

How to Create Millions of New, Productive Jobs for the U.S. and the World

Faced with an unemployment crisis similar to today's, President Franklin Roosevelt created 4-5 million jobs during 1933–44, using a *national credit institution*. He made the Reconstruction Finance Corporation (RFC) act as a large national commercial bank issuing credit for investment in production and infrastructure. (See Chapter 7 for further elaboration of American System credit policies.)

In March and April 2020, the economy and its 50 million un- and underemployed workers have been subordinated to the Federal Reserve's policy of bailing out trillions of dollars of worthless speculative debt, while industry, small businesses, and other elements of the real economy are scrambling for the equivalent of pennies. Putting the fox in charge of the hen house, Blackrock, the world's largest asset-management fund, has been put in charge of allocating federal stimulus money. Blackrock is a leader in the drive for "financial regime change," placing central banks, and their green fascist agenda, above nations. Meanwhile, the U.S. House of Representatives has now proposed to borrow and spend no less than \$3 trillion in one piece of legislation, without creating a single new, productive project or job.

The failure of the monetarist policies which gave us five decades of deindustrialization and the deterioration of the American economy into a globalized, service economy must now be reversed.

Raising Up America's and the World's Workers

Many of the roughly 5 million Americans who *had* productive jobs and are now not working, face the potential of the *demand* that supports their jobs not coming back. But many auto and auto parts workers this Spring have proven that there are much more important—and more rewarding—services they can perform in the plants where they were making cars and trucks—producing medical devices and public health equipment which is in critically short supply in the nation's fight against the novel coronavirus pandemic, and gaining in

their machining and engineering skills in the process. Some of those workers had to mobilize and demonstrate to get the right to step up and do something better, produce something vital.

Now expand the horizon of that kind of thinking, to the more than 190 nations around the world fighting this pandemic, many of them in the developing sector, with shortages of hospital beds, electric power, clean water supplies, and medical devices and equipment that are far beyond "critical." Some are virtually defenseless, except by trying to lock down people who must work every day to live. Now they face worsening shortages of food, as well.

Moreover, the United States does not have the hospital infrastructure it needs either. The number of beds per population has been cut by more than half since the 1970s; hundreds of rural areas have no full-service hospital that is reachable in an emergency or for frequent chronic health episodes. Despite the efforts of the Army Corps of Engineers and of hospital administrators to create new beds, tens of thousands of Americans have died at home or in nursing homes without getting hospital treatment in this pandemic, and tens of thousands more have died of diseases *not* COVID-19 because they did not want to go to hospitals which were treating both COVID and other patients. Compare this to the lightning hospital-building mobilization in Wuhan, China in January, where "pop-up" modular hospitals were constructed for serious COVID cases, and temporary ones for mild cases, enabling other hospitals not to take COVID infections at all.

Such modular hospital and clinic facilities can and should be constructed rapidly all over the world. It's been done before in local crises; doing it worldwide, with the electrical power and clean water supplies needed, will take a new international credit system and the joint effort of the leading technological nations.

The COVID-19 disease is unlikely to disappear or be prevented or cured any time soon, possibly not for several years. That means that all those new facilities for treating the sick while isolating them from their

households and coworkers are going to be needed. And there is time to build them if the leading technological nations of the world act fast, and cooperate.

Those hospitals and power and water supplies can be built fast, and on the absolutely massive scale required, if the United States, Russia, China, India, other leading nations mobilize their labor forces and their people to create new capabilities—new industries, new jobs at technological and even scientific frontiers.

What America’s Economy Was Capable Of

In the period 1935–75 the U.S. economy transformed itself from Great Depression to world powerhouse. And don’t buy the eyewash that this was the “obsolete old industry” period. We have been living since on the scientific and industrial inventions of that time—the transistor, the radar/laser/directed energy beam, the computer, the nuclear reactor, isotope separation, the satellite, jet and rocket engines, etc. The Tennessee Valley Authority’s multi-purpose hydroelectric/navigation/irrigation dam system has been unsurpassed and rarely equalled since for economic development. Some of that period’s technologies have been supplanted by their inferiors: The electric locomotive, for example, is faster, more powerful, more fuel-efficient than today’s dominant diesel-electric traction.

