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Tax Paradigms, Globalization, and the Electronic Revolution

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TAX PARADIGMS, GLOBALIZATION, AND THE ELECTRONIC REVOLUTION

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Tax reform, especially in developing countries, has been one of the most intensely debated topics around the world. The significance of this issue can be easily understood as developing economies, lacking strong fiscal traditions, emerge as important participants in a renovated world. Old paradigms are being constantly challenged by these new players.

At the same time, their growing demand for resources necessary to meet the expectations placed on their public sector, makes tax reform a crucial issue in attempting to maintain the tendency towards economic relevance which many developing countries around the world have been fiercely attempting to achieve.

In Brazil, particularly, tax reform it is one of the most important items in a list of pressing domestic issues.

A new tax perspective

Over the past fifteen years, debate on the Brazilian tax system has been greatly intensified. It has been so intense, and at the same time, so unproductive in terms of effective results, that the Brazilian tax system has been blamed for being the most important element in slowing down the country's growth along the last two decades. But on the other hand, the debate has been very rich, and has resulted in the development of new insights on this problem.

Several propositions for tax reform have been introduced, creating a clear division of opinions between two schools of thought on the subject. On one side, stands orthodoxy, based on traditional concepts of public finance and on conventional canons of tax law. Although many of these conventional concepts on taxation have been superseded by the effects of recent technological advances -most importantly, electronic information and new means of asset transfers- they have been the main driving force observed in the tax reform proposals sponsored by the Brazilian government.

On the other side of the divide is the innovative and anti-dogmatic school of thought which proposes the elimination of conventional tax models and which is epitomized by the resurgence of the age-old concept of the Single Tax, which, in its modern version makes extensive use of non-declaratory taxes such as the bank transaction tax, and introduces electronic technology into the tax world, not as a simple mechanical improvement in gathering and auditing of data, but rather, as a conceptual building block in alternative methods and constructs about taxation and public finance.[1]

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[1] For brief references on the history of the single-tax concept, see [SELIGMAN, 1914]; [HUGON, 1945] and [GROSCLAUDE and HERZOG, 1990]. More recently, proposals for implementation of a single-tax have arisen within the "poujadist" movement in France, in the 1950s: see [FAUVET and MENDRAS, 1958] and

In this text, the terms "declaratory" and "non-declaratory" tax are used to express the distinguishing features of conventional versus non-conventional taxes. Conventional taxes, in current use throughout the world, make extensive use, by the taxpayer, of self-prepared filing of paper tax-returns based on tax accounting procedures set up by tax authorities. The non-conventional, non-declaratory taxes make no use of paper tax filings, and are usually collected automatically, administratively, by electronic means, such as the bank transaction tax used in Brazil from 1993 to 2007.[2]

The first school of thought – associated with the use of conventional declaratory taxes – believes that "old taxes are good taxes". This school mistakenly sustains (so claim such conservative reformers) the continuation of paradigms which, inadvertently to them, have become outdated, and which have been superseded by the peculiar impacts of modern economies, characterized by globalization and by the overwhelming effects of the digital information age. The great Brazilian economist, diplomat, and public figure Roberto Campos, an active participant in the tax reform debate, once stated that to defend this school of thought is to engage in a melancholic exercise of trying "to perfect the obsolete."

The second school of thought calls for the elimination of declaratory taxes and for their substitution by electronic taxes operating through the bits and bytes of the data-processing centers and clearinghouses of the banking system, such as a bank transactions tax. Ultimately, because of its extensive pattern of incidence upon almost all economic transactions and therefore reaching almost all economic occurrences presently used as tax bases, this type of taxation could lead to the construction of a model with a single basic tax, an envelope tax, or the Single Tax paradigm.

The clash between these two tax paradigms, the declaratory versus the non-declaratory tax system (which might be rephrased as the "with" versus the "without" paperwork tax system) draws to the surface questions concerning not only the deep changes that are occurring within the modern world economic environment, but also the academic stance of taxation (and even of public finance) as a science.

