

Rebuild the world's economy with the Eurasian Land-Bridge

by Helga Zepp LaRouche

The following speech was given on Nov. 5 at EIR's Symposium in Bonn-Godesberg, Germany. It was translated from the German by George Gregory.

At the moment, Europe is experiencing a profound paralysis, and the reason for it is that none of the leading institutions has found the courage, up to now, to question the axioms of thinking underlying the prescriptions of the Maastricht Treaty, on the one hand, and “globalization,” on the other. The outbreak of the currency crises in Southeast Asia in May, and the tremors on the international stock markets since August of this year, dashed illusions that the real economy could continue to dramatically shrink, while the “Golden Age of continuous stock market profits” would continue nonetheless. As a result, we have witnessed a broad sobering-up effect, and this peaked in a large-scale panic on Oct. 23 and 27. Then, on Oct. 28, there was a euphoric mania on Wall Street, which German television appropriately compared to the ecstasy of religious fundamentalists.

A transatlantic consensus among insiders in the financial institutions is taking shape, in the meantime, according to which a collapse of the international stock markets, to the tune of about 50%, will have to be accepted, followed by a longer period of deflationary policy, comparable to the 1929-33 period.

Even if the current crisis were “only” a matter of a worldwide depression (which is not the case), the social and political consequences (non-financing of pensions and the health system, social tensions resulting from long-term unemployment, cultural pessimism, resentment of foreigners, chaos in Russia, etc.) would be completely unacceptable. But, the real danger is far greater, as Mr. LaRouche has already elaborated — i.e., an uncontrolled chain-reaction collapse of the entire global financial system and “Albanian conditions” worldwide, such as prevailed at the beginning of the year, when the so-called financial “pyramids” collapsed.

At the moment that the crash of the entire system explodes, over a time-span of a few days, there will be an opportunity, for a relatively short moment, to prevent the collapse of supplies of essential goods and to overcome the crisis by means of reconvening a Bretton Woods Conference, necessarily on the initiative of the United States. Because such a

window of opportunity will be open only for a very brief time, it is necessary that the relevant leaders understand the fundamental principles of an economic emergency mobilization program, before the moment of the collapse.

The program for overcoming the economic crisis must be modelled on the successful examples from the time following World War II—for example, the policy of the Credit Bank for Reconstruction (Kreditanstalt für Wiederaufbau), as well as the measures which Franklin D. Roosevelt took following the Japanese attack on Pearl Harbor, and the policies which President de Gaulle realized in 1958.

Once the parameters for the world economy have been redefined at a New Bretton Woods Conference, the program for the Eurasian Land-Bridge must become the centerpiece of global economic development. In accordance with the principles of physical economy, the infrastructural development of the Eurasian continent is the indispensable prerequisite for the general economic development of the continent. The Eurasian Land-Bridge is, moreover, no longer just an idea: On the initiative of the Chinese government, it already represents a new dynamic, which is seen by many nations as the way in which they can overcome their underdevelopment, e.g., in Iran and a number of central Asian nations, the Group of the so-called D-8, as well as India, but also in Africa and Ibero-America.

The reconstruction must truly represent a new beginning, i.e., it cannot be oriented to the interests of the financial system, but rather to the principles of physical economy, which has to guarantee the survival of those human beings now existing upon this planet. Such an approach does not consider human beings to be “useless eaters,” who are viewed as a burden to the environment in any case; it looks upon the development of the creative potential of the individual as the decisive source of social wealth.

The very first step must, therefore, be to attack those problems which can be solved with the industrial capacities and technologies already available, problems which are neglected at the moment, only because of the conditions of the old world financial system. Thus, in the first phase to be initiated, the aim must be to avert the suffering of people.

Many things that now appear subjectively impossible (the often-cited lack of a consensus on even the most irrelevant

issues) will look completely different, under conditions of a financial crash. In this situation of existential crisis, the first task is to show people a vision which represents a way out of the crisis and the otherwise exploding catastrophe.

Although most people in the West can hardly imagine it, we will soon be faced with the task of evoking a spirit of mobilization similar to that in the immediate post-war phase after 1945—whether among German women who cleared away the rubble of war, or Russian women in the same period. We can accomplish miracles, just as we did then, on condition that we clearly define what the task is, the mission.

Phase 1: A crash program

The following areas must have priority in the first phase of the crash reconstruction program, in addition to the projects which belong to the Eurasian Land-Bridge itself:

1. An emergency program to provide adequate supplies of food to those areas of the world most requiring it (North Korea, Africa) and the regions with dramatic under-supply (Russia, the Balkans, etc.), and to immediately increase agricultural production, including emergency supplies of fertilizer and agricultural machinery, especially for the CIS states. The European Union can expand its agricultural production in a first mobilization by 20%. The aim must be to increase strategic food reserves in at least four to six months.

2. The immediate implementation of emergency measures in health care and sanitation systems; this includes adequate supplies of clean water, containment of disease-carrying insects, and combatting old and newer epidemics.

3. Emergency supply of energy in crisis areas (e.g., northern Russia).

4. Mobilization of national civil-engineering units to overcome the most urgent bottlenecks in infrastructure and production. That includes extension of existing transport lines of the Land-Bridge (Paris-Berlin-Moscow-Yekaterinburg-Aktogay-Urumqi-Lanzhou-Xi'An-Lianyungang and also Berlin-Vienna-Budapest-Istanbul-Teheran-Mashhad-Tashkent-Almaty-Urumqi).

