
The Eurasian Land-Bridge

A project-oriented approach to international economic relations

by Jonathan Tennenbaum

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Introduction

The explosion of global economic and financial crises over the last 12 months, demonstrates the need for a new approach to international economic relations. This terrible crisis was not caused by accidental events, but reveals *fundamental errors* in the economic and financial policies of leading governments and financial institutions. Actually, the present crisis is the end-phase of a long-term disease of the Western financial and economic system, which began approximately 30 years ago. At that time, the United States and other industrial nations began to move away from the previously established tradition of highly regulated, industrial-oriented national economies—a system which depended on large-scale state investments into infrastructure, science, and education. Instead, there was a revival of the ideology of the British "free trade" system of Adam Smith, which was promoted by Friedrich von Hayek, the "Chicago School" of Milton Friedman, so-called Thatcherism, and the neo-conservative movement in the United States.

This change in Western policy led to a radical deregulation of the financial system, elimination of protectionist measures, radical privatization, reduction of state investment into basic infrastructure, and a policy of "globalization" of the financial markets. Investment flows shifted away from the real, productive sector, more and more toward purely artificial, speculative profits in real estate, stock markets, futures markets, and an exaggerated growth of service employment. As a result, the biggest financial bubble in world history was created—the bubble which is now collapsing.

I think future generations will look at the last two decades of the 20th century as the period of collapse of two systems. First we had the collapse of the Soviet Union and the system of "command economy." Then, less than ten years later, we

witness the collapse of the pure free market economy or "British free trade system," which is happening right now.

Given that the command economy and the free trade system have collapsed, what is the new system which can provide the basis for real growth and development of the world's nations in the 21st century? The proposal I want to present is not entirely new, but I want to give it a new name: "Project Economy." Essentially, "Project Economy" means the same thing as Lyndon LaRouche's more scientific term, "physical economy." However, the idea of a "Project Economy" may be helpful when we think about the significance of the Euro-Asia Land-Bridge and other great projects, which will have to play a leading role in the world economy in the coming 25 years.

Project Economy means to use large-scale, government-sponsored projects in the areas of infrastructure, advanced technology, education, and scientific research, as the main instrument to promote the growth and development both of the national economy, and of international trade and economic cooperation. Project Economy is fundamentally different from both the command economy and the pure free market economy. In fact, the most successful periods of development of the United States, Germany, France, Japan, and other industrial economies, were always based on the essential principles of Project Economy. Project Economy was actually known in the 19th century as the "American System."

Today, Project Economy offers the only effective means to prevent a new, worldwide Great Depression. This is the reason why people in many countries, including Russia and China as well as in the West, have been studying the policies which U.S. President Franklin Roosevelt used to end the Great Depression of the 1930s. At that time, the United States used large-scale state investments into infrastructure, agriculture, and industry to boost employment and revive the productive sector of the economy. Another example is the successful reconstruction and development of Western Europe in the period 1946-58. Apart from such examples, I want to emphasize the following general points:

1. Although Project Economy strongly emphasizes the development of private enterprises and healthy markets for



Jonathan Tennenbaum addresses a conference on the Land-Bridge in Beijing, at the end of October. He elaborated a concept of "Project Economy," in opposition to British free trade.

goods and services, it also demands a high degree of regulation and protectionism—particularly in the areas of agriculture, infrastructure, and basic industrial goods, and above all in the domain of investment and capital flows.

2. The state has the primary responsibility for (a) basic physical infrastructure (transport, energy, water, essential communications, etc.) and education, health, and scientific research; (b) regulating the markets and financial system and to generate credit for the expansion of the productive base of the economy, through the use of a national bank system; (c) determining the overall direction of economic development, especially by means of large-scale state investments into infrastructure projects and advanced science and technology.

3. The state must actively encourage the development of small and medium-sized private enterprises operating at a high level of science and technology. In practice, large-scale state investment into infrastructure and advanced technology projects provides the most powerful method to promote such private enterprises, through contracts and concessions to private companies for construction, supply of equipment, and operation of projects.

4. National economic sovereignty and national economic security have the highest priority in the context of worldwide revival. The trend toward radical "globalization" and the dangerous erosion of the power of governments to control their own domestic economies, must be ended. Supranational institutions such as the International Monetary Fund cannot take the place of sovereign governments, and have no right to dictate economic and financial policy. Instead, emphasis must be placed on bilateral and multilateral agreements among sov-

ereign nations for cooperation on great infrastructure projects, science and technology, trade, and other areas.

Infrastructure Development Corridors

The main challenge in the development of the Eurasian land mass is how to develop the huge interior regions, the hinterlands. These areas typically lack the basic infrastructure necessary to support economically viable investments into modern production and employment. The long transport distances, lack of easy access to resources, markets, and services, low density of population, and other factors combine to reinforce the tendency toward permanent backwardness and underdevelopment.