Paradigm change

Thomas Kuhn says that a field of study becomes a science when a community of experts consensually accepts a paradigm – that is, a set of problems and uniform standards of approach – with a foundational theory and a common set of explanatory and interpretative traditions.[3] "*The authority of a scientific proposition is founded on its capacity to generate consensus within a given community. This consensus, for its part, does*

[HOFFMAN, 1956]. There was also an energy single tax proposal upheld by E. Schüller, also in France. In the US, the most important contribution to the Single Tax debate was carried out by Henry George; see [GEORGE, 1879], and more recently by [FEIGE, 2000]. See also [MILLS, 1990] and [HALL and RABUSHKA, 1995]. These two proposals refer to the simplification of the Income Tax. On a similar strand, is the "fair tax" proposal, as seen in [KOTLIKOFF, 2005].

[2] For an exhaustive discussion of non-declaratory taxation, especially bank transaction taxes which were used in Brazil from 1993 up to 2007, see[CINTRA 2009]. For a seminal text on the subject, see [FEIGE,2000]. See also [COLABELLA and COPINGER, 1995]. For a critical position regarding bank transactions taxes see [COELHO *et alii*, 2001].

[3] [KUHN, 1962], quoted by [FARIA, 1999] pp. 48-51.

not depend on whether the scientific propositions provide an indisputable vision of the intimate configuration of reality. It does, however, depend on whether its development has been guided by demarcation criteria that are authoritatively prevalent in the environs of that community." Kuhn goes on to state that, "*It is for this reason that paradigms distinguish themselves by their incommensurability. If each paradigm sets forth the conditions of the scientific nature of the knowledge produced in its environs, the proofs invoked in favor of other paradigms tend to be disqualified* a priori.*"*[4]

In other words, a proposal that contradicts "conventional wisdom", paraphrasing John Kenneth Galbraith,[5] is summarily considered "unscientific", not because of lack of objective analysis of its scientism, but simply because it does not apply methods and models considered "correct", "truthful" or "evident".

Partly for these reasons, traditionalists say that the extensive use of a bank transactions tax as the basic pillar for a tax reform is an audacious proposition, bordering on illusion. Despite the proven capacity of such taxes to generate impressive amounts of revenue and to show an almost universal pattern of incidence and coverage, as shown by the Brazilian experience with a bank transactions tax (called IPMF/CPMF), researchers and defenders of such innovative taxation usually draw the wrath of traditionalists who oppose it. The guardians of orthodoxy, the bureaucratic establishment, and the recurrent tax evaders refuse to relinquish their decades-old professional and intellectual investments – despite the fact that all evidence proves them increasingly obsolete.

A bank transaction tax has countless advantages as a taxation system. Auditing becomes simpler; taxation criteria are more transparent; bureaucratic and compliance costs both to the public and to the private sectors are lessened.[6]

It is worthwhile noting the statements made by former Secretary of Federal Revenue, Everardo Maciel, while testifying before the Comissão Parlamentar de Inquérito [Parliamentary Inquiry Committee] (CPI) on May 8, 2002. The Secretary's sympathy for the CPMF (a bank transactions tax used in Brazil since 1996) is noteworthy. He said, "*my presence here is solely to quickly state for the record that the bank debit transaction tax (CPMF) has been an extremely valuable instrument from a revenue collection standpoint, precisely because it manages to produce public revenue at low cost, with extreme efficiency, and, additionally, serves primarily as an auxiliary instrument for tax auditing.*"

Conservative backlash: ignoring an evident truth

Brazilian "traditionalists," tend to reject bank transactions taxation on the pretext that, "if it were good, it would have already been adopted by more advanced economies." This sad argument acknowledges the inertial weight of entrenched concepts of tax systems or, inversely, it ignores the revolution that electronic technology has inspired in some countries, but not in all of them. For example, Brazil has a banking system that is significantly more modern than that of most of the advanced economies, including the

[4] [FARIA, 1999] p.49.

[5] [GALBRAITH, 1958]. On his concept of "conventional wisdom", see pp 6-17.

[6] For a discussion of compliance costs of taxation see [SANDFORD, GODWIN and HARDWICK, 1989], [SANDFORD and GODWIN, 1990] and [BERTOLUCCI, 2001 and 2005].

United States, and this is the foundation that supports the paradigm shift towards the bank transactions concept. Furthermore, such an attitude ignores that there are cultural, social, political, and economic differences among countries that make some urgently need a new tax system, while others do not, as least not with the same intensity.

