A MODEL FOR SUSTAINABILITY TAXATION

John Stancil, Florida Southern College, 111 Lake Hollingsworth Dr., Lakeland FL 33801

ABSTRACT

Creating a sustainable environment has become one of the important issues in the world today. A viable sustainability policy will involve individual, businesses, and nations as they pursue this goal. One component of the sustainability mix is the area of sustainability, or environmental, taxation. This paper outlines seven characteristics of what an effective sustainability taxation model should contain – neutrality, comprehensiveness, coordination, a Pigovian approach, removal of subsidies, social equity, and visibility.

The Tax Code as an Instrument of Economic and Social Policy

When Adam Smith postulated his principles of good tax policy he probably had no conception of the extent to which taxes would be utilized as instruments of economic and social policy. He was of the opinion that the tax system should not attempt "social engineering." According to Smith, a tax system should not attempt to encourage or discourage certain types of behavior. Today, most lists of good tax policy go far beyond Smith's principles of equity, certainty, convenience, and efficiency.

Today, the tax code as an instrument of economic and social policy is taken as a given. Often, these social and economic policies form the overriding factors in tax policy, while the raising of revenues is seen as secondary. In the arena of environmental taxation, credits or deductions for energy-efficient expenditures are commonplace. Congestion fees are levied to discourage use of highways during periods of heavy use. Taxes on natural resources have been levied to help reduce consumption. Carbon and sulfur emissions have been the subject of tax levies. The term "taxes" is not normally restricted to the classic definition of a tax in reference to sustainability taxation, but encompasses any charge or fine levied by a governing authority that seeks to promote a sustainable lifestyle in society. Taxes, fines, charges, and tariffs all come under this umbrella.

Voluntary Efforts and Government Regulation

In his landmark book, *The Necessary Revolution*, Peter Senge makes a strong case for the fact that our society cannot continue on its present course. Our world, and particularly the United States, is consuming resources at a rate that will not sustain this planet over the long run. Senge, however, is a strong advocate of voluntary initiatives on the part of individuals and organizations to create a sustainable world. He cites a number of instances where environmental organizations and capitalistic corporations have come together to work for the common goal of sustainability. Senge cites, among other situations, a partnership between Coca-Cola and the World Wildlife Fund as they sought to reduce the amount of water consumed by Coca-Cola in its worldwide operations. In

2004, it took 2.7 liters of water to produce a liter of Coke. By 2009, this had been reduced to 2.36 and continues to decrease. [11]

Senge states that partnering across all sectors will be crucial in dealing creatively with all the core sustainability issues. Companies offer market clout and financial resources. NGO's can offer credibility and knowledge of the larger system. Governments have regulatory power. All will be needed to make any real progress. [11]

Although one can make much of private efforts such as the Coke-WWF partnership, these will never be enough. In order to build a sustainable future, the regulatory power of the government is required. But beyond that, cooperation between nations is essential.

Sustainability is both local and worldwide. Or, to echo a popular phrase, "Think globally, act locally." In one sense, we can all contribute to a sustainable future by our actions. Do we use recyclable grocery bags, reducing the amount of plastic bags consumed? Do we use electricity efficiently in our homes and offices? Do we participate in the local recycling efforts (if such a program is available in your area)? All of this will help assure a sustainable future. But it is not enough. Many communities lack recycling efforts; many individuals continue as if there were an unlimited amount of resources available. Sustainability requires global awareness and action.

We live in a global society where national borders are easily and frequently transcended. Any tax that seeks to promote sustainability in one nation will only be as effective as taxes enacted in other nations. Companies faced with some aspect of environmental tax regulation will be forced to do a cost-benefit analysis. "Is it more advantageous for the company to remain in its present location and pay the tax, or can the company benefit from moving its operations to another nation where there is a lower level of environmental regulation?" Obviously, one partial solution to promote sustainability would be for the "taxing" nation to include tariffs on imports of products manufactured in nations lacking the level of environmental regulation of the "taxing" country. This approach, however, is likely to result in a sustainable tax policy that is a patchwork of assorted laws and regulations, needing adjustment whenever one nation amends its sustainable tax policy. It would likely result in an ineffective global sustainable tax policy with resultant gaps and distortions.