Let’s take a snapshot of that progress using Lyndon LaRouche’s most basic principle of sustained economic progress. LaRouche showed that the share of an economy’s total production going to the *consumption* sustaining skilled, educated *productive* workers and their households had to increase. At the same time the share going to produce infrastructure and other capital goods for production had to increase even faster. That would mean that the capital intensity (capital goods per productive worker) of the economy would increase at the same time as consumption or living standards of productive households rose. Then, LaRouche showed, the economy would be generating “free energy” (call it “surplus” or even “real profit” if you want) to allow improvement in technology, culture, and science in order to put future progress on a sound basis.

But there’s another big factor: overhead. Overhead is the share of the “work” done in the economy which is not productive. Some of it is necessary, even critical: the work of the doctor or nurse, for example, or the teacher. But it is overhead which is supported by the work of the power and goods producers, transporters, miners, drillers, etc. And during the past 50 years of

FIGURE 1

Categories of U.S. Economic Output

	CHANGE 1935-1975	CHANGE 1975-2015
V	+1,000%	-25%
C	+2,200%	+70%
C/V	+1,400%	+160%
Productivity	+2.6%/yr.	+1.0%/yr.

deindustrialization of the American economy, overhead employment has grown massively at the expense of productive employment. And it has become less and less necessary, to where retail is the biggest economic sector, the MBA is the degree every student wants, and even the mathematics geniuses work at hedge funds and banks instead of teaching science.

LaRouche used the letters “V” to refer to the consumption of the productive employees; “C” to refer to capital goods and their use, as with the generation and use of electricity; “C/V” to refer to the capital intensity of the economy’s production; “D” to refer to the share of employment which is overhead; “S” to refer to surplus production beyond the share of “V” and “C”; and “S-D”—or “S-prime”—to refer to free energy generated in the economic system (see Figure 4, Chapter 2).

Figure 1 compares the shifts in relationships among these factors between 1935–75 and 1975–2015, when the economy was heading in a healthy direction and in an unhealthy direction, respectively.

Here is 1935–75:

“V” increased by 1,000%. This is both more productive workers, and a higher standard of living of their households. The *Statistical Abstract of the United States* has for 120 years reported every five years the number of productive workers and their real wages, a reasonable measure of their households’ standards of living.

“C” increased by 2,200%. We use here a basic “marker” for the huge variety of capital goods, namely electricity generation and use in terawatt-hours (a terawatt-hour is a billion kilowatt-hours).

“C/V” increased by 1,400%.

“D,” the overhead ratio in the workforce, never went above 70%; and during WWII it was less than 50% and goods-producing work was more than 50%.

You can get a feel for the “S-prime” being gener-

ated, although we don't show it here as a quantity or share of production, because it is actually *the appearance of inventions which are new to the economy* and of new fields of work. But we know the rate of growth of productivity averaged 2.85% per year. The growth of multifactor productivity—the increase in productivity caused by technological progress—was a high 2.6% per year.

Here is 1975–2015:

“V” decreased by 25% because of the mass disappearance of productive employment.

“C” increased by just 70%.

“C/V” increased by 160%, but mainly because of the decline of productive workers, “V.”

“D” rose to 85% *overhead* employment.

We don't need to mention the fate of “S-prime” or free energy of *this* economy. It's been below breakeven. Productivity growth has averaged 1.9% per year. Multifactor productivity growth has been 1.0% per year.

When the United States was fighting a great war against fascism 80 years ago—and what are we in now, if not an international war against disease, hunger and unemployment?—*more than half* of America's entire labor force was productively employed. In the 1960s, as we went to the Moon, it was still 35% productively employed, with 400,000 Americans working on the Apollo project. So in 2020, with just 15% of the U.S. workforce productively employed, America was unprepared to be an arsenal of healthcare and nutrition for the world.

Now, the United States can transform its economy quickly into that arsenal, while keeping its sights on its missions to the Moon and Mars.

A New World System of Public Health

America now has a labor force of about 170 million people; 164 million of these people are working or have worked recently enough to be counted in the labor force by the Labor Department (which has forgotten another five or six million who could work but haven't looked for work in a good while). Just fewer than 30 million are productively employed; another 19 million are in healthcare and education.

At least 100 million Americans in the labor force are not involved in building, operating, or maintaining the *physical economy* of the United States which produces all the goods and services we live on, nor in the creative invention of new physical and biological processes, which is the real source of any nation's wealth.

What is needed in this global, five-alarm fire of a crisis—and this is “the big one,” as we know it so far—is for some 50 million of those 100 million Americans to enter new, productive employment—or, to replace someone now productively employed, who transitions to a more demanding job in the space program, power engineering, technology development, or scientific research—or to go straight to that kind of new and challenging employment themselves. With 50 million new productive jobs the United States would be equaling the level it reached in 1944 when the Arsenal of Democracy was going full bore: half of the entire workforce with productive jobs.

