INCORPORATING SUSTAINABILITY INTO THE TAX CODE

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ABSTRACT

The concept of sustainability has been moved to the center of our collective conscientiousness in recent years with the realization that it is imperative that everyone must act in an environmentally sustainable manner if this planet is to survive. The origins of sustainability, or eco-taxation, are reviewed. This is followed with a discussion of the issues involved in incorporating sustainability into the tax code. Some existing sustainability tax measures are reviewed and evaluated in light of their effectiveness. Finally, a framework of necessary components for successfully building sustainability into the tax code is presented.

INTRODUCTION

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. [10] Today, most lists of good tax policy go far beyond Smith's principles of equity, certainty, convenience, and efficiency.

The tax code as an instrument of economic and social policy is now 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. [19] Taxes on natural resources have been levied to help reduce consumption. Carbon and sulfur emissions have been the subject of tax levies. [6] These taxes are not designed to raise governmental revenues, but to discourage undesirable behaviors. Indeed, the ideal is to not collect any of these taxes as the behavior is eliminated.

This area of taxation is known by a number of names – green taxation, eco-taxation, energy incentives, or environmental taxation. Each of these, while focused on similar objectives, seems to lack a macro-view of the subject. Green is a popular word today, but the term in relation to the environment seems to be a fad. Eco-taxation suffers from a lack of identity. Does "eco" stand for economic, ecology, or some other term? The term environmental taxation has been defined as a tax aiming to ensure that polluters face the true cost of their activities by charging them for the damage done to others. [21] This approach is more of a "stick" approach and offers no "carrot" to encourage environmental stewardship. Energy measures do not cover the entire area of taxation, but tend to focus on the incentive side. One term has not received a great deal of usage, but seems to be superior to the others. Sustainability taxation. This term includes environmental taxation but takes a larger view, a view toward doing what is necessary to assure a sustainable future for this world. This term can encompass taxes, fees, or other measures that encourage businesses and consumers to move from less-desirable environmental actions to those that can help create a more sustainable future. Olivia Sprinkel defines sustainability as "a balance between the financial, human, and environmental." [20]

The term "taxes" in the sustainable arena is not restricted to the classic definition of a tax, 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 the sustainability tax umbrella.

ORIGINS OF SUSTANABILITY TAXATION

The concept of sustainability taxation was probably developed 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 high-speed rail line. The users enjoy the private benefits – better access, quicker trips, convenience, and the like. The benefits are reflected in the price users pay to use the facility. But at the same time, there are social costs. People are displaced as the new train cuts through neighborhoods. There is an increase in noise. Localized pollution may increase. These social costs, or externalities, don't enter into the calculations of the cost of the high-speed rail but must be included in determining the ultimate worth as an economic activity. To correct these problems, Pigou advocated government intervention. Where 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." [4] Pigou's theories form the foundation of today's concept of sustainability taxation.

USING TAXATION IN THE ENVIRONMENTAL POLICY MIX

There is no question that a successful approach to achieving a sustainable future will involve a mix of policy initiatives. Recycling, use of renewable energy sources, new technologies, and other measures will move this planet toward a sustainable future. But there must be in place an incentive to impel consumers and businesses to implement such sustainable actions. In a free-market economy, the pricing mechanism is found lacking in at least three respects:

- The overall price elasticity of demand for energy is low and the level of taxation on energy to induce substantial behavioral change will be too high to be acceptable.
- The regressive nature of environmental taxes will have negative effects on wealth distribution, as low-income groups are affected in a disproportionate way.
- There may be various obstacles or "market failures" which prevent efficient levels of energyefficient investments. [3]

Relating to the first point, Fujiwara, et. al. observe that elasticity of demand for environmental taxes is important. If elasticity of demand is high, rapid and successful implementation of such taxes is possible. Such an example would be the implementation of a tax on plastic bags. Consumers use these because they are convenient and have no visible cost for their use. Hence, there is no financial benefit from not using them, and a switch to reusable bags (a viable substitute) carries a cost to the consumer. However, a tax on the plastic bags creates a cost with an incentive to invest in reusable bags. [7]

