Short Biography

In 1960, after 10 years working in the USSR industry (managerial positions in economic analysis and planning), Vladimir A. Masch (VM) turned to science. He got his degrees in economics: Ph.D. in 1964 from Moscow University and Doctor of Science in 1972 from CEMI (see below). In 1969, he received an Academic Rank of Senior Research Fellow in the specialty “Mathematical Methods in Economic Research” (Academy of Science of the USSR).

In 1963, VM was one of 12 founders (called “twelve apostles”) of a major Moscow think tank -- the Central Economic Mathematical Institute (CEMI) of the Academy of Sciences of the USSR, set up to wean away the USSR from the practices of command economy. At CEMI, he headed one of its most important laboratories. He remained there until 1972, when he applied for emigration.

His most important work in the USSR included the development of a macro model for planning the Soviet economy by industries and regions (1964 – 1965). It was not an abstract model, but the first on the planet model of such type intended for real planning. For several years, the model was a banner project of CEMI. By a government decree, 400 planning and research organizations provided the information for the model.

VM has developed not only the model, but also the algorithm for solving the enormous non-linear programming problem arising from that model. The problem had millions constraints and scores of millions of variables. It was successfully solved by 1972 on computers able to handle much simpler linear programming models with only up to 400 constraints.

VM founded the Russian school of the then novel “supply chain”. He also headed one of the earlier applications of scenario planning in economics (with 15 scenarios) -– a major project of locating in the USSR the automobile plant to be built by FIAT (1967). The government accepted the project recommendations; the plant was built in Togliatti.

All in all, recommendations made by VM from 1966 to 1971 led to four highest-level decisions made by the Soviet Government, the GOSPLAN of the USSR, and the Presidium of the Academy of Sciences of the USSR.

VM applied for emigration in 1972 and was allowed to emigrate in 1973, due to help from Dr. Henry Kissinger.

After arriving to the US in 1974, VM worked initially at Bell Laboratories, and then as an independent scholar. In 2004, VM has developed a completely original “Compensated Free Trade”™ (CFT), a “balanced capitalism” compromise between free international trade and protectionism.

The main focus of VM, from the 1960s to the present, still has been on developing a fundamentally new, both conceptually and technically, system of Risk-Constrained Optimization™ (RCO). RCO presently is the only system to address problems under radical uncertainty, when we know next-to-nothing about the future, even probabilistically. An earlier version of RCO was granted an USA patent in 1999. But RCO has been cardinally improved after 2000 with introduction of multiscenario multicriterial stochastic optimization models and other innovations, becoming a new system. It produces highly flexible and robust strategies, adaptable to very large ranges of both likely and “black swan” scenarios.

VM also developed an important derivative of RCO – RCO/DN system (DN stands for Decision Network). RCO/DN would prevent overloading an organization by its portfolio of projects, as well as distribute its work between its divisions and people without overburdening them. A special version of RCO/DN is designed for urban planning to improve ecology. Another derivative of RCO is Wall-to-Wall Financial Risk Management System.

In 2015, VM combined RCO and CFT into a powerful ensemble and generalized it into a Mankind Self-Preservation Paradigm (MSPP), needed under highly dangerous, uncertain, and complex conditions of this century. MSPP refutes the very foundations of several disciplines related to decision-making, such as Economics, Operations Research, and Decision Analysis, and changes their role and capability. All VM systems and methodologies are unique, with not even remote analogues. Some of them are proprietary and have not been published.

All relevant publications of VM (either full text or abstracts) are available at rcosoftware.com.