New hospitals and public health centers: If the United States joins with the other leading technology powers in mobilizing new hospitals, equipment, staffing, and specialists across the developing nations of South America, Africa, and Asia, that process will create *6 million new productive, skilled jobs in America and well more than 100 million such jobs worldwide*. Here's how.

Under the Hospital Survey and Construction Act (Hill-Burton Act) of 1946, the United States is mandated to have, in every county, a standard of 4.5 hospital beds of various capacities per 1,000 residents. The era of for-profit hospital chains has abandoned this standard, effectively cut it in half or worse depending on the county. The coronavirus pandemic has given us an order: **Restore the Hill-Burton standard.**

In fact, we should work with other major economic powers to restore it worldwide. The President of Ghana, for example, in his State of the Union address May 12, realized that his country must build 100-bed hospitals in 88 districts plus six new regional hospitals as fast as humanly possible—he said in one year!—to save lives in the pandemic. How could Ghana do this? With the help of at least the four powers which must launch a new “Bretton Woods” credit system for critical infrastructure projects and capital goods exports. The President of one of those, China, said on May 19:

We must provide greater support for Africa. Developing countries, African countries in particular, have weaker public health systems. Helping them build capacity must be our top priority in COVID-19 response.... The world needs to provide more material, technological, and personnel support for African countries.

In the United States, we'll add about 600,000 new hospital beds in nearly 1,800 hospitals—600 of 800-bed capacity, and 1,200 of 100 beds each. Across the world, we need to add 10 million, in about 30,000 new community hospitals.

In the United States, this will create 5-6 million new jobs based on the current staffing of our hospitals and hospital wards. These would include about 300,000 physicians and surgeons, 1.4 million registered nurses, 170,000 diagnostic technicians and technologists, and more than 117,000 clinical lab technicians, not to mention pharmacists, dieticians, electricians, plumbers, and so on. Moreover, at least 500,000 construction workers and engineers will be directly employed for a decade in *building* these new hospitals, and hundreds of thousands more building the materials for them. This is based on diverse workforces of 250-300 building 100-bed community hospitals, and larger workforces constructing the 800-bed hospitals.

The new *world* public health system building can't take a decade—it must be done as rapidly as possible, as in Ghana, to prevent a massive number of human beings dying of COVID-19 or of lack of necessary treatment for other diseases. This will mean more than 90 million construction workers and new professionals to build and staff the hospitals, with isolation and intensive care capacity, clinics, and new “CDCs” and research centers.

How many construction engineers and medical professionals will go from the United States into this worldwide public health mobilization? We don't know; but we do know that the new, productive employment from it will be in the range of *100 million worldwide, and the American hospital-building aspect of it, 6 million or more jobs here.*

Electric Power: The United States and cooperating powers will need much more electric power to mobilize this production. Powering these new hospitals alone, in countries across the world many of which generate and use 100 kwh/person/year or less (compared to 10,000 in the United States and 7-8,000 in Europe) will mean producing and siting 1,000 or more power plants of 50-100 megawatts each, and fast. Worldwide, more than a billion people have no access to electricity at all. Some 500,000 jobs constructing and operating these plants will be created.

As soon as possible, small modular nuclear reactors (known as “SMRs”), for more reliable electricity generation with higher power efficiency and no need for

transporting large volumes of natural gas fuel, should be brought into this process of powering up the world electrically. SMR operational prototypes have been produced and more are being developed in the United States, Russia, China, Canada, and several European countries; the capacity for commercial factory production of these small modular nuclear units does not yet exist. Nonetheless, South African Energy Minister Gwede Mantashe announced May 7 the interest of his ministry in SMRs. His ministry will begin work on a roadmap for the procurement of 2500 MWe of new nuclear capacity, and will consider all options, including SMR projects led by private companies and consortia.

In the United States, Americans have less electric power available per capita now than they did in 2005—we've been going backwards. Industrial use of power has shrunk 30% since the 1980s. Electricity is the most important capital and machine-tool of all modern societies. If we participate with other major nations in building new infrastructure of several critical kinds—electrifying the railroad corridors for high speed, desalination plants to combat drought, deeper ports and new inland locks and dams all with automated equipment—then thousands of *gigawatts* are needed (a gigawatt is 1,000 megawatts or equivalent of one large nuclear reactor).

