If the global glut of oil that has sent crude prices plunging has come largely from the U.S., why aren’t American energy companies turning off the tap?

The answer can largely be explained by simple game theory. In short, even though it’s in the collective interest of the country’s oil producers to cut production, the interests of any of those producers is the opposite. Each one of them is waiting for a rival to make the change.

This behavior—hoping someone else will cut production so you don’t have to—is a classic example of the “prisoner’s dilemma,” says Roger McCain, a professor in Drexel University’s economics department.

“If you can’t coordinate, you may as well go for what you can get, and make decisions on the basis of self-serving rationality,” he says.

U.S. law bars companies from acting in concert to influence prices, so an organized response from the oil industry is all but impossible, experts say.

“If there was ever a time for cooperation, it would be now,” said Fred Julander, president of Denver-based Julander Energy, who has been in the oil business for more than 40 years. “But I don’t see that happening.”

U.S. oil production has grown by 1.1 million barrels a day just in the last 12 months, according to federal data, and is over 9.1 million daily barrels. And there is no sign of a slowdown yet. Federal data show that at the end of November U.S. oil companies were pumping 641,000 more barrels a day than they were at the end of June, after crude prices peaked.
Estimates of the sheer amount of excess oil sloshing around the globe ranges as high as Barclays PLC’s 1.4 million barrels a day; and as low as 600,000 barrels a day, according to Chris Lafakis, senior economist at Moody’s Analytics. Growing demand for crude won’t absorb the glut and push prices up, he said, so “most of the adjustment will have to come from lower supply.”

For nearly three decades, when oil prices rose too high, or fell too low, Saudi Arabia adjusted its output to stabilize the market. Now the Kingdom says it is done being the world’s so-called “swing producer.” Russia, in the midst of an oil-driven economic crisis, can’t step into that role, and other oil-producing countries say that the U.S. caused the problem and should fix it.

But for the U.S., reducing oil production by a million barrels a day would require an enormous shift. If the cuts were shared equally, every U.S. producer would have to trim 11% of its output. Or Exxon Mobil Corp., Chevron Corp. and EOG Resources Inc. would all have to turn off their U.S. production.

Dozens of small U.S. companies could close in all their oil wells at once without really making a dent. But they probably won’t, until their funding dries up, says Jim Burkhard, vice president of global oil research for IHS Corp.

Some North American companies have said they plan to cut their capital spending next year and dial back on exploring for new oil. But at the same time, they say their oil output will rise. Continental Resources Inc. this week announced a 41% cut to its capital spending next year. Even so, its annual oil and natural gas output will increase by 16% to 20% next year, said Continental, which is a major crude-oil producer in North Dakota and Oklahoma.

Other companies are waiting until early next year to disclose spending plans. Pioneer Natural Resources Co. President and Chief Operating Officer Tim Dove said earlier this month the company hadn’t issued any guidance on production or spending for 2015—and likely wouldn’t until February. Rather than focusing on drilling fewer wells, he said, “We are seeking out cost reductions from all our suppliers.”

Cutting back on oil production would be risky for companies, which could lose market share, not to mention the cash they need to pay off debt and drill new wells. If they drop rigs and crews, companies run the risk of not being able to ramp up when crude prices improve, said Daniel Katzenberg, an analyst at Robert W. Baird & Co. “You want to wait as long as possible to let them go because you don’t know if you’ll get them back,” he said.

Eric Otto describes it using a theory called the “tragedy of the commons,” in which everyone who has access to a pasture grazes as many cattle there as possible—a rational decision that leads to the field being overgrazed and ruined. An analyst at CLSA Americas LLC, the North American arm of a Hong Kong-based brokerage firm, Mr. Otto says that U.S. oil companies with a lot of debt, oversize spending plans, and little liquidity are locked in a game of survival, each vying to be the last to cut back.

“If you eventually have to cut, you want to be the last,” he says.

Write to Russell Gold at russell.gold@wsj.com and Erin Ailworth at Erin.Ailworth@wsj.com