Regarding tax systems, it becomes increasingly evident that the conventional paradigm is gradually becoming exhausted. In tax matters, the conventional paradigm is following the steps described by Thomas Kuhn to justify a “scientific revolution”: *old beliefs become less capable of providing answers to concrete problems, and for each solved problem others appear of even greater complexity*.

An illustrative example is found in the changing perception of tax administrators regarding the Income Tax. After the Second World War the global income tax became almost universally used. *“This tax was an ideal instrument for the time and came to be seen by many policymakers and tax experts as a “dream tax”. In the United States, 90 per cent of taxpayers had considered the income tax as a fair tax during World War Two, according to survey data published by the American Enterprise Institute (2005)”*. Nevertheless, perceptions about this form of taxation are gradually changing because of new circumstances present in the world, but also because of some characteristics of the income tax which were persistently ignored by policy makers. “*It was considered an efficient tax because most economists dismissed its potential negative effects on work effort and incentives. Few academic articles, if any, dealt with these potential disincentives. Furthermore, though it now seems strange, books on income taxation did not even mention ´tax evasion´ or ´the underground economy´ as potential problems associated with income taxes*”. [7]

The conventional tax paradigm faces a serious crisis due to its incapacity to provide explanations, diagnostics, justifications, and solutions to new facts and circumstances that are rising on the contemporary economic scenario.[8] Indeed, what we see is the erosion of traditional mechanisms of tax collection. Such mechanisms are based on the notion (quite frequently correct) that the taxpayer is a potential defrauder, until proven otherwise, and this has led to the creation of a significant number of control, inspection procedures, auditing and surveillance systems that turn out to be expensive, complex, and highly bureaucratic, but nonetheless, incapable of preventing tax evasion and fraud.

Two decisive turning points: globalization and technological change

In truth, the outcome of this debate on tax reform tends to become more predictable, insofar as two fundamental phenomena of modern history will impose their inevitable consequences in favor of the non-declaratory system. These two phenomena are: first, the technological revolution of the information age; and secondly (but no less important), the current globalization of world economic relations.

The information age has profoundly altered the aggregate production function of modern economies. Decision-making has been greatly streamlined by the increasing

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[7] [TANZI, 2006] pp. 7-8.

[8] For an analysis of how tax paradigms have evolved in Brazil from colonial times to the present, see [CINTRA, 2008(b)] pp. 16-34; see also [CINTRA, 2008(a)] pp.45-126.

number of methods for processing massive amounts of information. Data collection and analysis have improved through increased sophistication in electronic processing. The supply and control of massive amounts of information have become key decision-making inputs for modern businesses. Furthermore, the use of paper currency is being steadily replaced by electronic money; the concept of wealth and money is being constantly redefined.[9] These changes bring into stark relief the precariousness of tax reporting and the handicraft mechanisms used in conventional tax systems, which, historically, were developed in response to the technological and organizational environment that existed immediately following the industrial revolution.

Furthermore, growth of the service sector's share of GDP has significantly reduced the effectiveness of the tax collection, auditing, and control mechanisms currently in use. The productive sector has become ever more intangible and dematerialized, and this has only stressed the dwindling effectiveness of conventional mechanisms for tax assessment and enforcement. In fact, intangible services traded over the Internet (as for example, new accounting software, with high initial production cost but currently reduced to bits and bytes for delivery and utilization) are actually beyond the reach of tax authorities, kept outside the realm of such type of exchange. It becomes increasingly more difficult to levy specific taxes on trade of either products or services if the resulting payment transaction takes place in a tax haven, where no specified origin or destination of any good or service can be readily identified. Thus, a non-declaratory tax, such as a bank transaction tax, begins to make sense because it is levied on that agent's banking activity and not on its reported accounting statements.

Traditional tax models assume that production, and its resulting taxable income, is carried out through manual production processes (or later, through mechanical production processes) concentrated within finite geographical spaces, centered in organizational structures that are autonomous, independent, and subject to domestic rules established by a sovereign State. This is the world of the industrial revolution, later modified by mass production, where production and exchange are strategically concentrated on a relatively small number of large national corporations. Tax assessment and enforcement have, therefore, to be directed and adjusted to that reality.