Another 10 million jobs will be created internationally just building barely reasonable levels of electric power; more than 1 million in the United States including construction workers, power engineers, and line workers.

The “science driver” for this entire effort is a crash program to develop the electric power of the future—**fusion power**—and the plasma and laser technologies associated with it. This crash program is not negotiable for human progress: Fusion propulsion is the only rocket technology fast enough for travel to and from Mars and elsewhere in the Solar System, and plasmas are the best power technologies for developing the Moon—where we will also mine the ideal fuel for fusion power, Helium-3.

Nearly 5,000 scientists were working on fusion in U.S. labs in the 1980s. That should have doubled by now; instead, funding cuts have reduced it to about 2,000 scientists.

Fresh water: Providing fresh water for all the hospitals, clinics, and research centers to be built throughout the developing countries against the COVID-19 pandemic is only one aspect of the huge need for fresh

water, irrigation, and navigation we need to get to work on.

The United States uses far less water than we did 40 years ago for industry (we shut that down!) and agriculture; only urban water use has grown during our great globalization and deindustrialization. This will be changed; and internationally, large water control projects like the TransAqua project in Africa's Sahel are the key to spreading modern high-technology farming.

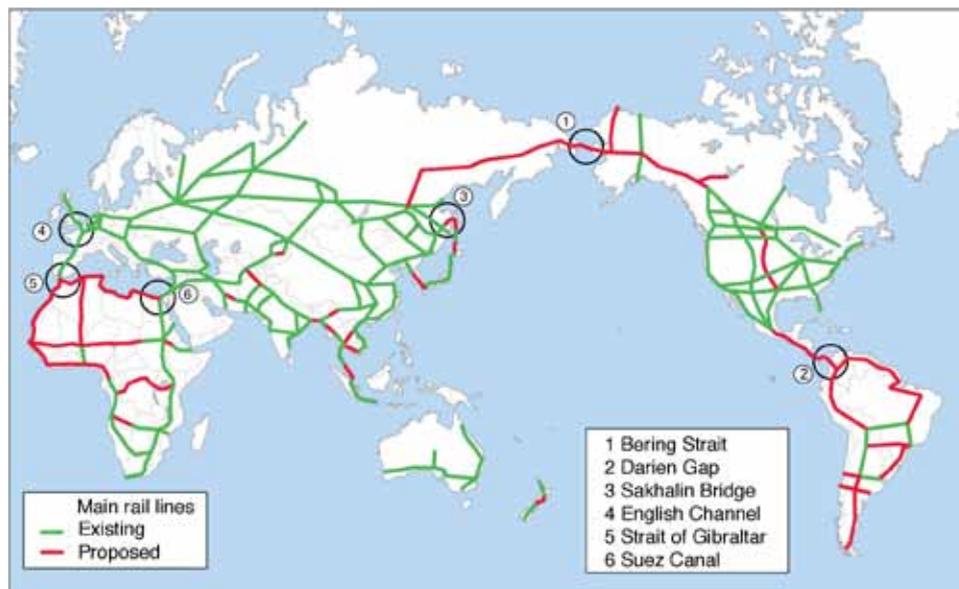
President Franklin Roosevelt, with his Bretton Woods system, wanted to help build "Tennessee Valley Authorities" in other continents—the most successful and famous development project in history was the TVA. He also wanted to create a Missouri River Authority, an Arkansas River Authority, and a Columbia River Authority in the Northwest. Twenty years after his death these ideas became a plan for a truly great project of infrastructure, supported by President John Kennedy and by Robert Kennedy as a Senator. This is the North American Water and Power Alliance (NAWAPA) plan. After their assassinations this great project was abandoned by America's political leadership in the maelstrom of the Vietnam War.

The Schiller Institute and LaRouchePAC have revived and updated the NAWAPA plan, which has been described as the equivalent of "a dozen TVAs." Our study showed it will create 6-7 million new productive American jobs over a decade—construction workers, tunnel drillers, heavy equipment makers, civil and heavy construction engineers, and on and on.

Irrigated agriculture in the Southwest could expand from 22 million to 41 million acres through the NAWAPA infrastructure project. Our study also located 42 coastal and Great Lakes sites ideal for electric-powered desalination of salt water. This means still further development of nuclear electric power.

The TransAqua plan for the African Sahel, another such "super-TVA" project, would recharge the once very large and productive Lake Chad, which has been drying up. *There are estimated another 5 million or*

The World Land-Bridge



more productive jobs to be created carrying out the TransAqua plan.

