivity growth is so slow is a harbinger of continued growth in employment. Jobs will not disappear en masse as predicted by the true pessimists.

TFP Growth 1952-2015, Five-Year Moving Average



Anwar Shaikh:



I want to focus on the fact that empirical work is inevitably driven, structured, and interpreted by theory. What you look at and how you read what you look at depend on your theoretical foundations.

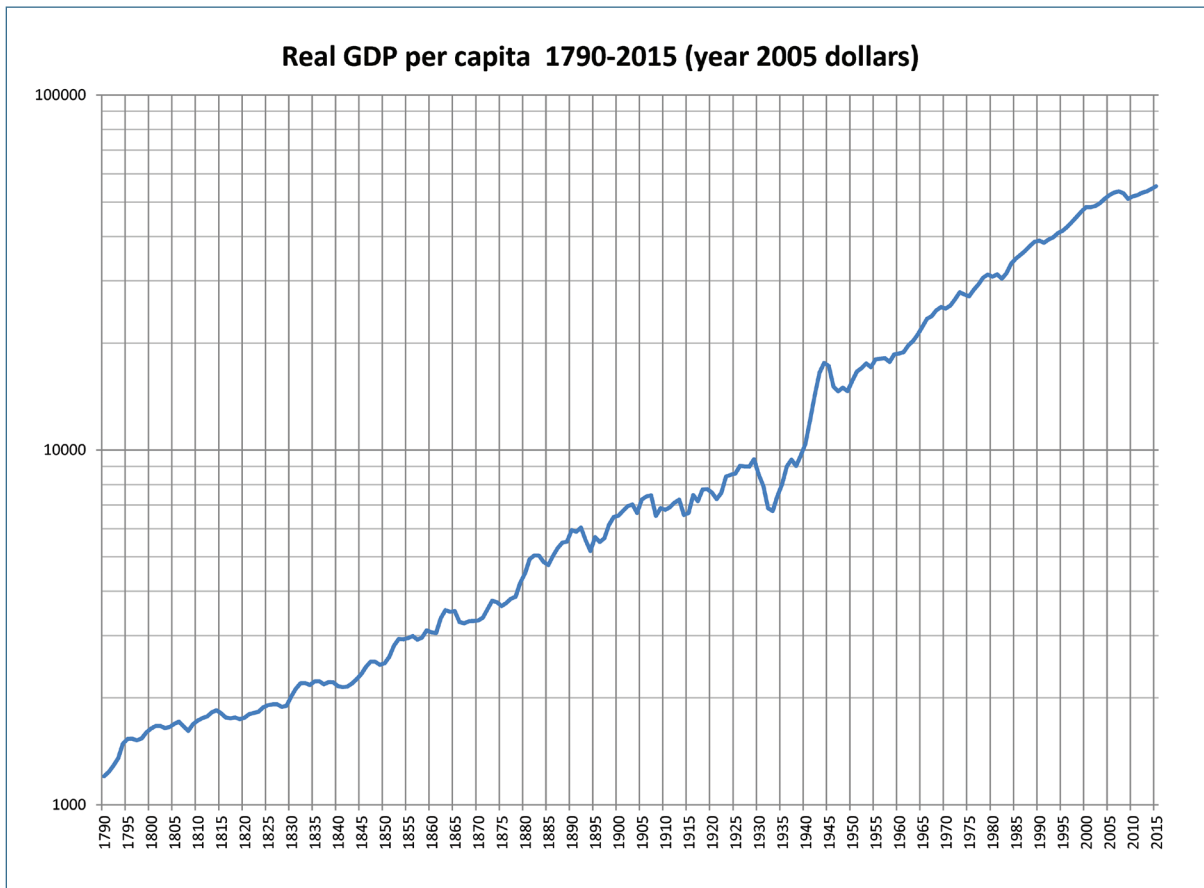
If you look broadly in the tradition of economics, you can see three theoretical lines: One is often called supply side. The focus is on aggregate production functions, the idea that capitalism provides full employment, and therefore the growth of the system is driven by the growth of the labor force and by productivity growth.

