But contrary to popular belief, the U.S. is creating new high-paying jobs. Here is one growing field: logistics.

The frenetic pace of global trade, coupled with outsourcing of manufacturing around the world, has transformed delivery into a complex engineering task. Companies enlist logistics consultants to untangle supply chains and to monitor shipping lanes and weather patterns. In one small indicator of how intricate the task has become, the Massachusetts Institute of Technology has expanded its logistics program and started a new master's degree dedicated to logistics in the school of engineering.

The main reason for the complexity is the increasingly uncertain and variable demand for products, says Yossi Sheffi, a professor of civil and environmental engineering and head of the Center for Transportation and Logistics at MIT, Cambridge, Mass. Consumers and businesses want ever more varieties of products, and they want them immediately.

To meet the demand and to cut costs, companies are outsourcing, which adds more players to the supply and distribution channels, making them complicated and longer. Meanwhile, product life cycles are shorter. A product introduced on one side of the world quickly can make obsolete an existing product an ocean away. A promotion that includes a 20% price reduction can raise demand tenfold. It's up to corporate logistics departments to get desired products to respond to such rapid changes.

IKE JARRETT, for instance, says his Jarrett Logistics Systems Ltd. in Orrville, Ohio, nearly tripled its revenue in January, after more than tripling revenue in all of 2003. He is adding sales personnel and new accounts, as more companies outsource supply-chain management and distribution.

These are precisely the types of valueadded jobs the U.S. economy is supposed to create to replace some of the manufacturing jobs that are leaving. They won't offset the number of factory jobs that are moving abroad. Still, they represent a promising area of growth. Indeed, these behind-the-scene functions are capturing the attention of executives who see a competitive advantage in fast and reliable delivery and potential for savings in squeezing the supply chain.

"It's a huge growth area for services providers and an important part of improving productivity in U.S. industry,' says Don Westfall, Research and Supply Chain Logistics Council Director of the Manufacturers Alliance/MAPI, a publicpolicy and business-research organization in Arlington, Va.

Demand for such services is compounded by increasing international uncertainty. The best way to deal with increased uncertainty is to have flexible supply chains and delivery channels. That way, companies can better respond to changing demand, not to mention disruptions caused by political unrest, natural disasters and shortages of raw materials.

S UCH IS THE case with Griffin Manufacturing Co., which has its main manufacturing operation in Cartago, Costa Rica, and what it calls its flexible plant in Fall River, Mass. For example, if Griffin expects to sell 10,000 shirts, it might assign 7,000 to 9,000 of the shirt-making duties to the plant in Costa Rica, allowing the plant to operate optimally with little variation and efficient production. Then, at Fall River, it could make the remaining 1,000 to 3,000 shirts, adjusting production numbers based on how the shirt sells. The company can give customers the flexibility to reduce order size or to increase it.

"The worst thing to tell a customer is that you ran out of what they want, says Robert L. Wilson, owner of a logistics company outside London. "The customers will sample another product, and then you have the potential to lose a customer forever."

Manufacturers generally have backup plans, such as keeping a second source of suppliers. Even if supplies are secure, the process of getting them might not be. In China, for instance, where goods flow in and out of ports at increasing rates, shipping lanes often are congested, forcing vessels to wait at sea until ports open up. That is where logistics gurus come in. To counter clogged ports, Toyota Motor Corp., the world's third-largest car seller, builds plants that make cars for local markets but also can make models for other parts of the world. Should supply to or production in one plant be disrupted, cars normally made there can be produced elsewhere:

Companies must focus on solving logistic and transportation problems to wring out more savings and compete in the global economy. Says John Flyer, a logistics consultant for Flyer & Associates in Houston, Texas: "If a company wants to remain competitive or even get ahead of the game, it has to look at its supply line and build in more flexibility and efficiencies.

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Question of the Day: Will the outsourcing of jobs overseas help or hurt the U.S. economy over the long term? Visit WSJ.com/Question to

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