Worldwide, this kind of project—new TVAs—will create a very large number of new productive jobs, certainly not less than 20 million over the next generation.

Electrified, high-speed railroad lines: In the largest new infrastructure project of the 21st Century thus far, China for five years has been building out new railroad corridors across Eurasia; and with South Asian and European countries including Russia collaborating, this network of Pacific-to-Atlantic rail corridors and some North-South routes has already reached more than 10,000 miles. These are not the nearly 20,000 miles of *high-speed rail* corridors, including some magnetic levitation routes, built in China itself in the past decade or so. The Eurasian Land-Bridge lines are not yet high-speed.

Lyndon and Helga LaRouche and the Schiller Institute have promoted the Eurasian Land-Bridge, or "New Silk Road" projects since the 1980s; expanding their idea into the World Land-Bridge by the late 1990s.

The lines built from China to Europe have been successfully replacing air freight, especially during 2020, and increasingly gaining cargo share relative to ocean freight. Nothing except speed—which means electrification and soon magnetic levitation rail—keeps rail from replacing air travel up to 1,000-mile and even longer distances; and this includes travel in North and South America as well as Eurasia, the Mideast, and Africa.

The President of China has put out a goal of connecting every African capital city with high-speed rail, as the President of Russia has proposed finally providing Africa with adequate electricity with nuclear power. The World Land-Bridge to be built out will certainly reach or exceed 200,000 miles. And in addition, *EIR* for nearly 20 years has proposed a grid of about 40,000 miles of electrified, high-speed rail in the United States.

Building a high-speed rail network to a tunnel under the Bering Strait will connect this network to the Eurasian Land-Bridge routes. This is a further 3,000-mile Alaska-Canada rail connector. And a 2,000-mile corridor through Central American and South America down to Tierra del Fuego, Chile has been foreseen for many decades but never built. It is only one axis of a new network of high-speed rail across Central and South America for which European and Chinese railroad construction companies have been planning. It requires “new Bretton Woods” credit issuance.

The manpower requirements to build these double-tracked rail main corridors and connectors are 80,000 new skilled and productive jobs for each 5,000 miles of such high-speed or mag-lev rail. *That’s 650,000 employment to build the “lower 48” electrified rail network; 60,000 more for an Alaska-Canada corridor to the Bering Strait; and about 5 million in the building out of the World Land-Bridge.* This is the work of up to a full generation.

The all-electric locomotives and train sets are a job for the auto industry, along with its current emergency tasks producing medical equipment and devices demanded by the coronavirus crisis. The 6,000 megawatts of new electric power capacity are part of the build-up we described above. The many millions of tons of steel will demand new productivity from the steel industry.

The Moon-Mars mission and space colonization: Nearly half a million American scientists, engineers, and skilled craftsmen worked on the Apollo project which took human beings to the Moon. That NASA-centered workforce is down to far less than 100,000 now.

If we gear up the Moon *and* Mars mission President Trump and NASA have named Artemis, doubling NASA’s budget to start with, and if we are going to cooperate with all the other space-faring nations that want to send human beings into the Solar System, then *Artemis will employ, directly and indirectly, at least a million scientists, engineers, and skilled workers.*

FIGURE 2

U.S. Manufacturing Employment

(millions)



But as science drivers for the new discoveries, processes, and technologies being developed in *all* of the great infrastructure projects we have been describing here, crash programs for space travel and colonization along with fusion power and plasma sciences will result in far more employment, and professions in frontier industries which as yet scarcely exist.

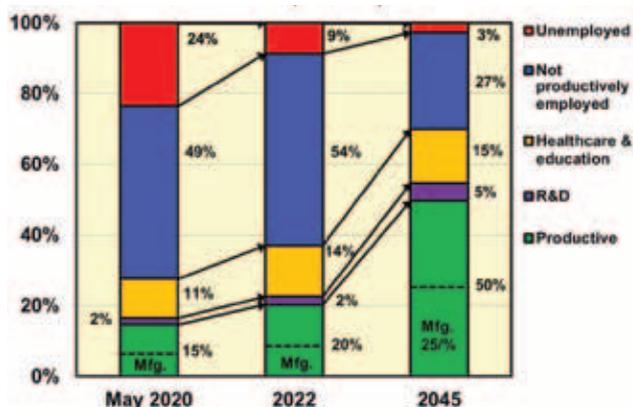
The Coming Transformation of the Economy

Thus we have shown—and could show in much more detail—that *just the direct employment on the international infrastructure projects most urgently needed to meet “the big one” and transform the world economy in the process, will create at least 135 million new, productive and skilled jobs and professions worldwide, and 15 million of those in the United States.* This will take place over a generation but its largest component is the mobilization for new world healthcare and public health systems which must be built fast, now. It will in fact create far more *indirect* jobs than that, as reindustrialization on a higher level takes place across the “advanced” economies and, at last, industrial development and high-technology agriculture is brought to the developing sector.

