

6. What was the goal of Tinbergen's research?
7. What three instruments could be used to achieve economic growth?
8. What notions do these instruments include? (explain each of them)
9. What was J. Tinbergen awarded the first Nobel Prize for?
10. What has he devoted the latter half of his career to?
11. Where did Tinbergen travel to develop planning models for less developed countries?
12. Explain the meaning of the emphasized words?
13. Discuss the text together with your groupmates?

3.14. WASSILY LEONTIEF (born 1906)



The American economy runs nonstop. Millions of businesses provide goods and services, most of which are purchased by America's 80 million families; these families, in turn, provide resources for the operation of businesses. Many such relationships, some of them extraordinarily complex, link the various **segments of the economy**. Wassily Leontief has spent a lifetime studying these relationships, which are taken for **granted** by most economic participants. It was for his highly technical work in analyzing the inputs and the outputs of the private sector that he was awarded the Nobel Prize in Economics in 1973.

EARLY YEARS IN RUSSIA

Leontief was born on August 5, 1906, in St. Petersburg, Russia. His father taught social sciences at the University; his mother was an art historian. The family lived a quiet, academic life in St. Petersburg until 1917, the beginning of the Russian Revolution.

The revolution had a **major impact** on Leontief. In high school, he developed an interest in science and research. His **inclination** to defend his ideas landed him in trouble with the authorities, however, and at the age of 14 he was jailed briefly and **interrogated** by the secret police. At 15 he entered the University of Leningrad, where he studied economic geography because it "was a subject that was not politically sensitive." At 16 he published his first economic work, a translation of a highly regarded German book on currency stabilization. Shortly thereafter he wrote a lengthily technical article for the **Journal of Academy Sciences**. The article was accepted, but government censors forbade its publication. Leontief realized that if he was to be a scientist he would have to leave Russia, which he did after graduating in 1925.

IN BERLIN AND CHINA

Leontief found a remarkably different intellectual atmosphere at the University of Berlin, where he began to work on his Ph.D. in economics, and at the Institute of World Economic Research, where he was involved in research. He made many friends at the Institute and spent long lunch breaks discussing economic issues. At an outdoor cafe in Berlin, two visitors from China, sitting at a nearby table, became involved in one discussion. Leontief **subsequently** received a telephone call from the Chinese ambassador in Berlin, and then a telegram from Nanking, asking him to work for a year in China as an economic advisor to the Minister of Railroads. Leontief accepted and, having received his Ph.D., traveled to Nanking in 1928.

INPUT – OUTPUT ANALYSIS

On his return to the Institute, he **pursued** his economic research and wrote several articles. One of them caught the attention of economists at the National Bureau of Economic Research (NBER) in New York. The Bureau offered him a **fellowship** which he accepted in 1931.

Leontief worked at the NBER for only 3 months before receiving a job offer from Harvard University. As a condition for accepting this position, he requested financial support for a research project. The advisory committee considered the impractical but **grudgingly** gave the money anyway.

With \$1 200 grant in hand, Leontief hired an assistant and set to work on the research that would eventually win him the Nobel Prize.

The project was a 42 – industry input – output table showing how changes in one sector of the economy lead to changes in other sectors. A change in the output of automobiles, for example, requires an increase in steel output, which, in turn, requires more coal. The model, which he later revised to include additional industries as well as government, household, and foreign transactions, was used by the U.S. Department of Labor to plan for the transition to a peacetime economy after World War II. Whereas governments may attempt to plan their economies with input – output analysis, Leontief argues that economies cannot and will not be governed. Rather than providing policy guidelines, his system attempts to use information about an economy to predict how changes will affect it. Using the table he developed for the Department of Labor, for example, Leontief predicted that the United States would not suffer economic depression and widespread unemployment after W W II.

He has also used the tables to prove that world disarmament, a topic of great interest for him, would not result in world economic depression. Undertaken for the United Nations in 1962, this study suggested that the economic consequences of disarmament could be minimized if the money saved on arms were reallocated to the industries hurt most by the cuts in military spending.