Then there's the demand side associated typically with Keynesian and post-Keynesian economics. This theory emphasizes the growth in demand with credit as a very important driving force, and the role of the state as a modulator of the system. Private and public deficits have good effect on growth insofar as they stimulate the economy without inflation. Inequality from that point of view affects demand: A rise in inequality shifts the propensity to consume downward because the people who consume more, the people at the bottom end of the spectrum, have less income relatively. Inequality becomes not just an effect on demand, but politically important.

Now my own approach is to show that there is a consistent path from micro to

macro that encompasses both the classical tradition's emphasis on competition and the Keynesian tradition's idea that effective demand plays a very important role. So let me lay out the approach that I think drives growth in a system.

The first point is that, within industrial capitalism, growth is driven by investment. Private investment is driven by expected profitability. But the expected rate of return can't just hang in the air; it has to be related to the actual rate of return in some way. Keynes argues that there's some adjustment of errors that brings these two in line. I rely on George Soros's idea of reflexivity. Soros has a lot of experience overshooting and undershooting and catching up. He makes the argument that if people think something is going to go up, that can stimulate them to do things that will make it go up. But it doesn't follow that things can just go up anywhere. For instance, if a stock price goes above the price indicated by the fundamentals, people begin to bail out, and as they do, the price comes back down.



So if you look at capitalism over long periods of time, you see that growth is an imminent feature in the system. It's also turbulent. This growth process is punctuated by self-generated booms and busts. The recurrence of great depressions is built into this process of overshooting and undershooting.

Any history of capitalism also takes into account the conjunctural factors that are not driven in the immediate sense by the logic of the system. As an example, let's focus on the impact of wars on the measurement of productivity and of growth.