Components of a Model Sustainability Tax Regime

What is needed for an effective sustainable tax policy is a global approach not unlike the existing Kyoto Protocol. A treaty similar to the Kyoto Protocol could be implemented to coordinate a global approach to sustainable tax policy. The future of the current Kyoto Protocol is in serious doubt as it expired in 2012. Of note is that this treaty lacks the participation of the United States and China, two of the largest producers of greenhouse gases. Canada has withdrawn while Japan and Russia has made no commitments beyond the end of 2012. This leaves only 34 industrialized nations who have signed a second commitment period beyond 2012. It is of note that emerging

economies such as Brazil, China, and India are exempt. However, the accounting rules, mechanisms, and markets developed as a part of the Kyoto Prtocol remain as effective sustainability tools and as models for future agreements. [9] However, this can be an opportunity to craft a new, comprehensive approach to sustainability, incorporating the taxation tool.

Whether a part of a new Kyoto Protocol or some other approach, any such agreement must have certain characteristics to effectively promote sustainability worldwide. No matter what provisions are included in the treaty, or how effectively they are seen to promote sustainability, the effectiveness of the treaty will suffer without full-scale participation by all major nations.

There are seven characteristics that must be addressed in a global tax sustainability effort – neutrality, comprehensiveness, coordination, a Pigovian approach, removal of subsidies, social equity, and visibility.

1. Neutrality

Neutrality will be addressed first, as it is a characteristic that should not be present in seeking to achieve a sustainable tax policy. The most common usage of the term "tax neutrality" refers to provisions that conform to an ideal tax system. [7] This is obviously an elusive goal as one cannot expect to obtain agreement on what represents an ideal tax system.

A second meaning of tax neutrality is defined as a tax that does not cause entities to shift economic choice among alternatives. Policymakers frequently depart from this concept in order to achieve specific goals. In promulgating taxes to encourage sustainability, the objective is to alter behavior to achieve sustainability. Therefore, sustainable tax policy should not be neutral. Furman makes the point that these "encouragements" are generally more effective through the use of refundable tax credits rather than deductions" [3]. In this respect, the lack of neutrality is being utilized to encourage desirable activities. In a sustainable tax system, this aspect of tax neutrality is an essential component, as the goal is to encourage sustainable activities.

For example, incentives could be offered for the development of automobiles utilizing a renewable source of fuel. Giving refundable tax credits would encourage start-up companies that have no current tax liability. Established companies could utilize the credit to help fund the research and development efforts, reducing their cash flow strain.

Taking this a step further, credits could be offered to consumers to purchase such vehicles. This would have the intent of boosting the sustainable-fuel market to a profitable level.

The concept of revenue neutrality can also come into play in a sustainable tax policy. Many who promote sustainability advocate such an approach. Part of this is the widely publicized double dividend. The double divided is based on the premise that, in addition to an increase in sustainability, environmental taxes generate revenue that could

be utilized to reduce other distortionary taxes, improving the overall efficiency of the tax system. A second effect is that non-sustainable activities are reduced. [16]

Although some tax-shifting appears to occur the double dividend does not hold up to a close analysis. Morgenstern states that while environmental taxes do not provide a free lunch, they are a relatively economical approach to addressing sustainability. Environmental benefits associated with a tax shift are generally not costless. [10] The premise of sustainability is to reduce or eliminate the undesirable activities and the externalities. Therefore, taxes from undesirable activities cannot be counted on as a continuing revenue source.

2. Comprehensiveness

While the need for a comprehensive sustainable tax policy has been addressed in relation to the need to have all major industrialized nations as participants, there is a second aspect to comprehensiveness. This is probably the most difficult of the characteristics to obtain. A comprehensive sustainable tax policy approach must address all major aspects of sustainability. Failure to do so will result in gaps that nations, companies, and individuals may exploit. There are at least six considerations outlined by Stancil [12] in forming a comprehensive sustainable tax policy.

First, the policy should contain a commitment to raising awareness of sustainability issues. If the public is aware of the purpose for these policies, there is more likely to be a buy-in. This is related to the visibility aspect discussed later, but also involves an educational effort to promote sustainable actions. Oftentimes, we may be unaware that an action is harmful to the environment, or lack knowledge of a viable alternative. In his memoir chronicling his climb to Mt. Everest, Edmund Hillary remarks on actions taken on his expeditions with the comment that "we were not aware of environmental concerns in those years." [6]

Second, the policy should promote efficient use of and conservation of energy, water, and other resources. Elements of this portion of the policy could include incentives for the use of conservation measures, construction of energy-efficient buildings and machinery, and the use of renewable energy resources. Likewise, the policy could contain penalties for non-sustainable use of such natural resources. These incentives and penalties should be of sufficient magnitude to motivate entities to take the desired actions. For example the United States income tax code has provided for certain "residential energy credits." However, they are very limited in dollar amounts, are not permanent parts of the code, and are confusing to the average taxpayer in terms of what is available. As a result, vast numbers of taxpayers have not availed themselves of this credit. Additionally the tax benefit is not sufficient to motivate a change in behavior on a large scale.