5. Immediate utilization of all existing capacities in the construction sector and in the production of investment goods by means of project-linked state contracts, which immediately provide work for unemployed skilled labor. In the initial phase, such measures can achieve an increase of capacity utilization of 15-25%, which can then be increased further.

In the initial phase of the mobilization, of course, a survey of inventory must be carried out, and it must be determined which industrial capacities still exist, particularly in the areas of machinery construction and machine-tool construction, and also to determine the extent of the available labor-force. It must also be determined, which capacities have been lost, along with the necessary steps to regain and extend them.

Millions of jobs can be created over the short term, by fully utilizing existing capacities; over the medium term, a considerable expansion of industrial capacities is necessary, in order to exploit the potentials of the economies in Germany, Italy, France, and other nations of Europe. Finally, a shift in priorities in education must see to it that an adequate labor force is available over the medium term, to reestablish a level of industrialization such as there was in the 1960s.

The current situation

There are currently 18 million officially registered unemployed in the nations of the European Union. In reality, the situation is far worse than that. In September 1997, in Germany, there were officially 4.3 million unemployed. Even the official Institute for Labor Market and Vocational Research in Nuremberg concedes that approximately 8 million jobs are “missing” in Germany, which includes the various categories of hidden unemployment. Moreover, there are now some 5-6 million people on “minimal employment,” the so-called “610 mark jobs,” among the 34 million employed: These are persons who are not counted among the unemployed, but who work only part-time and do not receive pensions or health insurance. Among these, there are also many people who had full-time jobs just a few years ago, in the steel sector or other branches of industry.

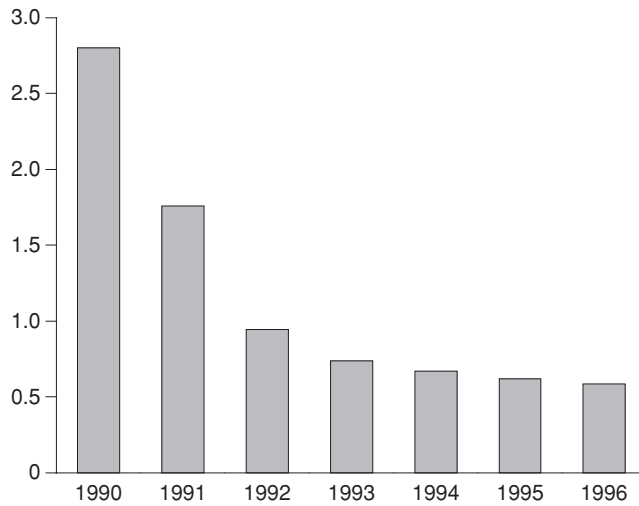
One measure of the short-term, mobilizable reserves in industry, is provided by the comparison of current employment in specific industrial sectors, with the situation at the beginning of the 1990s. A considerable portion of those people who are now employed in low-wage, part-time work, or who are unemployed, or who were discharged into an early retirement or depend upon social security aid, could be quickly reintegrated into employment in production.

Deindustrialization in western Europe

The reduction of industrial employment which began at the beginning of the 1970s, accelerated drastically at the beginning of the 1990s.

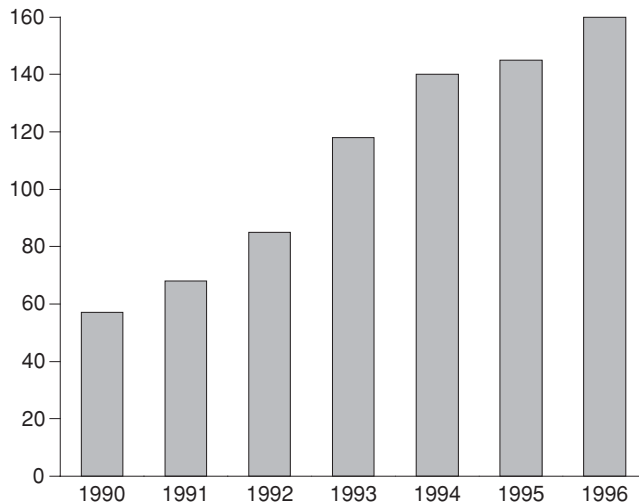
Since 1990, some 2.5 million industrial jobs in western Germany have disappeared. Over the same period, eastern Germany was subjected to a virtual demolition of industrial jobs: Of the 2.8 million industrial jobs in 1990, a bare 600,000 now remain, i.e., less than one-fifth (**Figures 1 and 2**). Per-capita industrial production in the new federal states of Germany is at the lowest level of all regions in the European Union. Total production in the new states accounts for only 60% of consumption in that region. The remaining 40% has to be provided by the West, without compensation, because

FIGURE 1
Industrial jobs in eastern Germany, 1990-96
 (millions)



Sources: German Federal Statistical Office, EIR.

FIGURE 2
Immediate costs* of official unemployment for the German taxpayer
 (billions deutschemarks)



*Additional public expenditures + reduced tax income + reduced social security payments, as calculated by the state-run Institute for Labor Market Research.

Sources: German Institute for Labor Market Research, EIR.

