

PERSPECTIVES

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A Green Approach to Tax Reform

Political debates about taxes usually deal with the question of how much to tax. But an equally important question is what to tax. Current events may encourage policymakers to examine both questions more closely. The Bush administration has called for federal tax reform and appointed an advisory panel to develop recommendations. Because the administration has stipulated that any reform must be “revenue-neutral,” there will be a need for a suite of revenue enhancements to counterbalance any tax reductions, such as the elimination of the alternative minimum tax. In addition, the nation is experiencing chronic budget deficits that likely will continue, especially as baby boomers begin to retire and collect Social Security and Medicare benefits, and thus necessity will fuel the search for new revenue sources. There is one possible source, largely overlooked, that can help to fill the nation’s coffers and achieve other socially desirable goals in the process.

Federal taxes currently fall primarily on activities that drive economic productivity: work, savings, and investments. Such taxes can discourage people from pursuing these important activities. A better approach would shift more of the tax burden onto activities such as pollution and resource waste that make the economy unproductive and that reduce quality of life. In this regard, environmental charges—taxes or fees levied on firms based on the amount of pollution they release into the air, water, or soil—could play an important role. The charges could provide much-needed revenue and at the same time make the economy more efficient,

stimulate technological innovation, protect human health, and improve environmental quality.

Correcting market failures

Environmental charges (or pollution charges, as they are also called) offer a means of tackling market failures that arise when businesses and consumers are not confronted with the full health and environmental costs associated with their activities. If designed appropriately, an environmental charge can address market failures by providing price signals that more accurately reflect these costs. Quite fairly, they make polluters pay for their damages and incorporate these costs into their decisions and product prices.

By affecting behavior through prices, pollution charges can have several advantages over more traditional environmental measures that often mandate that polluters cut emissions by exactly the same amount or use exactly the same emission-control technology. For example, pollution charges encourage cost-effective emission reductions; companies that can cut back at little cost will likely make major reductions, whereas companies facing higher costs will cut back less. The charges are flexible, enabling firms to make their own decisions on how to reduce emissions. They also can stimulate continuous technological innovation for better pollution control methods and cleaner inputs. And they generate revenue that can be used to meet other objectives.

Pollution charges can be used to mitigate many, though not all, types of environmental problems. They can be effective in addressing pollution caused by a large number of

different sources—situations in which direct regulations or alternative regulatory mechanisms, such as permit trading, would be difficult to administer. They are well suited to situations where emission reduction costs differ significantly among polluters, so that a “one-size-fits-all” policy would be inefficient. They are effective at addressing environmental issues where there is no single technological fix. Likewise, they are appropriate when the environmental problem is not in danger of reaching a catastrophic threshold in the near future; this is because charges do not guarantee a ceiling on the amount of pollution released, just on the cost of pollution control. Finally, from an implementation perspective, they are appropriate when emissions or the products associated with emissions are relatively easy to measure or monitor.

Menu of options

Given these conditions, what types of pollution charges would make sense to implement at the federal level? The following are a few examples:

Carbon levy. A carbon levy is a tax on fossil fuels based on their carbon content. The tax rate is proportional to the amount of carbon dioxide released when coal, oil, and natural gas are burned for energy. It would be a good market-based first step for addressing the challenge of human-made climate change and would stimulate the development of cleaner, more efficient technologies. The levy could be applied when fossil fuels enter the economy (for example, at oil refineries and refined product importers, at coal preparation plants, and at natural gas processing plants), thereby keeping assessment points to a manageable number. Applying it early in the production chain or “upstream” allows the price signal to trickle down through the economy and influence end user decisions regarding fossil fuels.

A carbon levy could raise substantial revenue at a relatively modest cost to consumers. Assume a price range of \$5 to \$25 per metric ton of carbon. (The low end of this range reflects prices on the Chicago Climate Exchange during the summer of 2005; the high end, the “cost cap” suggested by the National Commission on Energy Policy.) At current fossil-fuel consumption levels, such a levy would yield approximately \$8 billion to \$38 billion per year. However, in terms of “downstream” impact on consumer prices, such a levy would translate into just 1 to 6 cents per gallon of gasoline and only 0.1 to 0.4 cents per kilowatt-hour of electricity.

Energy-related levies have been politically controversial in this country and recent increases in retail energy prices could give policymakers pause in considering a carbon levy. The energy price swings in 2005 due to market forces, however, significantly dwarf the price impact a modest carbon

levy would entail. Furthermore, to give businesses and individuals time to adjust their investment and consumption behaviors, policymakers could gradually phase in the levy along a clear multiyear schedule.

Calls for action are coming from many corners. For example, Duke Energy, one of the country’s largest electric utilities, announced in April 2005 its support for a carbon levy. Before becoming chair of the President’s Council of Economic Advisors, Gregory Mankiw argued in favor of increasing the gasoline tax to finance tax reform. And this past spring, editors at *The Economist* recommended levies on energy as a means of addressing U.S. energy security issues.