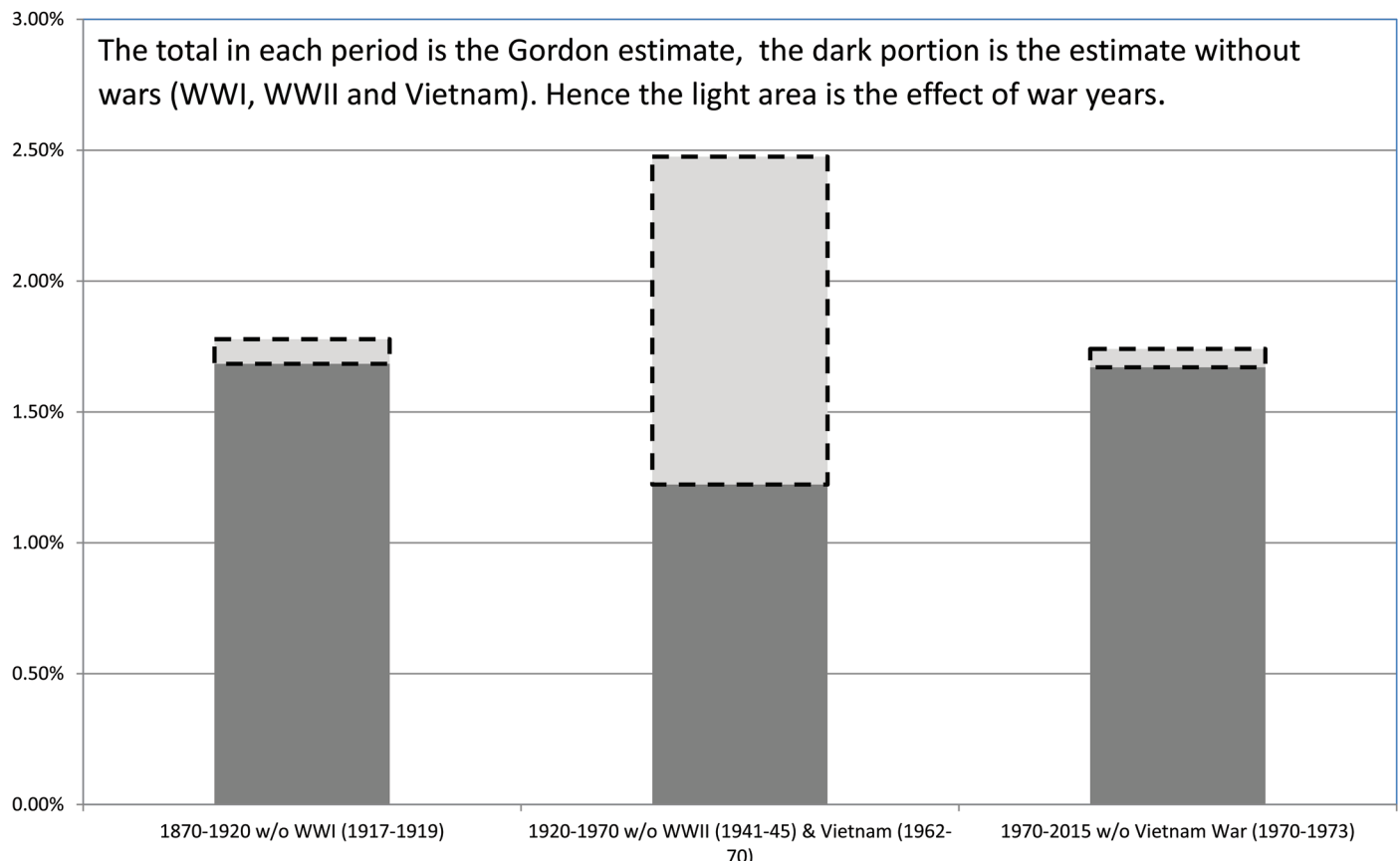
When you look at real GDP per capital from 1790 to 2015, you think, wow, successful capitalism growth; so growth has to be an essential feature of any analysis. I looked at the same data as Bob Gordon. In the middle period you have this big jump. I asked myself, what if I take out, literally exclude the data from World War I, which falls in this

[I]f you look at capitalism over long periods, you see that growth is an imminent feature in the system. It's also turbulent. This growth process is punctuated by self-generated booms and busts. The recurrence of great depressions is built into this process of overshooting and undershooting.

first period, along with the data from Great Depression and World War II in the second period, and from the Viet Nam War in the second and third periods? The result is that actual productivity growth in the middle period was lower than in the other two periods. The net effect of the Great Depression and World War II was to lower output growth and therefore lower per capita growth.

One can talk about three different post-war periods; The first is 1947 to 1969, conventionally called the golden age of labor. Wage share is high; the rate of profit is falling. The corporate profit rate has a boom brought about by the Viet Nam War, and then it comes back down to the trend, and it falls all the way down into the second period, which is 1969 to 1980, the Great Stagflation. And then 1980 to 2007, which is the age of neo-liberalism, the age of the cut-back of the state, and the destruction of the strength of labor, one could call the golden

Growth Rates, US Real GDP per capita, 1791-2015, With & Without Wars



The total in each period is the Gordon estimate, the dark portion is the estimate without wars (WWI, WWII and Vietnam). Hence the light area is the effect of war years.

Source: GDP 1790-1929 constructed by Louis Johnston and Samuel H. Williamson, 1929-2013 U.S. BEA, <https://www.measuringworth.com/usgdp/>

Anwar Shaikh, New School, January 2016

age of capital. The profit rate, after falling, comes to stagnate; but the interest rate, which is the other factor driving growth, goes down. It does seem like real growth. It also stimulates a tremendous rise in profits, in financial speculation, and in the spread of capital across the globe.