Third, the policy should encourage the minimization of solid waste production. This could include incentives to implement the three "R's" – reduce, reuse, and recycle. While many communities have recycling programs, many do not. In addition, those communities that have recycling programs are frequently limited in terms of what can be

recycled. In other cases, there is a broad recycling program, but it is not made convenient for individuals to recycle certain types of waste. In Polk County, Florida, there is a fairly comprehensive curbside residential recycling program for cardboard and paper, plastic, metal, and styrofoam. However, hazardous waste must be taken to specific drop-off points and there are limits to the amount that will be accepted. There is a small business hazardous waste recycling program, but the business is charged for the waste being recycled. [15] No incentive exists to encourage recycling.

Closely related is the fourth consideration, that of minimizing hazardous waste and toxic materials. Industries and individuals can take actions that reduce the impact of such materials. Recycling oil, batteries, and other household products can go a long way toward creating a more sustainable future. However, there needs to be both an awareness of the environmental impact of improper use of such waste and a convenient, viable means for disposal.

A related aspect is the management of natural resources. Coca-Cola serves as an example of what can be done in this area. Traditionally little attention was paid by Coke regarding how or where bottling plants got their water with a focus on operational performance efficiency. When their focus shifted to water conservation, they found that it took over 200 liters of water to grow the ingredients that go into a liter of Coke. [11] Through a strategic partnership with the World Wildlife Fund, Coke brought the awareness of water quality issues from the executive suite to the local bottlers. As a result, Coke has reduced its use of water by 20 percent and is still improving. In addition, they are now using a higher percentage of recycled water in their operations. [14]

Comprehensive participation is a fifth factor. As mentioned previously, business, non-government organizations, and government each bring something different to the table. All three are needed to make real progress.

Finally, the policy should provide tax incentives to encourage incorporation of sustainable design and planning principles in development, construction, and operation of infrastructure, grounds, and building. In addition to the more obvious tenet of designing sustainability into buildings, sustainable landscaping practices could be included. Additionally, planning could include a commitment to pedestrian travel, bicycle use and other modes of transportation that promote a sustainable environment. This can include tax incentives for the purchase and use of bicycles, implementing environmentally-friendly transit, and making the use of theses modes of transportation convenient to the public.

3. Coordination

As has been observed, we live in a global society. From a sustainable tax view, the characteristic of coordination has two implications. Companies who are not environmentally responsible may seek to relocate to an area with fewer environmental restrictions. One only needs to take a look at various nations across the globe to realize that there are governments with restrictive environmental policies at one extreme and those with little or no environmental regulation at the other extreme. Those who seek to

avoid environmental restrictions will seek out an area in which they can operate without being "constrained" by the regulations.

Additionally, those areas with fewer environmental restrictions do not exist in isolation. Non-sustainable activities carried on in these areas will have a spillover effect, creating environmental and other difficulties that extend beyond their borders. The wind carries pollution to all parts of the globe. Water pollution impacts the groundwater and downstream areas.

A global sustainable tax agreement, coupled with other global sustainable agreements is the most effective manner to isolate and eliminate non-cooperating nations. When all major industrialized nations have ratified the agreement, the opportunity to shop for a "better" venue will be eliminated or greatly reduced. Tariffs can be levied on exported goods produced through non-sustainable processes in non-participating nations.

Hartzok, et.al. have called for a "Global Resource Agency" to collect user fees for transnational commons – areas outside national boundries including the use of the electromagnetic spectrum. This agency could also be responsible for monitoring these common areas. [5]

Admittedly, there are those who will seek to circumvent environmental restrictions that exist in their locale. Rigid enforcement and severe penalties must be put into effect, or the regulations serve no effect and create a *defacto* lack of environmental restrictions.

4. The Pigovian Approach

The concept of sustainability taxation probably originated in 1920 by the economist A. C. Pigou. Pigou drew a distinction between the private and the social value of economic activities. A modern illustration of this principle would be the construction of a new toll road. The users of the highway enjoy the private benefits of the new road – reduced congestion, quicker trips, and the like. The benefits are reflected in the price users pay to travel the new route. But at the same time, there are social costs. People are displaced as the new road cuts through their neighborhoods. There is an increase in noise from the traffic. Pollution increases. These social costs, or externalities, do not enter into the calculations of the cost of the road but must be included in determining the ultimate worth of any economic activity.