But that kind of a world is swiftly dying, a fact readily visible to anyone versed in the realities of world globalization.[10]

Historically, the entire universe of individuals and businesses, of all sizes and in all sectors, soon became subjected to the obligation to pay taxes. Levying taxes across the board greatly expanded the pool of taxpayers. Whereas the taxpayers' universe had previously consisted of those few large units of production and exchange that typified the early stages of the industrial economy, soon it began to encompass all businesses and individuals in modern societies. Tax collection, assessment, and control functions now demand operations on a scale wholly incompatible with the declaratory, bureaucratic, paper filing systems typical of the traditional tax method of "self-assessment, self-levying, self-

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[9] See [TOFFLER and TOFFLER, 2006]; [THE ECONOMIST, 2001] pp.73-4; [CINTRA, 1998].

[10] For an interesting report on the difficulties faced by conventional tax systems in dealing with the realities of the modern world, such as globalization, the internet, harmonization, tax havens, transfer prices, evasion and tax bureaucracy, see [THE ECONOMIST, 2000] pp.-3-18; [KELLERMANN, RIXEN, and UHL, 2007]; [LEBOWITZ 1999].

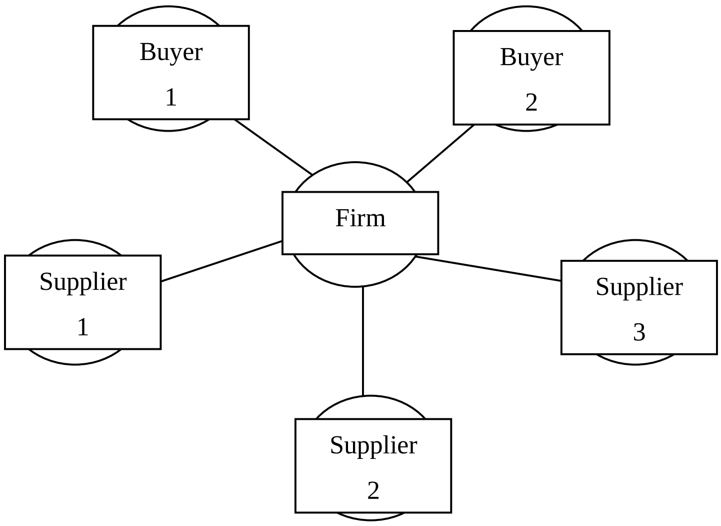
collection, and public audits," which typify conventional declaratory tax systems.

The electronic revolution provided an indispensable new instrument for collecting and analyzing the enormous mass of data and information needed for tax control, monitoring, and collection processes. But such technological change is not restricted to a mere increase in speed of data processing within the old tax paradigm, although it has been successfully serving this purpose. Now it becomes possible to underscore the creation of a new tax paradigm, of a new tax species, such as payment taxes, which were never possible before.

Brazil's current banking and payment systems are among the most advanced in the world, and this enables them to bring about such paradigm shift. The importance of the information age is not limited to being an auxiliary method for controlling, auditing, and analyzing tax data. Its importance extends beyond this, as it became a determining factor in the conceptualization of new taxation models, primarily in configuring new tax bases, such as bank transactions, electronic flows, telephone pulses, electronic wavelengths, and other intangible bases, which are impossible to be reached by conventional taxes.

ILLUSTRATION 1

Traditional nuclear firm



A second factor to demand deep changes in conventional tax models is globalization. This is a multi-faceted, complex element, which is having a strong impact on economic and social life of humankind. According to José Eduardo Faria, globalization has been responsible for the "*relativity of several important concepts, principles, and categories – such as sovereignty, legality, the hierarchy of laws, subjective rights, formal equality, citizenship, balance of powers, security, and certainty – that have been heavily affected by economic, social, political, and cultural changes that have taken place largely apart from legal structures, judicial mechanisms, institutional structures, democratic procedures, and the capacity for regulation, control, management, direction, planning, and concession-*

granting of nation-states."[11]