So how do we read these things for the future? Ironically, as a critic of capitalism, I believe that capitalism has a future. I think that profitability, the key feature of capital, will continue to grow. I'm not saying that it won't be punctuated by potential crises. I don't think that the financial sector's assets reevaluation has been proper. In fact we've blocked the kind of collapse of asset value that typically is what Schumpeter called creative destruction. China's enormous growth may lead to a crisis. There's the issue of whether Europe is going to hang together. And there's the issue of the global

mass of unemployed people. The ILO estimates about 550 million underemployed people in the world, and you know what? They're pissed off, and they have a right to be, because they will never be picked up by any growth prospect that we're talking about. They have been left aside.

I'm also pessimistic about the impact of mechanization. Employment is picked up by the growth of output, but displaced by productivity growth. Lower productivity growth can be a benefit to employment, and conversely, high productivity growth can be a detriment.

The other thing is that capitalism regulates the growth of labor itself by deregulating population growth. In every advanced country population growth rate has been shrinking. Even in the developing world, educated people have less than two children. Well, less than two children is below

the replacement rate, so the most educated people are voluntarily self-extinguishing, helping capital.

In the end, I'm halfway between Bob's pessimism and my earlier optimism. I think capital can recover, I think profits will recover. Whether they're permitted to continue is a different story, a political issue. But I don't think that we will be able to solve the problems of the world unless we acknowledge the failure of development. I don't see that the policies being proposed by the IMF will solve that problem. We need to have a different way of looking at these things.

We're all unsure about what Trump is going to do, because he's unsure about what he's going to do. I do think we will sort of make it through; but we're facing a very serious political problem about capitalism and employment and its effects on global conditions of living.

Gerald Friedman:



Many of my comments will be about Bob Gordon's book, *The Rise and Fall of American Growth*. The book is a masterpiece, and has made my Hanukkah shopping easy because I'm giving it to all my relatives. If there's anybody who hasn't read it, go out and get it. The book is filled with great stories. I learned so much about aviation, the development of roads.

Bob posits that exogenous technological change created the incredible growth rates of the 20th century and that the end of significant innovation means the end of

growth. I'd suggest that maybe Bob should read some more labor history. New products matter, but only to the extent that they can be produced economically. Labor productivity is increased with cooperative work environments and the provision of public goods. The acceleration that happened in what Bob calls the second industrial revolution came with not only new technologies, but also new management systems and new ways of organizing the labor process. Innovations in production processes led to long-term employment relationships. And the slowdown has come with the decline of long-term contracting in the labor process and the retreat from the public sector.

A lot of labor history in the United States has been about the changes that came between 1880 and 1920, the rise of the big corporation with new management systems. These included giving the workers rules, seniority rights, and reasons to stay on the job; so at the same time that we had the new managers, we had the new workers, workers who were long-term committed to their jobs, long-term committed to a particular company.

Henry Ford had a major problem: He couldn't get people to stay on the job. He

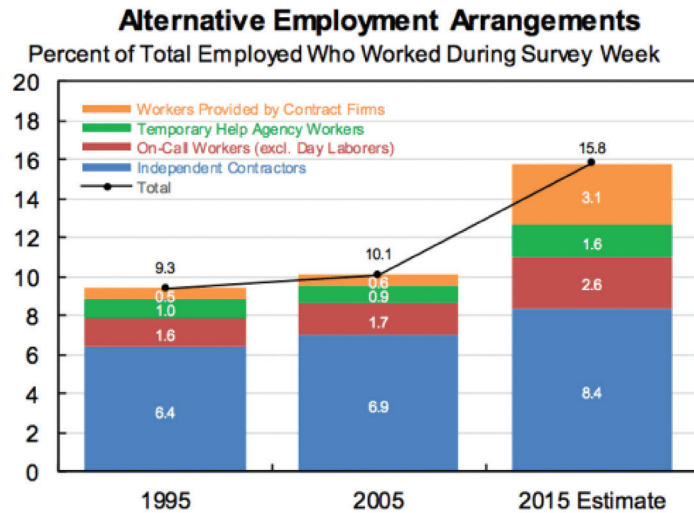
had ten percent absenteeism. His first year, he had to hire 52,000 people for 14,000 jobs. Then he devised the Five Dollar Day. You got five dollars a day if you stayed on the job, weren't late, behaved yourself. Then his company started to work.