TABLE 1
Employment in the three largest industrial sectors

	1991	1995	Change
West Germany			
Machinery	1,084,000	816,000	-268,000
Electro-technical	1,109,000	890,000	-219,000
Vehicles	963,000	805,000	-158,000
Total	3,156,000	2,511,000	-645,000
Italy			
Machinery	325,000	265,000	-60,000
Electro-technical	333,000	307,000	-26,000
Vehicles	313,000	240,000	-73,000
Total	971,000	812,000	-159,000
France			
Machinery	254,000	230,000	-24,000
Electro-technical	426,000	386,000	-40,000
Vehicles	487,000	459,000	-28,000
Total	1,167,000	1,075,000	-92,000
Great Britain			
Machinery	391,000	338,000	-53,000
Electro-technical	439,000	405,000	-34,000
Vehicles	484,000	400,000	-84,000
Total	1,314,000	1,143,000	-171,000

the eastern states are not permitted to sustain their own productive capacities. This is not only a crime against the 20% officially unemployed in that region of eastern Germany; it is also extremely expensive. This situation necessitates transfer-payments over an extended period of time, in the amount of DM 150 billion annually.

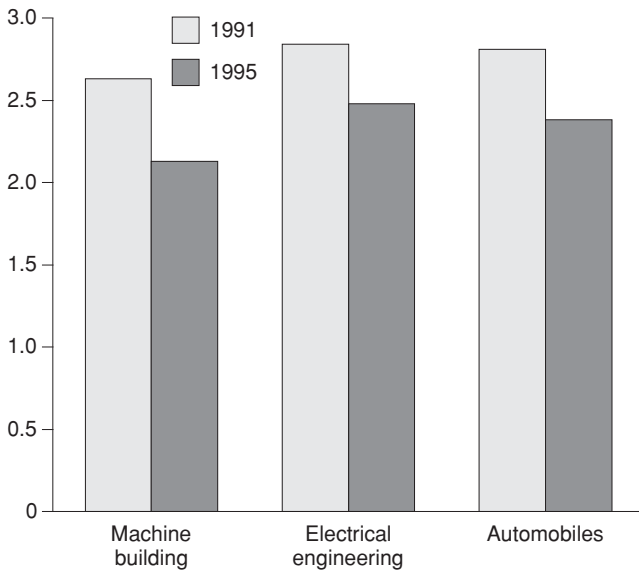
The process of deindustrialization, over the course of the 1990s, was nowhere more dramatic than in both parts of Germany. But, there was a massive reduction of industrial jobs in other regions of Europe as well (Table 1). Figure 3 shows the drop in jobs in the three largest industrial sectors. The Eurostat data only cover the period from 1991-95, but, with the exception of eastern Germany, this is also the most decisive period.

The situation in Germany

According to these Eurostat data, a good 5 million industrial jobs have disappeared in Germany since 1990. After subtraction of those persons who can no longer work, for reasons of age, for example, we have a short-term mobilizable reserve in Germany of some 4 million industrially trained persons.

FIGURE 3

Employment in three major industrial sectors (European Union, without eastern Germany)
(millions)



Sources: Eurostat, EIR.

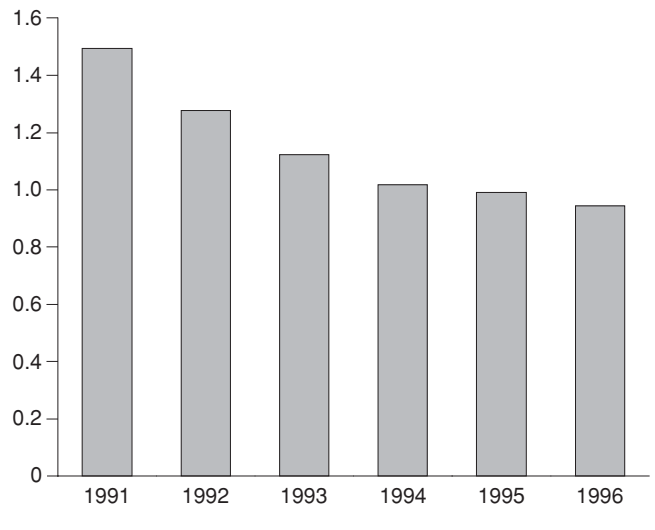
In summer 1997, capacity utilization in the German industry was approximately 85%, while the size of the employed labor-force was about 8.5 million persons. Since an increase of capacity utilization does not linearly correspond to an expansion of employed personnel, it can be estimated that full utilization of existing capacities would entail employment of some 1 million additional persons in the labor-force. These people are located primarily in western Germany.

New production sites would have to be created for the remaining 3 million mobilizable industrial employees. The creation of one new job in Germany entails additional investment expenditures of approximately DM 150,000. Thus, in order to reintegrate the mobilizable reserves of industrial manpower over the short term, additional investments in industry in the range of DM 450 billion would be required. Of these investments, some DM 200 billion would be accounted for in construction investments, and an additional DM 250 billion for new equipment. The latter would entail a corresponding expansion of production among the producers of investment goods, especially in machinery and electro-technology.

The totality of investments for equipment of German firms in 1996, including the service sector and the government, amounted to DM 284 billion. If the expansion of production capacities, just sketched, were carried out over a period of three years, this would involve an increase of domestic

FIGURE 4

Employment in German machine-building sector
(millions)



Sources: VDMA, EIR.

investments, beyond current levels, of some 30%. The domestic orders placed with producers of investment goods would increase accordingly.