Indeed, globalization has weakened the power of national public administrations, by decentralizing and fragmenting the decision-making capacity of traditional governments. Even more visibly, it has "*debilitated the taxation and regulation capacity of governments.*"[12] José Eduardo Faria argues that, "*within this highly unstable scenario, positive law... came to face a cruel dilemma: if it remains concerned with its logical integrity and with its formal rationality, in view of all these profound and intense changes, it runs the risk of not accompanying the dynamics of facts, of becoming functionally ineffective and, ultimately, socially discredited, ignored, and (in the worst case) even disposable. If it allows itself to be seduced into attempting directly to control and discipline all sectors of social, economic, and political life that are increasingly tense, unstable, unpredictable, heterogeneous, and complex... it runs the risk of becoming disfigured as a normative reference.*"[13]

The divorce between the conceptual foundations of government that emerged from the post-war period, and the realities of modern world globalization brings out what José Eduardo Faria called the "*systemic ungovernability*" of the traditional State.[14] This begs the question: to what extent are traditional taxation models assimilating this new reality, marked so deeply by the information revolution and by intensive globalization?[15]

The traditional tax system presupposes that the taxpayer is a nuclear firm (the same

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[11] See [FARIA, 1999], p. 7. Comments on the influence of globalization on law, economics, and by extension, on taxation, are based on this instigative and provocative study on the phenomenon of globalization. See also [CINTRA, 2003], p.48. and [BRENDER and PISANI, 2009].

[12] [FARIA, 1999] p.7. The author states that this fact was the result of "*integrating markets at an overwhelming speed and engendering the intensification of circulation of goods, services, technology, capital, cultures, and information on a worldwide scale, thanks to the development of technology, expansion of communications, and the perfecting of transportation systems.*" According to Faria, globalization also "*opened the way for new and original geopolitical configurations, with the power to direct, disturb, move, and influence productive, commercial, monetary, and migratory flows. It caused the hierarchical structures of business activities to be transformed into networked organizations, built on the basis of partnerships, cooperation, and flexible contractual relations. It stimulated the creation of new financial instruments, and introduced new and differential criteria in transnational investments, while at the same time increasing its risks. It generated a plurality of original, differentiated, and particularistic situations, and demanded new standards of responsibility, control, and security. It changed the profile and scale of conflicts. It made ineffective those procedural regulations and mechanisms that had traditionally been used to resolve conflict through use of the legal system. It redefined the size, weight, and scope of the very functions and roles of the State. It blurred the lines that define what is federal and external… and it led to new forms of political action and new legal models.*

[13] [FARIA, 1999] p.9.

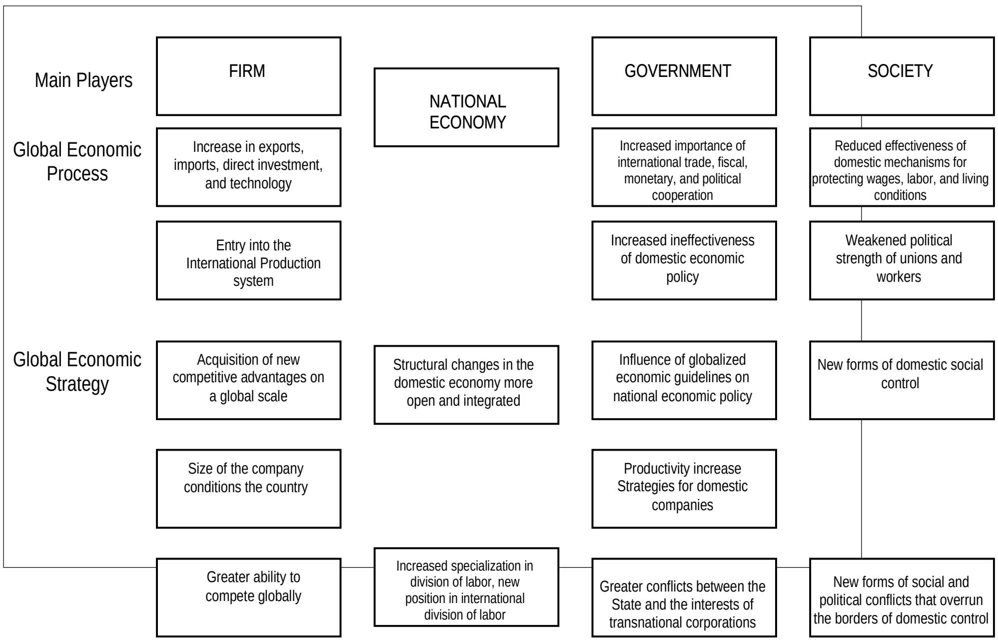
[14] [FARIA, 1999] p.126. The author continues, stating the "*ineffectiveness of its laws, its legal systems, its procedural mechanisms, and its judicial structures. No matter how much the legal texts are revised to coordinate, manage, induce, direct, control, discipline, and plan the behavior of productive agents… this regulatory framework can no longer 'penetrate' directly, fully, and absolutely on the essence of the socioeconomic system.*"