To correct these problems, Pigou advocated government intervention. When the social value of an activity was less than its private value, the authorities should introduce "extraordinary restraints" in the form of user taxes. Pigou also realized that some activities have a social value exceeding the private value. Recreational parks, street lamps, and other "public goods" are difficult projects to charge for, so the free market would not ensure an adequate supply. Pigou suggested "extraordinary encouragements" in the form of government subsidies to help assure an adequate supply of these "public goods" [1]. Pigou's theories form the foundation of today's concept of sustainability taxation.

Pigovian taxes are designed to correct negative externalities that arise in the marketplace. There is no question that negative sustainable actions occur in an open economy. Often, these externalities arise not from malice, but from ignorance or lack of the availability of a sustainable alternative. The issue of plastic bags is a prime example. Consumers have used these bags by the billions, primarily due to the lack of any alternatives. Once other alternatives became available, and the consumer was made aware of the problems created by plastic bags, their use declined. However, their use did not drop to levels most would consider acceptable. Therefore, a Pigovian solution was called for. When governments levied taxes on the use of plastic bags, their use declined significantly. Ireland introduced a thirty-three cent tax per bag and consumption decreased 94 percent in a matter of weeks [9]. Businesses were caught between the issue of paying the bag tax themselves, or passing it on to the consumer. Neither was seen as a workable solution, so alternatives to plastic bags were made available.

5. Removal of Subsidies

In somewhat of a "reverse Pigovian" approach there are many tax subsidies in place that damage the environment and hamper sustainability efforts. One study indicated that U. S. Federal subsidies for fossil fuels was $72.8 billion in the seven-year span beginning in 2002. An additional $16.8 billion was spent in corn ethanol research. [2] While a step in the right direction, the widespread use of corn as a fuel will have the unintended consequence of creating price distortions as corn becomes an expensive, scarce resource.

These subsidies should be eliminated. Often, they are not seen as harmful, but a careful analysis will indicate that the subsidy does not promote sustainability. Among the culprits in this area are tax preferences for oil, mining, and timber. In the United States, certain vehicles, such as a large sport utility vehicle, are eligible for tax breaks not available for passenger vehicles weighing less than 6,000 pounds. The mortgage interest deduction is even at fault, as it subsidizes home ownership and makes second and larger homes more affordable. Removal of such subsidies and adoption of the Pigovian approach would have the effect of requiring polluters to pay taxes on activities that are not environmentally friendly.

On the other hand subsidies should be given to encourage sustainability. In the same seven-year period cited above, U. S. subsidies for renewal energy amounted to $29.0 billion, including $16.8 billion for corn ethanol research. [2] Many of these subsidies are slated for expiration by 2014. While a step in the right direction, the widespread use of corn as a fuel will have the unintended consequence of creating price distortions as corn becomes an expensive, scarce resource. Subsidies to promote environmentally-friendly actions must be undertaken carefully, with attention to any collateral effects.

6. Social Equity

Social equity is another difficult issue in relation to sustainability. Any public policy will affect some members of society more than others. Steps must be taken to

assure that the burden of sustainable taxation does not fall unjustly on low-income households. One suggestion has been to implement sustainable taxes and pay a lump-sum subsidy to certain qualified households. Another approach would apply different rate structures based on household income or exempt some groups from the tax measure. While these approaches are admirable, they do not reach the heart of the matter.

Sustainability taxation is by nature not intended to be a revenue-raising venture. The purpose is to help create a more sustainable society. As environmentally harmful activity decreases, so does the revenue from these sources. If the subsidies are maintained, they become a revenue drain on the government, which will then need to seek a new revenue source. The second suggestion sounds good in theory, but would likely be difficult to implement fairly.

A second aspect of social equity is dealing with third-world nations that are poverty-stricken. In one sense, this is the first aspect of social equity, moved to a national level. These nations are struggling with issues not faced by other, industrialized nations. In the United States, for example, clean water is a given. However, over one billion people in the world do not have clean water. Open fires are common, simply as a means to cook and to stay warm. But the fires still pollute the atmosphere. When survival is an issue, environmental concerns are relegated to lesser importance. In many third world areas, environmentalism is an unknown factor. These problems can be addressed with aid from industrialized nations that will assist these countries in improving their economy through the use of sustainable measures.