On the other hand, this is not the case for carbon taxes. Here, elasticity of demand in the short term is low and energy is an important input for large sections of the economy. Additionally, there are no reliable, low-cost alternatives to fossil fuels. Energy users are responsive to changes in the price of energy [5] This short-term elasticity and the lack of alternatives create problems for carbon taxes. However, Fujiwara et. al. observe that this does not eliminate the need for carbon taxes, but means that

the taxation scheme needs particular care to be effective without causing adverse effects. The methods, implementation, and structure need special attention. [7]

Sustainability taxes tend to be regressive, falling in a disproportionate measure on those in the lower income brackets. Behavioral changes are the ultimate goal of such taxes, but these changes take place over the long-term. Short-term implications should not be ignored as these will precede any behavioral changes. In enacting any sustainability taxes, analysis of the impact of the taxes must pinpoint which sectors of society are hit the hardest and those sectors that will not be able to adapt to the change. [5]

One approach is to utilize subsidies for those adversely affected by utilizing tax exemptions or refundable credits to compensate for the additional burden imposed by the tax. The Organisation for Economic Co-operation and Development (OECD) recommends against such an approach, as it may reduce the incentive to behavioral change. They suggest the exploration of other means to reduce the impact. These alternative measures can soften the effect of the tax while maintaining the price signal of the tax. Maintenance of the price signal keeps intact the incentives to modify behavior in an environmentally beneficial manner. [14]

The efficiency of these taxes remains an area of uncertainty. Energy taxes, by and large, are input taxes and should fall on production as well as consumption. In order to avoid distortion in production, the tax, however, should be limited to final consumption. This is a less-expensive approach to collecting the tax. [13] However, this approach does not provide any incentive for the producer to avoid negative environmental externalities. Inclusion of exemptions, revenue recycling, or other approaches in an attempt to minimize the regressive effect can raise the administrative costs and render the tax an economically inefficient one.

DOUBLE DIVIDENDS?

Proponents have often argued that sustainable taxes are "fiscally neutral," meaning that new environmental taxes would be offset by decreases in existing taxes often related to payroll. Citing the best of both worlds, a "double-dividend" was declared for environmental taxes. The first dividend relates to environmental improvements and the second dividend comes as payroll taxes are reduced. [7] Unfortunately, the "double dividend" effect has not been empirically proven and there is evidence that it does not hold up to detailed analysis. While there has been a modest tax shift, it is not seen as a validating the double dividend theory. [12] One possible reason for this failure may be that the fiscal neutrality approach has given lobbyists an opportunity to seek generous exemptions in order to achieve this fiscal neutrality. These lobbying efforts frequently create adverse effects on environmental effectiveness. [7]

A related topic is "revenue recycling." Under this concept, funds obtained through taxes or levies on environmental pollution are "recycled" as credits for specific purposes that generate environmental benefits. For example, a credit for the installation of energy-saving investments could be paid from funds obtained from taxes on environmental pollution. This approach depends on the lack of government failure. The government must allocate and recycle these revenues efficiently and avoid distortions and transaction costs. [7] Earmarking, along with government bureaucracy can be sources of efficiency losses.

In the United Kingdom, revenues from sustainability taxes have been used to reduce the rate of employers' National Insurance Contributions. Additionally, grants are made to support research and development projects, interest-free loans, and funding for carbon emissions reductions. [7] One is

compelled to ask if this is the most efficient use of the funds as it invokes government bureaucracy in decisions regarding the allocation of the revenues.

SUSTAINABLE TAX MEASURES TODAY

Nations have approached the implementation of sustainable tax measures with a variety of methods. As discussed earlier, Pigovian taxes are seen by many as the ideal approach to per-unit taxes on emissions or discharges. Unfortunately, this approach has seen limited use. Outside of Europe, no nation has adopted the Pigovian model. However, the thirty-two signatories to the OECD have utilized indirect environmental levies that include taxes on fuels, vehicles, beverage containers, fertilizers, and other environmentally harmful products or activities. These levies are growing in importance in OECD nations. [2]