The additional DM 200 billion for construction investments corresponds to an increased labor-power requirement in the construction industry of 400,000 jobs, and maintenance and creation of a total of some 800,000 jobs in all areas of the economy.

On the whole, the short-term reintegration of available industrial labor-power would achieve full employment, on account of the side effects in the other areas of the economy. Not only would the major portion of official unemployment be resolved, but in addition, millions of involuntary early retirees, part-time employees, and social security recipients would once again have a place in productive economic life.

Machinery construction

There are practically no large firms in the German machinery construction sector. Despite this medium-sized industry structure, the nearly 6,000 German machinery-construction firms, which employ some 1 million persons, have leading positions on the world market. They have experienced the worst collapse in their history since 1991 (Figure 4).

Of the 6,000 firms in German machinery construction at the beginning of 1996, 570 of them went bankrupt in the course of the following 12 months. Since reunification, nearly 600,000 of the 1.5 million employees in machinery construction were forced into unemployment, half of them in eastern

Germany. At the beginning of 1997, there were 84,000 people employed in machinery construction in eastern Germany, and the trend is downward.

Since many of the bankrupted machinery-construction firms continued to function, with drastically reduced personnel, in one form or another—for example, through the purchase of segments of production by other firms—about one-quarter of German machinery construction disappeared in the past years, but the loss of capacity is estimated by the Association of German Machinery Construction (VDMA) at “only” 10%. Most of the machinery-construction firms laid off all unessential manpower during the low point of orders in 1993-95. When the situation improved somewhat in 1996, the lack of manpower created a pinch everywhere. The reduction of jobs continued, however, because of uncertain prospects and the miserable profit situation for businesses. Under the conditions of a mobilization, the remaining capacities in German machinery construction would presumably suffice to re-employ most of the laid-off labor-force. The situation in eastern Germany is different: some hundreds of new machinery construction firms would have to be established.

Machine tools

Only four countries, with no more than 5% of the world’s population—Japan, Germany, Italy, and Switzerland—today produce 70% of all machine tools traded worldwide. Nearly half of the world production of machine tools is accounted for by about 1,500, mostly middle-sized, firms in western Europe.

The value of German machine-tool production has dropped since the beginning of the 1990s, by about 40%. Employment in this branch of industry underwent a shock-collapse to the levels of 1953. Of the 100,000 employees in West German machine-tool production in 1989, 60,000 remained by 1996. While machine-tool production was the largest earner of foreign exchange in the days of the G.D.R., which had a leading position among the Comecon economies, some 90% of the previous 100,000 employees have lost their jobs since 1990.

Nuclear technology

Without an immediate mobilization of nuclear technology capacities in Germany, this potential will soon be irretrievably lost. In the mid-1970s, there were some 150,000 jobs in nuclear technology in Germany. The construction of a single nuclear power plant requires 60,000 man-years of work, which absorbs about 10,000 jobs over a construction timespan of six years.

By contrast, today there is only a level of personnel required for maintaining the status quo. According to studies of the Nuclear Technology Society in May 1996, there are 38,000 jobs in German nuclear technology today. Of these, 8,000 persons are employed in operating power utilities, another 3,600 are permanently employed by specialized firms for inspections, maintenance, repairs, and other tasks. On the whole, therefore, 11,600 people are employed in German nu-



A demonstration of coal miners in Germany’s Ruhr region, January 1997, protesting against layoffs. The banner reads, “First the mine dies, and then the city.” Some 5 million industrial jobs have disappeared in Germany since 1990.

clear power plants today. These are, for the most part, highly skilled engineers, physicists, chemists, and radiation-protection experts. There are another 3,000 persons employed by specialist companies, who are necessary for the annual shut-down of each nuclear power plant, together with the replacement of fuel elements. Supervisory authorities employ some 800 personnel, supervisors, and technical specialists for inspection of nuclear power plants. Another 3,000 jobs are in the area of the nuclear fuel cycle in Germany, plus 300 in operational research and development, and 3,000 in export of nuclear technology. Finally, orders generated by the operators of nuclear power plants generate another 16,000 jobs in supplier industries.

There is hardly any training of new nuclear technicians in Germany. Programs in colleges and technical schools are being continuously reduced. If current trends continue, it will be necessary to draw on foreign technical labor-power, simply to replace those personnel who retire because of age.

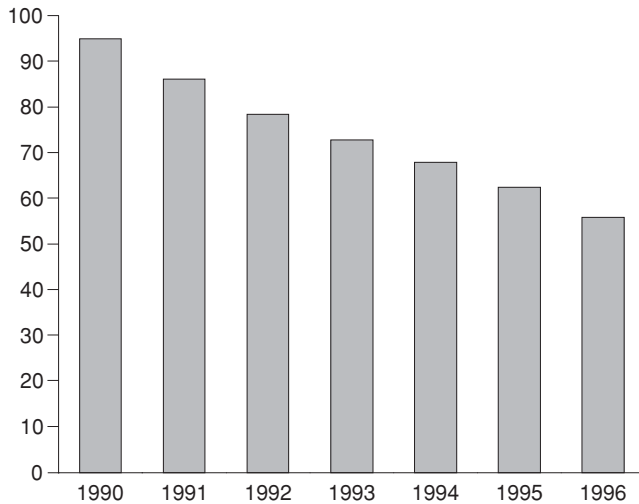
Aviation and space technology

Between 1991 and 1996, the number of employees in German military, aviation, and aerospace industries dropped by half, from 280,000 to 140,000. Some 70% of all production sites of the military-technology industry are endangered for lack of public contracts. Among the small and middle-sized

FIGURE 5

Employment in western German aerospace industry

(thousands)



Sources: BDLI, EIR.

equipment firms in aviation and aerospace, the stock of personnel has likewise fallen by 50%. (See **Figure 5**.)

