“I think the world’s a much bigger place,” he says. “Twenty-five years ago, you didn’t think of most of the world as areas for investment or opportunity. It was difficult to invest in Korea, India, or China, and there were much higher barriers to capital and trade flows.”

Understanding international global markets is essential for Avanessian, who heads the financial giant’s “Strat Group,” overseeing the work of 1,000 engineers, computer scientists, and financial experts across the globe, with one-third of the group based in Europe, Tokyo, and Hong Kong. The group builds computer models that analyze financial risks for Goldman’s clients—in stock equity markets, derivatives, and the credit markets. The group also creates financial products to manage that risk, both for the clients and Goldman, Sachs. “Implementing the models is a massive computer science issue,” says Avanessian. “We have 1,000 different models to price our books, and we have more than 30,000 computers in 10 locations that run the simulations.”

Avanessian, chair emeritus of the school’s board of visitors and a member of Columbia University’s board of trustees since 2007, came to Morning- side Heights for his master’s degree in engineering while working at the common subsystems laboratory at Bell Labs in New Jersey. During his year at Columbia Engineering, he embraced the school’s broad curriculum, taking courses that ranged from network topology to computer science. His studies at Columbia brought him a solid, practical understanding of mathematical algorithms, which are used in the models his group develops at Goldman.

He left Bell Labs two years after earning his master’s degree at Columbia, recruited to Wall Street by a headhunter looking for someone with top-notch analytical skills and an interest in applying those talents to the financial industry. “Wall Street touched on a broad range of my skills—empirical analyses, software development, and the mathematical aspects of pricing,” he says. He joined Goldman in 1985 as a foreign-exchange strategist, developing systems to analyze fluctuating exchange rates so Goldman and its clients could make timely investments to take advantage of favorable conditions. He also worked with companies involved with acquisitions of overseas companies, advising his clients how to hedge the risk of investing in volatile economic times.

The international financial world has changed dramatically since the mid-1980s, when the finance ministers of the world’s top seven industrialized nations gathered at the G8 meeting to address global economic issues. The Soviet Union and China did little business with the West, and the developing world was far on the periphery of world trade. Twenty-six years later, the Iron Curtain has fallen. The G8 has morphed into the G20, to include ministers from the growth economies of China and India. Global trade has flourished, fueled by free-trade agreements and the split-second speed of online communications.

“Information gets transmitted instantaneously around the world,” says Avanessian. “Today, most of the opportunity is international, and you have to think globally.”