

Soviets Pin Economic Hopes on Technology

Gorbachev's advisers outline drive to reshape the Soviet economy, upgrade education, and expand research

THE massive effort being mounted by General Secretary Mikhail Gorbachev to modernize the Soviet Union's economy and its structure of government is producing substantial upheaval, unemployment, and unease. These conditions were acknowledged by a delegation of economists, scientists, and government officials who accompanied the Soviet leader to Washington last week. But Gorbachev's advisers stated candidly that unless radical reforms take place, the Soviet economy and its standard of living will continue to trail the rest of the industrial world.

The delegation discussed the reform efforts with American industrialists, government leaders, and scholars at a meeting organized by Frank Press, president of the National Academy of Sciences. It was held the day Gorbachev and President Reagan signed the nuclear arms treaty covering medium-range nuclear missiles. "I wanted a cross section of Americans to see what these people were like," said Press. The Soviet leaders who came to the Academy, Press notes, have played key roles in building the "philosophical foundation" of *perestroika*, the by-now-familiar term for Gorbachev's restructuring efforts.

The Soviet delegates included Abel Aganbegyan, secretary of the Academy of Sciences of the U.S.S.R.; Yevgeniy Velikhov, vice president of the Soviet academy; and Vladimir Kudriavtsev, director of the Institute of State Law. Among the 37 U.S. participants attending the meeting were Lawrence Klein, professor of economics at the University of Pennsylvania; Paul Gray, president of the Massachusetts Institute of Technology; John Sculley, president of Apple Computers, Inc.; and Erich Bloch, director of the National Science Foundation.

The Soviet officials did not go into detail about the implementation of the restructuring plan, but they provided a glimpse of the broad changes that are taking place in the Soviet economy, in the country's highly centralized government, and in its educational system. The fundamental goal, says economist Aganbegyan, "is the reconstruction of our whole society."

The central task, he says, is to stimulate

economic growth, which he describes as "economic and social development," to 4 to 5%, annually. To achieve this, the Soviets are emphasizing technological advancements in agriculture and industry to improve quality and increase output. Economic growth has lagged, says Aganbegyan, because industry often has not had the necessary capital to retool. Industrial gains in productivity also have been held back, he says, by institutional barriers.

Too often, he says, cautious bureaucrats have been content with evolutionary refinements to existing manufacturing processes and have declined to adopt completely new

"We are finding our way. This is new for us."—Soviet economist Abel Aganbegyan.

systems that are more efficient. Aganbegyan noted that he toured a Japanese steel plant recently and discovered that they were using 26 Soviet patents under license. These technologies, he indicated, are not in use in the U.S.S.R. The Soviets aim to replace half of their steel manufacturing capacity in 5 years, he said.

The Soviets are also moving to upgrade their educational system. The top priority, says Velikhov, is elementary school education. Teachers there must be paid more, he contends, and curriculums must place more emphasis on mathematics and information science.

To produce a computer-literate society, Soviet children will be required to take English courses and will begin receiving computer science courses at the elementary school level. Velikhov noted that the government aims to place 1 million personal computers in the country's elementary schools.

On the research front, Velikhov says the government is reexamining the way research is funded. "There is not much competition among individual groups," he noted. And, as a result, young scientists do not have

much opportunity to pursue individual research. Velikhov says the government is studying a grant system and other mechanisms that could address the problem.

Aganbegyan contends that the economic reforms being imposed under Gorbachev are beginning to produce results both on the factory floor and in living standards. In particular, he cited rising food production and an increase in housing starts. Health care and pension programs also are being improved, he added.

Even so, he told his American audience that the Soviet Union is still "way behind in the level of living and solution of social problems." The improvements that have been made have yet to spread throughout Soviet society, he says.

The effort to restructure the economy, Soviet officials admit, is a painful process. The centralized system of management must be broken up; factories should have greater control over what they make; and production and pricing need to be governed to a greater extent by market mechanisms, says Aganbegyan. The old system of management, he says, has acted as a "brake" on economic development.

With the decentralization of the economy, layers of mid-level managers and bureaucrats are being put out of work. In the agricultural sector alone, officials claim that the bureaucracy has been chopped 48%. Says Aganbegyan, "it is not possible to make progress if you don't touch anybody."

Where it is possible, the government is planning to transfer personnel and retrain workers. But thousands of older bureaucrats are being retired, and other workers will be unemployed for a while, officials concede.

Although Soviet workers may have somewhat less job security in the future, Kudriavtsev of the Institute of State Law notes that they may gain more control over their jobs. The government, he says, is revamping its labor laws, which date back to the 1920s and 1930s. He adds that the government is considering allowing workers to elect the directors of the companies where they are employed. Aganbegyan also notes that workers whose factories do well will receive bonuses. Where performance lags, bonuses will be nonexistent. Enterprises that operate poorly could face bankruptcy, he says.

Gorbachev's reforms are slated to be implemented at a faster pace in 1988. Just how quickly Soviet industry adopts them remains to be seen. With the potential for creating vast upheaval, Soviet officials are proceeding cautiously. But they admit that they will encounter delays and make mistakes. Says Aganbegyan, "We are finding our way. This is new for us." ■ **MARK CRAWFORD**