The confirmation of the Euro-Fighter project will stabilize a number of segments of this branch of industry. But the reestablishment of this high-technology capacity requires projects which go far beyond the Euro-Fighter. Germany is on the verge of retiring from its engagement in manned space-flight altogether. Planned public programs have been increasingly cut in the past years, or stopped entirely: The construction of the space-glider Hermes which, together with the recent successful launch of the new ESA launcher, Ariane-5, was supposed to have demonstrated Europe's independence in space, has been given up, for the most part because of the German government's hysterical budget-cutting. German participation in ESA was reduced to half of what had been foreseen at the ESA conference in 1987 in The Hague, when a 12-year plan for space research was passed.

In 1992, the Sanger Project for the development of the "Aircraft of the Twenty-First Century" was dropped, following promising development work at MBB. This is an aircraft which can take off from any large airport and also operate in nearby space.

Engineers

Germany employs currently some 900,000 engineers, among them 300,000 in machinery and vehicle construction, 250,000 in electro-technology, and 180,000 construction engineers.

Given the slump in the investment goods industry, there were 1,000 open jobs in western Germany for machinery-construction engineers, but 18,000 engineers were looking for work. In the electro-technical segment of the industry, 15,000 engineers were bidding for a few hundred jobs.

The number of unemployed engineers in the 1980s was generally constant at 20,000, but since then, it has more than doubled to 45,000, among these 16,000 machinery engineers, 13,000 electro-technical engineers, and 6,000 construction engineers. There are also a large number among the employed engineers, estimated at more than 100,000, who are working at jobs that have only a distant relationship to their training, including jobs as taxi-drivers. It is estimated that the number of unemployed or wrongly employed engineers will soon increase to 200,000, if present trends continue.

Not least on account of the deterrent effect which these unemployment statistics have had on students beginning their studies, German industry runs the danger of not having the engineers and scientists to replace those currently employed. The number of students beginning an education as engineers has been cut in half since 1990, from 21,500 to 10,290. Between the winter semester 1990-91 and the winter semester 1996-97, the number of students who began their studies in the electro-technical courses of engineering and technical schools and universities dropped from 7,200 to 2,900. Of these, an estimated 1,500 will graduate, while the annual requirement for new electro-engineers in German industry is approximately 5,000. Bottlenecks are foreseeable. The number of students beginning studies in the various scientific disciplines has likewise dropped by half since 1990.

Industrial research

A total of 50,000 jobs in R&D departments of German industries were eliminated during 1991-95. Personnel employed in these areas dropped from 322,000 to 274,000.

Of the 86,000 jobs in R&D departments of East German firms at the time of the fall of the Berlin Wall, only 16,000 were left by the end of 1995, and 12,000 of these were directly in industry. The "research density" in the new federal states of Germany has fallen, in the meantime, to 1.2 per 1,000 residents, while the European average is 4.7.

Construction industry

The construction sector is the only productive sector which expanded in the new federal states since reunification. The number of employees doubled to nearly 1 million. In the meantime, however, construction orders are dwindling. The capacity utilization of equipment was under 75%, even during the summer months.

According to estimates by IFO institute, the equalization of living standards in both parts of Germany requires a volume of investments in eastern Germany of DM 400 billion. Per-capita investments in the east are indeed higher than in the west, but the volume of investments is currently only one-quarter of the IFO estimate.

In the western German construction sector, with its 1.8 million employees, capacity utilization of equipment is less than 60%. The main reason for the collapse of orders is the drastic reduction of expenditures for public infrastructure, particularly contracts of the regional communities, while contracts in housing construction and in industry are stagnant. While western German communities invested 30% of their total expenditures in infrastructure in the 1970s, today the volume accounts for only 15% of expenditures. For the federal government, the share of construction contracts as a percentage of total expenditures dropped from 5.2% in 1970 to 2.2%. Expenditures for maintenance or extension of roads have fallen to such an extent in North Rhine-Westphalia and Baden-Württemberg, that soon a number of country roads will have to be closed to truck traffic, because the condition of the roads is so poor. The Association of German Industry recently warned that the level of modernization of streets and bridges in Germany has fallen to a horrifying degree. In the meantime, the number of unemployed construction workers, which is subject to seasonal changes, has risen to 200,000.

According to reports of the German construction industry, the backlog of public infrastructure investments in Germany has risen to DM 1,100 billion. The repair of sewerage infrastructure alone requires investment of DM 150 billion in both eastern and western Germany. In the transportation sector, DM 400 billion has to be invested soon. Additional investments in the range of DM 300 billion are still outstanding in other areas, particularly in housing construction.

Phase 2: Infrastructure and the expansion of industrial capacities (1998-2003)

1. Once the first phase of full utilization of existing capacities has come into being, by means of productive credit creation, which will have the effect of an immediate significant improvement of tax-receipt income to the government, the second phase of the mobilization for a crash program must be dedicated to realizing the Paris-Berlin-Vienna "Productive Triangle" and the Eurasian Land-Bridge. In addition to the development of the corridors along the Trans-Siberian railway and the "New Silk Road," the southern route from Iran to India, Bangladesh, Myanmar, Thailand, Cambodia, Vietnam, China, Thailand, Malaysia, and Indonesia must be built. In the process, the entire rail network must be expanded to several track-lines, and must be electrified.