7. Visibility

Visibility means that taxpayers are aware of what they are pay in a tax. Normally, opponents of big government prefer that taxes be highly visible so that the taxpayer can weigh the tax against the benefits to be received. Others argue that low visibility is desirable because many government services are low visibility. [13] There is some logic to this approach. Looking at the federal government, it is difficult for our minds to apply our payment of a tax to benefits received due to the scope and size of the federal government. Bring it down to a local level and the property tax becomes more visible as we see the purpose of that tax. For example, the property tax bills in Polk County, Florida are itemized. A home with a tax valuation of $90,000 will pay $37.93 in county parks taxes. Most taxpayers would probably conclude that the county parks system is worth that amount to them, so the tax is acceptable. On the other hand, tariffs, excise taxes and value-added taxes are embedded in the price of the merchandise and the consumer is unaware of the amount of taxes being paid. Little specific objection is made in regard to these taxes once they are in place.

A tax that is not visible is at a tax that is not understood. As a result, it will not achieve a high level of support. In order to make sustainable taxes visible they should be distinct, non-discriminatory, and defensibly quantified. A tax is distinct when the basis for setting the tax is clear and it is distinguished from other taxes. A non-discriminatory tax should be applied to all similar sources of environmental and social damage. For example, coal, heating oil, and gas should all bear their share of the environmental tax as

each is a source of carbon dioxide and other pollutants. A tax is defensibly quantified if the proceeds from the tax are utilized to combat environmentally harmful activities rather than being viewed as a revenue measure.

With such visibility, the purpose of the taxes as well as the use of the funds is readily apparent. As environmentally-friendly activities are pursued, the incidence of the tax will be reduced for individual entities. Those who persist in environmentally harmful actions will continue to be penalized with the tax.

Conclusion

In developing a system of sustainability taxation there are six principles that should guide policy-makers to help assure that the objective is reached:

1. Have a clear purpose and definition. What is the objective of the tax?
2. Design the tax to complement existing policy instruments, avoiding policy overlap.
3. Design the tax with simplicity at its core. It should be more than visible, it should be simple.
4. Offer comprehensive communication and advice. Explain it in simple terms.
5. Provide certainty to businesses with ample lead time, known rates, and end outcomes specified.
6. Ensure a strong ongoing justification. Monitor the tax to ensure that it is having its originally intended effect. [4]

Peter Senge states that we are at the dawn of a new revolution. Organizations, government, and individuals must change how they think and act. We are all responsible for our core sustainability issue of food, water, energy, waste, and toxicity. We all must be part of the solution. Failure to adopt sustainability measures will result in the decline of the world as we now know it. [11] The tax aspect of sustainability is only one cog in the sustainability wheel, but an important one.

Bibliography

[1] Cassidy, John, 2009, "An Economist's Invisible Hand," *The Wall Street Journal*, November 28, 2009.

[2] Eli.org. (accessed 8/25/2012)

[3]Furman, Jason, "The Concept of Neutrality in Tax Policy," Brookings Institute, February 10, 2010.

[4] Gallondaily.com (Accessed 8/25/2012)

[5] Hartzok, Alanna, Tatians Roshkoshnaya, Hector Sandler, and Rashmi Mayur, "A Green Tax Policy Approach to Local-to-Global Public Finance, www.earthrightsinstitute.net (accessed 8/25/2012)

[6] Hillary, Edmund, *View from the Summit*, Pocket Books, 1999.

[7] Kahn, Douglas A, "The Two Faces of Tax Neutrality: Do They Interact or Are They Mutually Exclusive?", *Northern Kentucky Law Review*, Vol 18, Fall 1990.

[8] knowledge.alliance.com. (accessed 8/26/20120.
[9] Lee, Jennifer, 2009, "Taxing Plastic Bags, From Pennies Here to Millions There," *The New York Times*, February 2, 2009.
[10] Morgenstern, Richard, 1995. "Environmental Taxes – Dead or Alive?" Discussion paper for Resources for the Future, 1995.
[11] Senge, Peter, 2008, *The Necessary Revolution*, Doubleday, New York.
[12] Stancil, John L., "Taxes and Sustainability," in *Global Sustainability as a Business Imperative*, eds. Stoner and Wankel, Palgrave McMillian, 2010.
[13] Ulbrich, Holley H, "Principles of a Good Revenue System," *Policy Brief, Jim Self Center on the Future*, Clemson University, June, 2010.
[14] www.thecoca-colacompany.com (accessed July 27, 2012)
[15] www.polk-county.net, accessed August 25, 2012
[16] Zhou, Rong and Kathleen Segerson, "Are Green Taxes a Good Way to Help Solve State Budget Deficits?" *Sustainability*, 2012.