[15] [THE ECONOMIST, 1997] states that: "*a new industrial revolution is under way. Advances in computing and telecommunications press relentlessly on, shrinking distance, eroding national boundaries and enlarging the domain of the global economy. Increasingly, these changes render governments mere servants of international markets.*"

principle applies to individuals) that produces tangible goods with one or not more than a few physical facilities concentrated within a single national State (or tax territory), surrounded by suppliers and buyers that have the same basic characteristics. ILLUSTRATION 1 above describes this situation. In this system, it is easy to assess the taxpaying capacity of the nuclear company. It is also simple to enforce tax regulations by cross-referencing data with peripheral supplier and buyer companies, or individuals.

The situation is radically different, however, if the operational strategies of these businesses are executed through decentralized networks that spread across several nation-states, producing both tangible goods and, ever more frequently, services, as shown in ILLUSTRATION 2. By their very nature, services are intangible, highly mobile and easily transported through electronic media. The illustration below shows the operational complexity of these businesses operating globally, involving federal and external variables, international trade and logistics, cross-ownership of investment capital, fast technological change and market-share strategies. These factors imply the need for increased sophistication of concepts and of operational methods that are not adequately addressed by conventional tax models.

ILLUSTRATION 2:
Processes and strategies in the globalized economy



Source: [FARIA, 1999] p. 38.

Examples of such challenges to the conventional tax paradigm are the growing incapacity of nation-states to deal with problems created by “tax havens”, by increasingly complex means for laundering money, and by the uncontrolled flows of foreign funds between companies belonging to a single global conglomerate (transfer-prices).[16]

In testimony before the Special Commission on Cumulative Taxation in the Chamber of Deputies, on April 2, 2002, the Secretary of the *Federal Revenue*, Everardo Maciel, stated that: "*the extraordinary changes occurring throughout the world also explain the large differences occurring between nations. One of these changes is globalization, which has brought very intense transformations. It is important to remember that one-third of foreign trade takes place between companies; another third is comprised of transactions within multinational corporations(…) These factors demonstrate the growing importance of these multinational firms, which raise a modern and worrisome question about the future of the corporate income tax or about the so called " transfer price" (…) Today, some countries assert the existence of transfer-prices point to the unlikely survival of taxes such as the corporate income tax in the future. Comments frequently made in the press, in international seminars, and in international tax conferences point to this fact as something new, which calls for a review of traditional tax models, most of which are of Anglo-Saxon extraction.*"

Globalization has, therefore, significantly changed the social, political, and economic environment in which tax systems must operate. The main changes have been the extraordinary growth in international trade of goods and services, increased mobility of labor and capital, and growth of multinational, transnational and international companies. Tax administrators nowadays speak of taxation on world bases. Tax competition between countries has mushroomed. Unfortunately, such changes have gone in the direction of increasing complexity, interdependence and fiscal competition between countries. "Tax termites"[17], such as electronic and internet commerce, plastic and electronic money, transfer pricing, tax havens, foreign shopping, and complex financial instruments have contributed to decrease the revenue raising efficiency of national governments. *"The work of ´fiscal termites´ (is) busily gnawing at the foundations of the tax systems"* [18] Firms and people do not hesitate to abandon countries where they are located to seek any point on the planet that offers less progressive and lower taxes.