Nitrogen fertilizer charge. Adding a charge to the cost of nitrogen fertilizers could help address the growing problem of nutrient overloading in the nation’s waterways and coastal waters. Recent years have seen the appearance in the Gulf of Mexico and the Chesapeake Bay of “dead zones”: vast regions of oxygen-depleted waters in which bottom-dwelling organisms die and fish are driven away. These zones adversely affect shrimp, crab, and oyster industries as well as commercial and sport fishing.

Dead zones are triggered by nutrient pollution, especially nitrogen, often from agricultural sources. Experts estimate that half of the nitrogen overload in the Gulf of Mexico comes from agricultural fertilizers and soil nitrogen from farmland in the Mississippi River basin. A big part of the problem is that farmers systematically overapply fertilizer. According to studies by Colorado State University and the National Research Council, approximately 20% of nitrogen applied to fields is not used by crops but instead ends up in lakes and coastal waterways via runoff and drainage.

A nitrogen fertilizer charge, easily administered at the point of purchase, would create an incentive for farmers to eliminate inefficient fertilizer use, yet still enable them to maintain yields. Indeed, such a charge may be one of the few practical approaches for tackling this pressing environmental problem, given the large number of pollution sources. The World Resources Institute has calculated that a charge set at a level that likely would lead to a 10% decrease in fertilizer usage could generate more than \$3 billion per year.

Environmental user fees. User fees are taxes assessed on the use of or access to publicly held resources. The federal government could use such fees to a greater degree than it currently does. Candidate targets for introducing user fees or increasing their rates include grazing rights and recreation on public lands. For instance, only 15% of national forests have recreational entrance fees. Expanding fees to all national forests would generate significant revenue at only a modest cost to users. A \$10 charge per recreational visit would

yield roughly \$2 billion annually. This amount is approximately five times the U.S. Forest Service's gross receipts from national forest timber sales in 2004.

Introducing new environmental charges would be a challenge in today's political climate. However, initiatives to reform the federal tax code and to reduce budget deficits actually provide a timely opportunity for considering such provisions.

Consider the administration's tax reform initiative. Proceeds from environmental charges could be used to lower other distortional taxes as part of an innovative reform package that meets the president's call for revenue neutrality. This essentially entails a tax shift. Taxes would be reduced on activities that benefit the economy (such as work and savings) and increased on activities that have undesirable impacts on the economy and society; namely, pollution and resource waste. A tax shift could help mitigate the impact of pollution charges on low-income households, affected businesses, and others.

Environmental charges could complement or improve some of the tax reform packages being suggested by tax experts and others. For example, a reform package proposed by Michael Graetz of Yale University involves eliminating income taxes on all but the highest earners and capturing the foregone revenue through a value-added tax (VAT) or similar consumption tax. One concern with this proposal is that the VAT rate would have to be fairly high in order to make the package revenue-neutral. Adding targeted environmental charges to the mix would help lower the general VAT rate. This modest change aligns with the proposal's original intent, because environmental charges, just like a VAT, are consumption-based.

Another tax reform proposal that has been floated for many years is to eliminate the "double taxation" of corporate dividends. Double taxation refers to the fact that shareholder dividends are effectively taxed twice, first by the corporate income tax and then by the shareholder's personal income tax. One concern, however, is how to compensate for the foregone revenue if double taxation was eliminated. An innovative strategy, suggested by Gilbert Metcalf of Tufts University and Kevin Hassett of the American Enterprise Institute, would be to offset the lost revenue by introducing a carefully crafted carbon levy.

Such a tax shift would have two distinct impacts on industry economics and consumer prices. Assuming that the economic impacts on affected firms were passed on to customers, the elimination of double taxation would lower consumer prices, whereas a carbon levy would increase

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prices. But what would be the net effect? In a study of 50 major industries, Metcalf and Hassett found that net consumer prices would be decreased or unaffected in about 30 industries and increased only slightly (approximately 1% or less) in 17 others. Only the petroleum refining, coal mining, and utility sectors would be expected to experience price increases greater than 1%. An interesting finding is that finance, insurance, and other industries that are not especially energy-intensive but distribute a sizable share of their earnings as dividends would benefit most from this tax shift. Firms from these sectors could be potential political allies with organizations that are interested in promoting a carbon levy as part of a tax shift package.

One concern that has been raised about environmental charges is that they can be regressive, disproportionately affecting lower-income households. However, combining environmental charges with reductions in certain other taxes can minimize the regressive impacts. Some proponents of pollution charges suggest that combining a basket of levies with reductions in payroll taxes (one of the more regressive measures in the tax code) and income taxes can produce overall tax reform packages that would be distributively neutral.

Of course, policymakers could go beyond revenue neutrality and use the proceeds from environmental charges to contribute to federal deficit reduction. This step would help to ensure that the government is able to meet commitments to important policy goals, such as social and national security, and it would help avoid passing the burden of higher taxes onto tomorrow's taxpayers: the nation's children. Some observers have concluded that spending restraint in itself will be insufficient to solve these problems.

Although they alone will not solve the deficit crisis, environmental charges could be an attractive part of the solution. Given the country's fiscal and environmental challenges, policymakers should welcome all the good ideas they can get.

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