Other companies like International Harvester and US Steel began experimenting with compensation systems designed to reduce turnover and encourage job tenure: health insurance, pensions, seniority promotion, rules-based hiring and firing. Management wanted job lock and longer job tenure so that people would feel committed to the company, work harder, work steadily, allow the new technologies to be used effectively. Unions also contributed to job lock and commitment.

Longer job tenure contributed to higher and rising productivity. It allowed companies to benefit from training their workers. Why train somebody if they're going to leave after a week? There is immediate productivity gain from less turnover, more efficient use of fixed assets, higher morale, and harder work. When workers have longer tenures, companies can justify spending on training.

Since 1970s: Rise of “gig economy” Alternative work now 16% of labor force

Growth in Alternative Work Arrangements Accelerated Last Decade , Especially Contracting Out Workers



Note: Individuals can be categorized as both on-call workers and workers provided by contract firms. Alternative weights were estimated for 2015 data to match the share of self-employed workers in the October 2015 Current Population Survey. Source: Bureau of Labor Statistics, 2015 Katz and Krueger Rand survey.

Now, as we discovered in the late '70s and '80s, long-term employment systems depend on a stable macroeconomic environment, because if labor's a fixed factor of production, then you have very little margin to work with when the economy turns down. Plus you have corporate raiders coming in and stealing the pension funds.

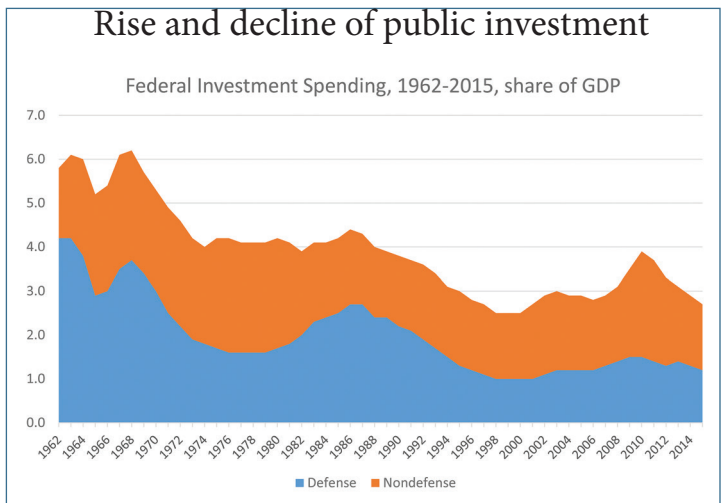
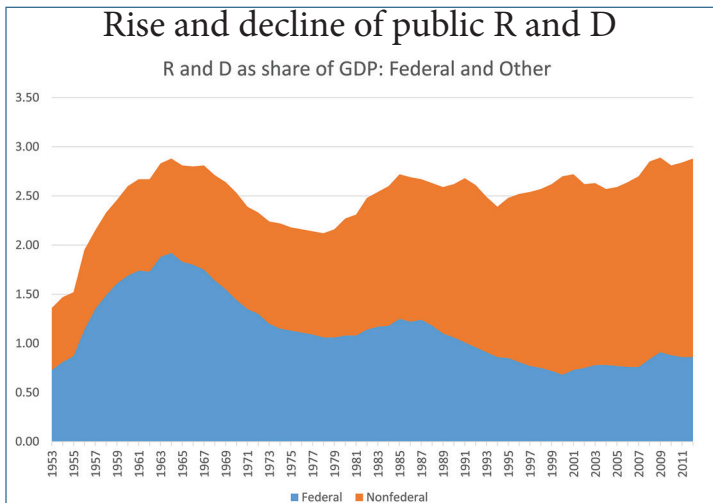
Now we have the alternative: the gig economy. About 16 percent of the labor force

now has alternative work arrangements, are contracted out. When companies don't lock in the workers, do not supply training or benefits, then workers are not locked into the company and don't have a commitment to do a good and better job for the company. So that's one part of the decline of the American economy since the 1970s: self-inflicted damage due to the destruction of what was an effective working system.