Generally speaking, the most powerful approach to solving this problem, is by building up a network of Infrastructure Development Corridors (IDCs). This means 1) creating a basic network of high-efficiency transport lines reaching into the hinterland—above all rail lines, navigable rivers and waterways, and, at the same time, 2) concentrating investment into creating a dense network of secondary transport, energy, water, communications, and other basic infrastructure within the band-like regions located along the main transport lines. These infrastructure corridors, typically extending 50 kilometers on both sides of the main transport lines, provide ideal conditions for rapid development of intensive agriculture and modern, high-technology industry, and for urbanization.

The Eurasian Land-Bridge is the biggest and most important project of this type in the world. Actually, developing the IDCs along the land-bridge means thousands of projects, which should be realized in a coordinated manner. My insti-

tute has published a book-length study on this subject. We emphasize that the Eurasian Land-Bridge should be understood to mean a whole future network of long-distance rail lines linking the main regions of Europe and Asia. This network will include: 1) the northern route via the Trans-Siberian Railroad; 2) the middle route which runs from Lianyungang via Xi'An, Lanzhou, and Urumqi to the border with Kazakhstan, and running from there to Europe either northward via Russia, or southward via Tashkent, Mashhad, Tehran, and Istanbul; the southern route which runs from Southeast Asia via Myanmar into the Indian subcontinent, and via Pakistan, Iran, and Turkey into southern Europe. In addition, there are several alternative routes, especially through Southeast Asia, Central Asia, and the Caucasus.

At the present time, concrete progress to develop the Eurasian Land-Bridge and its corridors is far too slow. Fundamentally, this lack of development is connected with the same reasons as the global financial crisis — the lack of correct economic and financial policies in most countries, as well as on the international level. Largely as a result of these incorrect policies, in the 1990s we have witnessed the economic collapse of Russia and other parts of the former Soviet Union, the Asian financial crisis, the mass unemployment throughout western Europe, and a dangerous accumulation of conflicts and “hot spots” in the Near East, in the Caucasus, in Central Asia and Afghanistan, and in other areas — conflicts which are fueled by the effects of economic stagnation and collapse.

The Schiller Institute is demanding that all governments in Europe and Asia should give highest strategic priority to cooperative development of the land-bridge infrastructure corridors, as the centerpiece of a worldwide implementation of “Project Economy.” Besides Europe-Asia cooperation, the Schiller Institute also emphasizes the importance of developing a closer triangular relationship among Russia, China, and India, which would mobilize Russia’s advanced scientific and technological capabilities as a key input to development of the regions along the Eurasian Land-Bridge.

Let me now turn to some specific areas for international cooperation.

1. Nuclear energy

Adequate quantity and quality of power supplies is a crucial precondition for economic development. Since most of the so-called developing countries and regions lack adequate energy supplies, large-scale projects in energy technology must play a central role in the coming period.

At present, the most advanced technology for large-scale power supply is nuclear power. The decisive advantages of nuclear power include: 1) Highly concentrated fuel — one kilogram of low-enriched uranium produces an equivalent amount of energy, of more than 50,000 kilograms of coal or oil. The fuel cost is only a small part of the new energy cost. 2) Nuclear reactors have the highest power density of all sources of energy, and are the most efficient in terms of use

of land and materials. 3) Nuclear power production does not depend on weather and climate conditions, and a nuclear reactor can run for many months or even years, without requiring constant shipments of fuel from the outside.

Unfortunately, up to now the large-scale use of nuclear power has been restricted nearly entirely to advanced industrial countries. France, for example, produces more than 80% of its electricity in nuclear reactors; Belgium, 60%; Hungary, Sweden, South Korea, 40%; Switzerland, Bulgaria, Spain, Taiwan Province, Finland, Japan, Germany, more than 30%; U.S.A. and Great Britain, more than 20%. Developing countries come at the bottom of the list, with at most a couple of percent. The unequal distribution is largely the result of the unjust international economic order and a deliberate policy of “technological apartheid,” preventing developing countries from obtaining access to advanced technology.

In the recent period, a new type of nuclear reactor has been developed, which is ideally suited for use within Infrastructure Development Corridors throughout the world. This technology is the modular high-temperature reactor (MHTR). Prototype MHTRs are under construction in China and Japan, and South Africa is planning a major MHTR construction program. MHTRs are simpler to build and operate, more robust, and much safer than present light-water reactors. As modules of 50-200 MW thermal power, they can be mass-produced at low cost and their components easily transported by rail for rapid assembly to sites located along the transport corridors. As the demand for energy grows, additional MHTR modules can be added at any site.