 CO_2 taxes are growing in importance as most West-European nations have implemented some form of this tax. The effectiveness of these taxes has been limited due to differing systems in each country. Ivan Hodac, Secretary General of the European Automobile Manufacturers' Association (ACEA) stated that CO_2 taxes are important in shaping consumer demand toward fuel-efficient vehicles. He called for similar taxation measures in all countries in order "to give a clear market signal which will be decisive in achieving the desired cuts in CO_2 emissions." He further stated that fragmented systems have a distorting effect on the internal market. [1]

The Spanish corporate income tax includes a tax credit for environmental investments. Originally introduced in 1996, it has been expanded a number of times. The current focus awards a ten percent credit for certain environmentally-friendly investments that go beyond the legally required minimum. In addition, there is a 12 percent credit for purchases of new land-based means of transportation for commercial or industrial use. A second ten percent credit is available for investments in new tangible assets for the use of renewable energy sources. [22]

The Spanish approach appears to be well-intended but have a number of enforcement issues that have diluted the environmental benefits of the credits.

The United Kingdom has taken a leadership role in approaching the problem of climate change, adopting a strategic, long-range focus. Prior to 2009, the UK had made significant strides toward reducing carbon emissions. Existing policies are enabling £50 billion in low-carbon investments through 2011. Additionally, these policies have supported 900,000 jobs. Budget 2009 provided over £1.4 billion of additional targeted support in the low-carbon sector. Other measures promise an additional £10.4 billion of low-carbon sector and energy investments over the next three years. This promises to place the UK at the forefront of worldwide low-carbon recovery. Budget 2009 sets forth the world's first carbon budgets as required in the recently enacted "Climate Change Act." This includes a legally binding reduction of 34 per cent reduction in emissions by 2020. [8]

Other provisions in Budget 2009 include funding for energy efficient measures to help various segments of society to use less energy, including a reduction in the value-added tax for energy-savings materials. There a goal of increasing renewable energy tenfold. A notable inclusion in this area is the establishment of community heating systems. These systems generate heat at a centralized location and transmit heat via pipes. Low-carbon technologies are also a part of the budget. None of these initiatives are tied to a specific tax resource, but reflect the importance the British place upon achieving a low-carbon future. £365 billion in other energy-efficient schemes are planned with the intent of reducing emissions, saving money, and helping employment. [8]

The United States has lagged behind its European counterparts in attempting to create a sustainable environment, particularly in regard to utilizing the tax structure to help implement effective sustainable policies. Four federal laws enacted since early 2008 contain provisions targeting energy conservation: The Economic Stimulus Act of 2008, the Housing Assistance Act of 2008, The Emergency Economic Stimulus Act of 2008, and the American Recovery and Reinvestment Act of 2009. [23] None of these statutes can be classified as sustainability or "green" legislation. They are enactments that contain certain elements of energy-efficient legislation. The environmental focus in each of these is on credits for energy-efficient buildings or building improvements. While this is a laudable move toward sustainability, it can hardly be expected to create a sustainable future for the United States.

This recent flurry of tax legislation is merely a continuation of Federal environmental tax policies that have focused on tax credits and deductions having positive environmental effects rather than sending negative price signals for environmentally damaging activities. The Energy Policy Act of 2005, like other legislation in the U. S., relied heavily on tax incentives for energy conservation investments. Included were incentives for energy efficient heating, cooling and lighting systems in commercial buildings; income tax credits for alternative-fuel vehicles; incentives for alternatives to coal-burning plants; and credits for wind farms producing electricity produced from wind power. [11]

The concept of congestion taxes has been utilized in a number of nations in a variety of circumstances. These have been applied to waterways, airports, and city-center hubs in addition to highways. Congestion taxes have been attempted at the state and local level in the United States on a limited basis. Transportation Alternatives has called congestion pricing the most powerful policy tool at the hands of [New York] City officials to reduce unnecessary driving, promote environmentally sound transportation, and finance twenty-first century improvements to the transportation infrastructure. If the revenues are utilized for this purpose, environmental benefits could become a reality. However, Owen takes a different view. He maintains that congestion itself can promote sustainability, as frustrated drivers become pedestrians or subway riders. [17] Congestion pricing has its advantages, but one of them does not seem to be a contribution toward a sustainable future any more than an income tax used for environmental purposes can be said to be a sustainability tax.