2. A crash program for the expansion and modernization of the machine-tool sector and other high-technology industries must be initiated. That includes the "reindustrialization" of the new federal states of Germany, as well as the modern-

ization of the capital-goods industry in Russia, which employs some 14 million workers who have lost their jobs since 1986. The same holds for the other east European and CIS states. The modernization of the state-owned industries in China offers a broad field of cooperation, particularly for the innovative middle-sized firms of western Europe.

3. Another crash program is necessary for mass production of nuclear power plants in modular designs for China, Russia, India, but also for Europe. The best candidate is the inherently safe HTR model developed in Jülich.

4. Agricultural production in the CIS states must be expanded, including the modernization and enlargement of the inventory of agricultural machinery, enlargement of cattle herds, improvement of food processing, expansion of storage capacities, etc.

5. Comprehensive urbanization measures must be initiated, including large programs for state-financed housing construction (public transportation systems, roads, bridges, tunnels, sanitation, and heating systems). New cities must also be built.

6. The necessary leap in productivity of the entire economy will be achieved by means of so-called "science-driver" programs. That includes the development of high-technology infrastructure, as well as the construction of supersonic aircraft for transcontinental passenger air transportation (Sänger Project), biophysics, and a Moon-Mars program. The scientific capacities of Russia, especially in high-technology areas of the former military-industrial complex, represent a valuable potential for the development of a modern, civilian economy.

Phase 3: Industrialization and urbanization on the basis of the Eurasian Land-Bridge, beginning 2003

Priorities for Italy

With total employment of some 20 million, official unemployment surpassed the 3 million mark in the spring of 1997. At the beginning of 1993, there were 2 million. Another 3 million persons are assigned to the "informal sector."

Machinery construction experienced a short boost from the fall of 1993 to the summer of 1996, on the basis of the investment promotion of the Tremonti Law (tax benefits for firms that invest). The law was in effect only a short time, and contracts dropped by one-third in machine-tool construction in the first quarter of 1996.

Road construction and similar areas have collapsed to 70% of the level of 1994. Building construction, apart from stagnating housing construction, has also collapsed. Two-

thirds of all new unemployed in Italy's productive sector come from the construction industry. One of the decisive causes is the collapse of public infrastructure expenditures to 50% of the levels of 1990, caused by the conditionalities of the Maastricht Treaty.

Priorities for Switzerland

In 1995, 3.8 million people were employed in Switzerland, of which 2.5 million were in the service sector, and 600,000 in banks, insurance, and consulting companies. Of 800,000 industrial employees, 140,000 were in machinery and vehicle construction, 110,000 in electrical firms. There is also a strong construction sector, with some 300,000 employees. Unemployment has strongly increased recently, but at 100,000, it is still slight in comparison to the rest of Europe, which also has to do with Switzerland's very restrictive policy with respect to foreigners.

Like Germany and northern Italy, Switzerland does have a technology-oriented middle-sized industrial sector, which permits the machinery industry and its suppliers to combine continuous technological innovation with a high degree of reliability of their products. The motors of the Sojourner robot, for example, which is currently cruising over the surface of Mars, are Swiss-produced. Like Germany and northern Italy, Swiss machinery production is concentrated on high-value specialized machines.

Switzerland also has exceptional capabilities in the construction sector. The development of infrastructure is strongly linked to construction of tunnels and bridges. Public expenditures for infrastructure have been curtailed in recent years, however. According to reports of the Association of European Construction Industries, there is now an immense deficit in repairs of roads, bridges, canalization, sewage processing, and other infrastructure in Switzerland. Grand plans exist for developing rail infrastructure, in particular linking up with European high-velocity lines, but the projects are being constantly delayed. In the meantime, every third new unemployed person in Switzerland comes from the construction sector.

Priorities for China

1. The immediate bottleneck in China which has to be overcome, is the modernization of the state-owned industries, in which some 80 million workers are employed. As already indicated, the ideal partners for China in this venture are not so much larger European industries, but the innovation-oriented middle-sized firms, whose experience will be most valuable.

To sketch the order of magnitude of the needed investments, one must consider that DM 100-200,000 of investments in machinery and other equipment is necessary to generate one modern workplace in Germany (DM 80,000 in machinery construction, DM 200,000 in the chemical industry, DM 300,000 in the steel industry). In order to modernize

the entirety of the Chinese state-run industries, some DM 8 trillion will be required, or DM 800 billion each year over a ten-year period, calculating in German prices. Similar orders of magnitude are involved in the modernization of key sectors of industry and infrastructure in Russia and India.

Such an increase of production is only possible, if the technologically highly developed capacities of Germany and other European nations are utilized in order to modernize the most important areas of the strategic machine-tool sectors in Russia, China, etc., in order then to be able to exploit the improved industrial platform to modernize the rest of industry in these nations.

2. The construction of capacities for mass production of nuclear power reactors. China needs 1,000 gigawatts (GW) in the next 10-15 years.

3. Construction of modern urban transportation systems (high-velocity subways) for 30 Chinese cities with 1 million residents each, as well as for dozens of smaller cities.