Besides high-efficiency electricity generation, MHTRs can produce high-temperature (900-1,000°C) process-heat for industrial use in refineries, and chemical and metallurgical industries, as well as low-temperature heat for heating of buildings and desalination of sea water. Probably the most important use of process heat from MHTRs will be for the production of methanol and other synthetic fuels using coal, gas, or oil as a raw material. Recent breakthroughs in the technology of fuel cells make it likely, that in the future methanol will become a key fuel to power fuel cells for automobiles and decentralized generators of electricity.

It is often claimed that nuclear power is “too expensive” to be used in developing countries. Such statements are based on wrong economic assumptions concerning the calculation of cost. For developing countries such as China, one must take into account the positive economic effects on the entire economy, as a result of technology transfer, increase in level of education and training, and development of the high-technology industrial base connected with producing, operating, and servicing nuclear reactors. To obtain these benefits, of course, it is important to develop the domestic base of nuclear technology as part of the nuclear energy program. This is an ideal area for Euro-Asian cooperation. I would like to point to the example of the original Germany-Brazil nuclear agreement and some other North-South nuclear-technology-trans-

fer agreements of the 1970s as good examples—although their full realization was unfortunately prevented by the Third World debt crisis.

I therefore wish to suggest, that bilateral and multilateral cooperation should be launched to develop the MHTR and related technologies for use in the Eurasian Land-Bridge Development Corridors. This should include establishing a production facility for these reactors in China, as well as joint research and development efforts in the domain of MHTR applications (desalination, methanol production, etc.).

2. City-building and urban transport

Over the coming 20 years, the demographic structure of the developing countries will be transformed by a rapid urbanization process. Indeed, this change is fully in progress in China. The shift of billions of people from rural to urban areas means that the next 25 years must be a period of city-building and urban construction on a scale which has never occurred before in human history. This urbanization process requires careful long-term planning and investment; it cannot be left to the so-called market mechanisms. The negative effects of lack of adequate long-term planning and long-term investment can easily be seen in most large cities in the developing countries. One has only to experience the traffic situation in Cairo, Mexico City, Calcutta, or many parts of Shanghai and other Chinese cities.

The science of physical economy teaches us that it costs much less in real economic terms, to build *new* towns and cities, than to modernize old ones. A city is essentially the most dense form of infrastructure. Ideally, new urban centers should be planned, using the most modern technologies available and taking into account the city's probable development over a 50-year period. Ideally, the underground foundation of the city must be constructed first, including several underground levels for subway and other public transit systems, power, water, communications, sewage and waste systems, and underground highway and parking facilities for convenient access by car—providing also space for future extensions and improvements. After constructing the underground foundation, the above-ground part of the city, with all its buildings, is built on top. In this way, the city has a fully developed mass transport system from the very beginning.

I want to emphasize again: The argument that the construction of new cities is “too expensive,” is absolutely wrong and disproved by physical economy. The real cost to an economy, of *not* building new cities, caused by the inefficient, wasteful expansion of existing cities and related reasons, is larger than the cost of building new, efficient cities. A well-designed modern city, in particular, can have a much higher population density than present cities, thereby economizing on land, which is an important consideration in China. Actually, construction of a well-functioning city is the source of an enormous net gain to the economy as a whole.

City-building should become a central area of economic

cooperation and technology transfer between Europe and Asia. Germany and other countries possess a base of advanced technologies for city-building and urban mass transit, including magnetic levitation technology, which will play a big role in the future. I would like to suggest that European and Asian countries cooperate in a joint project for the construction of several new, *model cities* at key locations along the Eurasian Land-Bridge.

3. Water

Large-scale projects for water management—including flood control, water storage, irrigation, water treatment, and water supplies—will play a key role in the “Project Economy” of the coming 25 years. This includes international projects, such as the Mekong River basin development, the Ganges-Brahmaputra project, and possible projects to transport water from Siberia into Central Asia. The recent flood disasters in China and Bangladesh, particularly, underline the urgency of flood-control projects. However, insufficient supply of clean water for agricultural, industrial, and human consumption is an increasingly critical problem worldwide, and especially in northern China and many other areas of Eurasia.

Advanced technologies will be key to solving these problems. Time does not permit me to go into detail, but I would like to emphasize the future use of nuclear energy for large-scale desalination, and the pumping of water over large heights and long distances. If these and other modern technologies are fully utilized, lack of water will not be a barrier to economic development in the coming century. Here, again, is a key area for international cooperation.