The second part is government and public goods. Government can be really useful. Why did we have such a boom during World War II? Keynesian macroeconomic stimulus in the form of massive government investment in plants and facilities, infrastructure, research and development. The US government put tons of money into figuring out a way to mass-produce penicillin for World War II soldiers. Seventy percent of the important drugs developed in the 20th century were developed by the US government through research and development. Why is government so much better at research and development than the private sector? Because it doesn't patent its stuff, so it's available to everybody. Some of the other accomplishments of public R&D include lasers, GPS systems, and computers.

Public investment as share of GDP peaked with the interstate highways, airports, dams, clean water, etc., in the '50s and '60s. Since then, both defense and non-defense investment spending has decreased. We've largely stopped doing that kind of public investment,; as a consequence, our productivity has leveled off. If Bernie Sanders' trillion-dollar infrastructure program had been enacted, it would have been the equivalent of Dwight Eisenhower's interstate highway system in terms of its share of GDP.

As an example of an area where government regulation could contribute to efficiency: I hurt my foot. Despite the fact that the emergency room, my doctor, and my



physical therapist are all part of the same company, I was required to fill out 11 pages of paperwork for the PT's office. Why don't we have effective electronic medical records, while the Veteran's Administration does? What's the difference? Government regulation. If we wanted effective electronic medical records, the government would mandate that everybody use one system, and then it would work. Why doesn't the government do it? That would be interference with the free market. So we have doctors spending about 20 percent of their time processing paper for the insurance industry and for the payment system. Why is it that our health care system is working so badly? For the same reason our roads are falling apart: deregulation, lack of effective government intervention.

When companies don't lock in the workers, do not supply training or benefits, then workers don't ... have a commitment to do a good and better job for the company.

So we're going to trust the markets to self-regulate? Bernie Madoff is the result of unregulated and unwatched markets, of the failure of the Security Exchange Commission. Declining regulation leads to a change in focus from unemployment to fighting inflation. If we fight inflation by raising unemployment, then, yes, we can bring down the inflation rate; but the consequence is the destruction of a working system of employment that was resulting in rising productivity. We've reduced pressures on businesses to increase productivity and cut government controls in ways that have further undermined productivity.

So why have we failed as a nation in the last 40 years? Our failure has been self-inflicted. Can we fix it? I'd like to think so. I'm optimistic. And I'm hopeful that a group like EPS will do something to help.



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TRANSATLANTIC DEFENSE PARTNERSHIP AT STAKE?

Geostrategic Changes, Economic Trends and Mutual Defense

June 21, 2017

at the Royal Military Academy, Brussels, Belgium

This seminar aims at nurturing transatlantic dialogue by crossing American and European perspectives in order to identify stakes, challenges and opportunities after the elections in major NATO countries in 2016 and 2017. Indeed, can the transatlantic defense partnership survive through the welter of recent changes? Does it need to evolve and, if so, how? What kind of missions can we expect to reignite this partnership? What are the consequences in terms of capabilities and defense industrial bases?

Welcome

Keynote Peter Chase, German Marshall Fund

Lunch

Panel 1 "Why do we invest on military expenditures?"

- Tomáš Valášek, Carnegie Europe
- Edward Hunter Christie, NATO
- Binyam Salomon, Royal Military College of Canada

Panel 2 "What future for the defense industrial base?"

- Ethan Corbin, NATO Parliamentary Assembly
- Eugene Gholz, University of Texas
- Renaud Bellais, Airbus and ENSTA Bretagne

Debate & wrap-up

Reception

Hosted by the Royal Military Academy of Belgium, with support from Airbus



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