But this, above all, will take a great collaborative push from the leading technological powers—LaRouche always pointed to the United States, China, Russia, and India, but others will join—to launch a new global credit system, a new Bretton Woods *as FDR intended it.*

U.S. speculative post-industrial policies have caused a precipitous collapse in manufacturing employment,

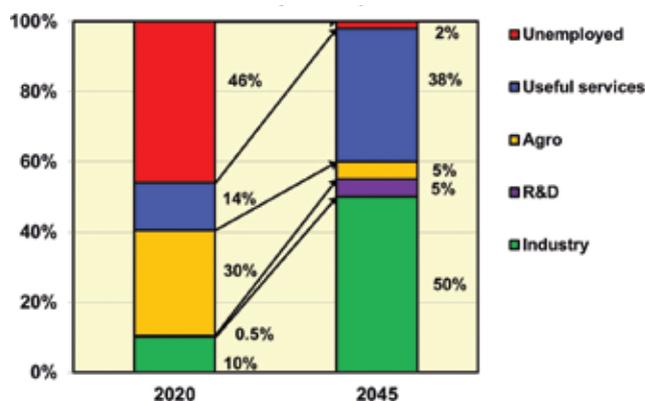
FIGURE 3
Transforming the U.S. Labor Force
 (% of total)



1998 to present, which has never been corrected (see **Figure 2**). In 1998, U.S. manufacturing employment stood at 17.6 million workers. Then the take-down: It fell through the remaining Clinton years, and through the George W. Bush years, until it stood at 13.1 million in October 2008; then the 2008 financial-economic crash smashed the economy, and manufacturing employment plunged further to a level of 11.5 million in March 2010. Thus, from 1998 through March 2010, manufacturing employment fell 5.7 million workers, a fall of a full third. Under Obama and then Trump the U.S. gained back 1.4 million manufacturing jobs through February 2020, but the U.S. is still 4.3 million manufacturing jobs below the insufficient levels it had in 1998, and more than 30 million manufacturing jobs beneath where it would be under LaRouche’s program.

In the American economy we can immediately start a strong increase in productivity of employment by starting a crash mobilization of hospital construction and public health production worldwide—including, definitely, in the United States. This draws people now unemployed, non-productively employed, and simply those wanting to help create this critical economic infrastructure. Lyndon LaRouche’s economic teams already 40 years ago showed that infrastructure and productivity are directly related. At that same time, LaRouche himself specified that a really productive and technologically advanced “full-set economy” aims for 50% of its labor force in goods production and 5% more in scientific research and development (see **Figure 3**). Technological leaps can then keep coming, be put into new infrastructure, and shift the whole econ-

FIGURE 4
Transforming the World’s Labor Force
 (% of total)



omy upwards.

The LaRouche plan will transform the U.S. economy from service-sector/financial domination to one of productive development. By 2045, one generation from now, the labor force will so surge that the economy will employ 91.5 million productive workers (compared to 30.4 million in 2020), 45.7 million manufacturing workers (compared to 12.9 million in 2020), and 9.14 million research and development (scientific) workers (compared to 3.1 million in 2020)—a tripling in all these critical categories. In 2045, through the increase in the manufacturing sector’s workforce size, and powered by scientific breakthrough-spillovers in fusion, space exploration, and similar advanced areas, the productive powers of labor in the U.S. economy could rise by an order of magnitude.

For the world as a whole (see **Figure 4**), a labor force today dominated by de facto unemployment in the so-called “informal sector,” combined with horribly low productivity subsistence agriculture, will be shifted in a generation to one where half of the labor force will be productive operatives, and another 5% of the labor force will be part of the critical R&D sector. The agricultural workforce will shrink as a percentage of the total, as per capita and per hectare agriculture productivity rises through mechanization, irrigation, use of fertilizers, and increased energy and water inputs. Following the approach taken by China over the past 40 years, where 850 million people were lifted out of poverty, the world as a whole, one generation from now, will be in a position to finally eliminate all poverty around the middle of this century.