Most of the products we use everyday contain chemicals that have never undergone meaningful health and safety testing. That statement is hardly controversial; most folks on all sides of the continuing debate over chemical policy reform accept it as accurate. Yet there is controversy over whether such testing should be required as a routine matter for all or some chemicals in commerce. I've been to a number of conferences and meetings regarding chemical policy reform and nanotechnology policy over the last year, and have heard a consistent refrain about the need to balance the health of the public with the health of the national economy. Obviously the focus on the economy has particular traction these days, especially when cast-as it often is-as an effort to encourage technological innovation. The fear is that the costs of comprehensive testing will chill innovation, especially among the small "mom and pop" operations that are often the incubators of nanomaterials. A recent study attempting to quantify the likely costs of toxicity testing for nanomaterials added more fuel to those fears.

The pursuit of innovation is clearly a legitimate and important social goal; it can foster economic recovery while at the same time improving our quality of life. That said, the reluctance to move forward on testing is troubling on two counts. First, we don't actually know what the fiscal impacts of testing will be. Take the nanotechnology industry, or rather the diffuse universe of companies large and small that play some role in the development and use of nanomaterials. The small struggling mom and pop shop faced with prohibitively high testing costs is a powerful image, but does it tell the real story? One small business entrepreneur I talked to expressed strong support for testing requirements, noting that large, well-funded companies often "sub out" their nanomaterial research and development to the smaller firms. While her company currently lacks the financial resources to pay for testing and the market power to force their customers to fund it, a testing mandate would give them leverage to include testing costs in their contracts.

Second, it is time that we address the cost of testing directly, and separate the funding question from the threshold question of whether the testing ought to occur. Of course careful thought must be given to the issue how much testing is best, which materials and what types of tests. No one wants to waste limited resources. But the answer to that question is bound be more the shockingly minimal level of testing that occurs now. In terms of who should pay, I offer three general propositions. First, as a default, a variation of the "polluter pays" principle ought to apply. The manufacturer of the material in question should be responsible for the costs, which costs will likely be passed on to the ultimate end user. Second, where

production of the material serves an important public value (such as economic recovery or public health) and the interested parties can demonstrate that testing costs will be a substantial impediment, public funding in the form of low interest loans, access to a revolving fund, or some other form of economic support should be available. Third, where public funding is made available, there should be some mechanism for repayment of that funding (with a reasonable return) in the event the material proves to be profitable.

Obviously, implementing these three general propositions would present a variety of substantial devilish details, not the least of which is from where the public funding itself would come. And the propositions raise some fundamental questions about the proper role of government. More on these items later.