4. The Machine-Tool-Design Principle

In his work on physical economy, Lyndon LaRouche has demonstrated that the ultimate source of real economic growth, which means the increase in the per-capita productive powers of labor, is the creative powers of the human mind. Real physical economic growth is caused by discoveries of *new physical principles* and the transformation of those discoveries into *new families of technologies*, which gradually transform the productive base of the economy. Since the new families of technologies generally spread into industry through the design of new types of machine tools and related production machines, LaRouche has called this the “Machine-Tool Principle.” Of course LaRouche's principle is consistent with what Deng Xiaoping meant, when he said, “Science and technology is the number one productive force.” However, the realization of very rapid scientific and technological progress in Western countries depends on a special kind of cultural development going back to the European Renaissance, and in particular on the special class of scientists, engineers, and industrial entrepreneurs who are able to transform new scientific discoveries into new technologies. This special capability is especially concentrated in the sector known in Germany as the *Mittelstand*—which means small

and medium-sized enterprises operating in the domain of new technologies. The Machine-Tool-Design Principle requires a special kind of education and a close, harmonic cooperation among scientific research and development, small and medium-sized companies, and large companies.

A key economic problem of developing countries, including China and India as the largest and most important ones, is a relative lack of development of advanced machine-tool-design capability. The problem cannot be solved just by investment only; it is necessary to cultivate a special kind of cadre who are scientists and engineers as well as entrepreneurs. The deliberate creation of a cadre-force of scientific entrepreneurs through special educational institutions and other policies, was crucial to the industrial development of Germany, France, the United States, and other Western countries, as well as the former Soviet Union in a somewhat different way. This process takes time, because the special culture and experience required for the Machine-Tool Principle is developed and transmitted from generation to generation.

In view of this, I would like to propose that cooperation should be launched between European countries, Russia, China, India, and other Asian countries, with the specific purpose of building up the machine-tool-design capability (in LaRouche's sense) in China, India, and other developing countries. Although joint ventures can be useful in this context, I think up to now there has been too much emphasis on getting foreign investment, and too little emphasis on how to create a cadre of scientific entrepreneurs in China and other developing countries, which can compare in quality with the best of the German *Mittelstand*. For this purpose, we would propose an intensive exchange program, in which European *Mittelstand* leaders could be brought in as advisers (and not only as investors) to help in setting up new industries and training entrepreneurs.

A closing comment, on the problem of financing

Often when we talk about the Eurasian Land-Bridge and Project Economy, people voice the objection, "Your idea is good, but I don't think there is enough money to finance it." This objection is actually based on some misunderstandings about economy.

On the level of national economy as a whole, lack of money is never a fundamental problem. A sovereign state has many ways to increase the effective supply of currency and credit in a selective way, for the purpose of stimulating production and productive investments. Lyndon LaRouche wrote several books and monographs about this, including one entitled, "How Credit Can Be Greatly Expanded Without Creating Inflation." The fundamental problem is not the supply of money—a government can print as much money as it wants to. The problem is, how to correlate the expansion of money and credit with the expansion of real production and

the increase of productivity in such a way, that the purchasing power of money increases, rather than decreases. In other words, how to expand the money and credit supply without causing inflation. This problem was first solved in practice by Alexander Hamilton, the founder of the First National Bank of the United States. LaRouche has developed this practical method further, and provided the most advanced theoretical analysis of the problem. I do not have time to develop further details here but let me just mention two essential points:

1. In order to be successful, productive credit expansion must be carried out in a highly controlled and disciplined manner. Although the participation of private banks is desirable, the introduction of new currency in the form of additional credit must always be supervised and strictly controlled by the national bank.

2. The additional currency issue must be loaned at low interest rates, exclusively for investments into productive activities of agriculture, industry, and infrastructure, and related activities, with emphasis on increasing the level of technology. Use of such new credit for purely financial operations, such as stock market, real estate, and other nonproductive uses, must be strictly prohibited.

3. Credit expansion should especially be targetted at mobilizing existing, but unused or poorly exploited resources, in the form of idle manpower, idle production capacities, and available technologies, in order to boost the real physical productivity of the economy as a whole. At present, enormous growth resources exist in nearly every economy in the world, and are waiting to be mobilized by the proper policy. The recent infrastructure investment policy of Premier Zhu Rongji, which we think is a very excellent policy, takes advantage of exactly this point in the case of China.

Very often people wrongly use the term "Keynesianism" to describe the credit-expansion policy described above. Actually, as I already mentioned, this method was not invented by Keynes at all, but by Alexander Hamilton, about 150 years earlier. Secondly, Keynes's theories and policies are completely opposed to those of Hamilton and LaRouche. Keynes was purely monetary-oriented, and paid no attention to the real production of wealth in an economy, which is based on science and technology.

Hamiltonian credit-generation, both on the national level and on the level of low-interest loans for technology transfer between nations, is key to the successful launching of a worldwide Project Economy in the period immediately ahead. Conversely, this method requires identifying projects which can absorb large investments, while at the same time having a positive impact on the overall productivity of the economy, much larger than the expenditure. The Eurasian Land-Bridge infrastructure corridors and corresponding projects in Africa and North and South America fulfill these requirements in an ideal way. Therefore, the land-bridge projects will be the central focus of worldwide economic policy in the coming 20 years.