4. A crash program for building 200 new cities, with 1 million residents each.

Priorities for India

1. The main lines of the Indian rail network must be upgraded from the current velocities of 40 km/hr to the European standard of 160 km/hr.

2. One of the most crucial bottlenecks in India is the energy supply. India currently requires 270 GW, but it produces only 87 GW. Industrial production could be increased immediately by 15-20%, were sufficient energy available. The construction of large nuclear power plants is therefore urgent.

3. Construction of so-called nuplex cities, along the main line of the Eurasian Land-Bridge running through India, and along the north-south corridor, is recommended.

Priorities for Russia

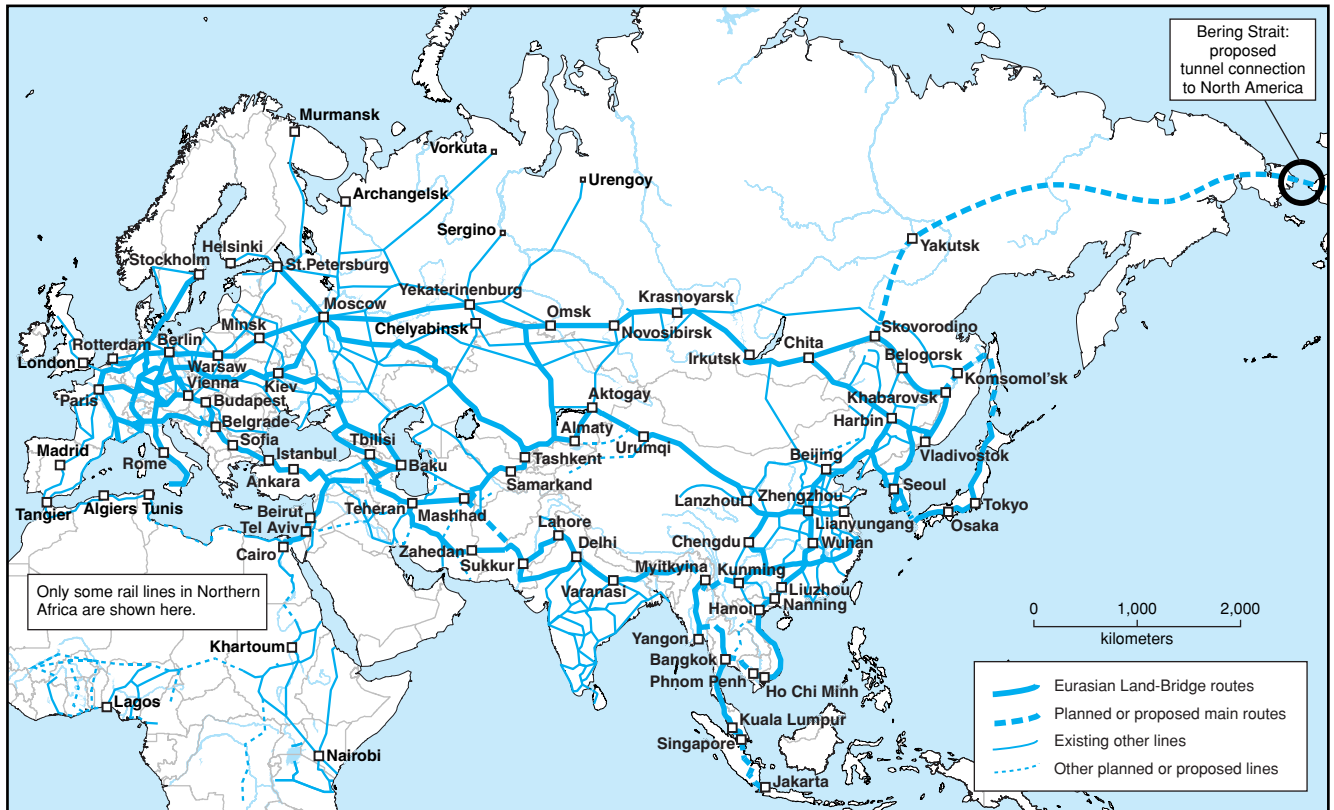
1. Urgent emergency measures must be taken to increase the supplies of food to the Russian population and to provide health care. According to figures provided by economist Sergei Glazyev, the nutrition of the Russian population manifests a deficiency in protein of 35%, a vitamin deficiency of 50%, and a caloric deficiency of 300-1,300 per person, per day. Scarcity of medicine and medical equipment must also be urgently alleviated.

2. The destroyed infrastructure and the no-longer-functioning machinery inventory in agriculture and in the construction sector, in Russia and other CIS states, must be urgently replaced. That means replacement of some 3 million tractors, 2 million trucks, 1 million harvesters, as well as adequate volumes of fertilizer. The construction sector requires 180,000 earth-movers, 300,000 mobile cranes, etc.

3. Emergency measures must be initiated to guarantee supply of Russian cities with heat and electricity. Urban infrastructure must also be repaired, which is collapsing rapidly.

FIGURE 6

Main routes and selected secondary routes of the Eurasian Land-Bridge



4. Immediate resumption of full industrial production, including in obsolete industrial plants, if necessary. At the same time, a complete modernization of the entire infrastructural and industrial basis of the economy must be carried out, for which the import of modern machine tools and developed technologies from Germany and other countries, is necessary. That means that 14 million persons formerly employed in industry, including scientists, engineers, and other experts, must be reemployed in this area. Two million people must be employed in machinery construction, precision machinery, instrumentation, and radio-electronics.