The plastic bag has become ubiquitous in our society as consumers use an estimated 500 billion of these bags annually. They are not biodegradable, they kill an estimated 100,000 marine animals annually, and they consume fossil fuels in their manufacture. And there are viable alternatives. With this in mind a number of nations have implemented a tax on each bag. Several cities and states in the United States are considering such proposals. The tax can run from five to thirty-three cents a bag, creating a strong disincentive for their use. If the consumer opts for an alternative, such as a reusable cloth bag, the retailer will purchase fewer bags with the end result that fewer plastic bags will be produced. Paper bags are also not environmentally friendly. Although they do degrade, they require the release of more greenhouse gases in their manufacture and transportation than plastic bags. [18]

The approach to taxing, rather than banning plastic and paper bags seems to be a valid approach. While proponents may desire that every nation ban these, the lack of universal acceptance does not diminish the local effect. While the "bag tax" seems to effectively reduce the consumption of plastic and paper bags, governments must be judicious how it approaches the use of these tax revenues. Since the goal is to eliminate their use, this is a revenue stream that can be expected to decrease rather quickly over time. When Ireland introduced its thirty-three cent tax per bag, consumption decreased 94 per cent in a matter of weeks. [9] This tax, then, is not one designed to bring in revenues, but to change behavior. As such, many see it as an ideal example of a sustainable tax.

A MODEL FOR SUSTAINABILITY TAXATION

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 is 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.

Building on the Kyoto Protocol

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 jeopardy. Without the participation of the United States and China, two of the largest producers of greenhouse gases, it is expected to expire in 2012. 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 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 – comprehensiveness, coordination, a Pigovian approach, removal of subsidies, social equity, visibility, and neutrality.

Neutrality

Neutrality will be addressed first, as it is a characteristic that should not be present in seeking to achieve a sustainable tax policy. Tax neutrality is generally 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.

A second aspect of neutrality is the concept of revenue neutrality. Many who advocate a sustainable tax policy seek a revenue-neutral policy. Part of this is the widely publicized double dividend. 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. One must also remember that as behaviors are modified, revenues will decrease, offsetting any achieved neutrality. [10]

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 five considerations 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. 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.

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. Closely related is the fourth consideration, that of minimizing hazardous waste and toxic materials. 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.

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. 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. 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.

The Pigovian Approach

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. As 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. 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.

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. These subsidies should be eliminated. Among the culprits in this area are tax preferences for oil, mining, and timber. In the United States, a sport utility vehicle is 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 their activities that are not environmentally friendly.

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. Implementing sustainable taxes and paying a lump-sum subsidy to certain qualified households is one suggestion. Another approach would apply different rate structures based on household income or exempt some groups from the tax measure. [15] A second aspect of social equity is dealing with nations that are poverty-stricken. Aid from industrialized nations can assist these countries in improving their economy through the use of sustainable measures.

Visibility

A tax that is not understood is not visible. 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. [13]

TAXES AS ONE COMPONENT OF SUSTAINABLE POLICY

Taxes are not the only policy instrument in the hands of government in order to bring about a sustainable future. Indeed, they are only a part of the macro view of sustainability. Therefore, sustainable tax policy must be a part of an effective and economically instrument mix. To achieve this, three requirements must be met.

First, there must be a good understanding of the environmental issue being addressed. Over 2,500 years ago, Chinese General Sun Tzu stated "Know thyself, know thy enemy." Effective action comes when participants understand the environmental issues involved and why they are issues. Secondly, there must be a good understanding of how tax policy links with other policy areas. An effective policy will not be achieved if each policy area does not interact and coordinate with the others. Finally, there must be a good understanding of the interactions between the different instruments in the mix. These instruments must not counter balance each other. [16]

CONCLUSION

Taxes can be an effective tool in the policy mix to achieve sustainability on our planet. However, to be effective, the policy must be global in nature. A well-designed policy instrument similar in nature to the Kyoto Protocol will be the best hope for achieving this objective.

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