5. In the context of the Eurasian Land-Bridge, the entire railway network of the former Soviet Union must be modernized (see **Figure 6**).

6. The technological capacities of the former military-industrial complex must be reconstructed and exploited for: 1) mass production of nuclear power plants; 2) resumption of the program for developing nuclear fusion energy; 3) the Moon-Mars program; and 4) biophysics.

The existing reserves of labor-power and productive capacities in Russia can be roughly estimated, if one accounts for the elimination of jobs and productive capacity over the

last five years, and if the assumption is applied that labor power and production can be quickly reactivated with a “dirigist” policy and emergency aid from western Europe.

In the 10 years from 1986 to 1996, some 14 million jobs were eliminated in Russian industry. The percentage reductions in employment according to sector are (approximately):

- Machinery: -55%
- Textiles and light industry: -65%
- Building materials: -54%
- Metallurgy: -10%
- Chemicals and petroleum: -10%
- Wood processing: -65%
- Food industry: -30%

The decrease in production in selected sectors is shown in **Table 2**.

The most important lines for the necessary modernization of the railway system in the territory of the former Soviet Union (in addition to the main corridors of the Land-Bridge): Moscow-Perm-Yekaterinburg
Kupyansk-Penza-Kuybyshev-Chelyabinsk-Omsk-

TABLE 2

Russia: decline of production in selected sectors

	1991	1995	Since 1991
Energy and raw materials			
Electricity (billion kwh)	1068	862	-20%
Petroleum (million tons)	462	298	-35%
Natural gas (billion cubic meters)	643	595	-8%
Coal (million tons)	353	262	-26%
Iron (million tons)	62	39	-36%
Fertilizers (million tons)	15	8.7	-40%
Plastics (million tons)	3	1.7	-40%
Paper (million tons)	4.7	2.7	-42%
Investment goods			
Metal-cutting machines	67,000	16,000	-76%
Forming and pressing	24,000	2,000	-92%
NCR machine tools			-98%
Trucks	616,000	115,000	-81%
Tractors	178,000	21,000	-88%
Harvestors	55,000	6,000	-89%

Novosibirsk-Irkutsk-Khabarovsk (part of the Land-Bridge)

Tselinograd-Chu-Arys-Tashkent-Samarkand (part of the Land-Bridge)

Moscow-St. Petersburg

Moscow-Kharkov-Rostov-Baku

Debaltsevo-Znamenka-Fastov-Lvov

Construction of 5,000-9,000 km of new railway lines.

Construction of 13,000-15,500 km of second track lines. Electrification of 15,000-18,000 km. Construction and expansion of 300 loading and freight stations. Construction and expansion of 148 passenger stations.

New construction of 170 plants for maintenance and repair of rail-construction machines; 76 plants for repair of track and rolling-stock; 13 large-scale workshops.

Reconstruction of 192 plants for rail repair; 24 workshops; 8 maintenance shops for rail-construction machines.

Creation of 40-45 regional automated centers for organization of transportation.

Equipping of 22,500 km of rail with stations and dispatch centers, as well as modernization of self-blocking installations and dispatch centers on 35,000 km of rail.

Equipping of at least 80,000 rail switches with centrally controlled electrical motors, modernization of the electrical control of 35,000 switches.

Laying of 70,000 km of control cable.

Mechanization of at least 100 and automation of more than 50 rail yards.

Procurement of 7,850 electric locomotives; 14,000 diesel locomotives for track work; 5,000 diesel locomotives for freight work; 900,000 freight cars; 70,000 passenger cars; 115,000 computers of various configurations.

Construction of 1,300 container loading/unloading stations, 170 of them for large containers.

The categories and orders of magnitude indicated here are only to indicate the method of the approach, which allows for significant flexibility in detail. It is important, however, that the priorities be established according to the principles of physical economy, such that the largest possible economic advantage arises from the increase of productivity, and the labor-force employed in unproductive areas, such as services, be redirected into productive sectors.

Other requirements

Although the entire system of education must be reorganized over the medium term, on the basis of the Humboldt system, for the short-term mobilization, the method of brigades, which Gaspard Monge developed in the context of the French Ecole Polytechnique, can be employed. The education and qualification of the labor force occurs in the course of realizing the projects. The example of similar past mobilizations (as, for example, the reconstruction following World War II) demonstrates that one must always assume a relatively low level of training in the labor force, but this level will be quickly raised in a task-oriented way, in the course of the realization of the projects. It is not possible to wait until ideal conditions exist. The realization of the projects may occur faster or slower than indicated here: The direction is what is important, and that the maximum be done, under the given circumstances.

Strict control of credit issuance by the national bank or the Credit Bank for Reconstruction is naturally equally important. The credit is not money, as such, but a means of organizing the material necessary for the realization of the projects.

Conclusion

It is obvious that the fundamental assumption of the emergency program for overcoming the world economic crisis, sketched here, is not accepted by the majority of [Germany's] leading institutions. The change that has occurred in the banking sector, for example, from the tradition of Hermann Abs, Jürgen Ponto, and Alfred Herrhausen, to the generation of investment bankers, has also infected the government and the management of private industry.

But, once the crisis is evident in a sufficiently virulent way, a return to these principles of physical economy will be recognized, even by proponents of liberal economic theory, to be the only way to overcome the crisis.