Tanzi believes that the effect of the fiscal termites in national economies is to decrease tax revenues. In fact, this has not been occurring. The tax burden has been increasing worldwide, but at the cost of tax shifting and increasing burden on less mobile taxpayers, such as wage earners and producers of non-tradables, worsening the domestic patterns of incidence and equity.

[16] According to [THE ECONOMIST, 2007], p.10, tax havens "*sap tax revenues from "real" countries limiting their ability to pay for public services and forcing them to tax less mobile factors, such as labor, housing and consumption (p.4)…the real problem is that globalization has rendered the current system of taxing multinationals archaic. Taxation is based on national boundaries, but companies operate across continents and can easily shift money and physical assets around. Until tax systems reflect that reality, the difficulties will persist.*" For a brief description of the conceptual and operational difficulties of controlling transfer prices, and also to evaluate the costs and the bureaucratic apparatus necessary to tax such payments see [ZILVETI et alii, 2007], pp.83-112.

[17] [TANZI, 2005]; see also, [TANZI, 2000].

[18] [TANZI, 2000] p.4.

Strengthening the revenue-raising function on taxation

Tax officials have shown perplexity when confronted with such difficulties in preserving their national taxing capacity. Strengthening the revenue-raising function of taxation has become an absolute priority, and has led to a twofold possible solution: first is trying to typify as objectively as possible each problem or situation (which is obviously impossible to enumerate and extremely costly to operate) in order to apply appropriate taxing methods to each one of them. The problem is becoming so acute to the point of motivating governments, especially in the European Union, to discuss the creation of a super national layer of global government, capable of coordinating, or more appropriately, of attenuating, through unconditional or supervised delegation, the tensions and stresses in international tax relations among national states.[19]

The other alternative is to endow tax authorities with subjective power to analyze each situation on a case by case basis, as they arise, and thereby decide what should be considered legitimate tax planning and what should be considered an illegitimate "legal" form of evasion.

If the first line of conduct implies high compliance and administrative costs due to the mushrooming bureaucracy that would probably result from it, the second alternative would imply juridical insecurity and potentially mistaken or arbitrary judgments.[20]

Needless to say that such "solutions" may greatly increase the compliance and administrative costs of tax systems throughout the world, which, in turn, could induce the growth of evasion and of the informal economy. Thus, tax evasion and the flight toward the underground economy would further reduce the taxing capacity of national governments.

Edgar Feige, a pioneer in the study and measurement of the underground economy, coined the term, *tax revolt*, stating that: *"the irregular economy appears to have little respect for conventional geopolitical boundaries. Indeed, it is being increasingly noticed in almost all developed societies."* Feige says further: *"I wish to note that I began this investigation suspecting that the irregular economy was smaller than previous estimates had suggested. I am now convinced that the irregular economy is indeed of staggering proportions and growing rapidly."*[21]

Tax reformers in developing countries should not become prisoners of conventional wisdom, nor be restricted to old tax models. A country's tax system must be able to adapt to the dynamics of the modern economic world. Taxation depends on ever changing economic facts, and not exclusively on consolidated juridical facts[22].

Furthermore, it is important to get rid of traditional tax objectives to concentrate on what is essential: to collect revenue with which to finance public programs.

Romantic visions see taxation as an expression of the civic spirit of citizens, conscious of their rights and duties. Humanitarians have come to believe that the only way to

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[19] [TANZI, 2007].

[20] In Brazil there is an ongoing debate about such tax norms called *anti-elisão* (anti-escape norms). See [GRECO and LIBERTUCI, 1999] p.10.

[21] [FEIGE, 1979], pp. 5, 12.

[22] [SECRETARIA DA RECEITA FEDERAL, 2002].

redistribute wealth and income is through compensatory (or punitive) taxation of the more efficient and wealthier. Economists and political leaders seek through taxes, or through exemption from taxes, the pathway to stimulate economic growth. Ecologists and conservationists use the tax system as a form of environmental protection and of punishment of those who break preservationist rules. Urban and regional planners use taxes as inducement mechanisms to reach desirable social objectives. Farmers want to achieve land reform through taxation of large landowners. In a nutshell, everyone seeks in the tax system the solutions to their problems. As Everardo Maciel said, "*this merely serves to demonstrate that the debate over taxation can take unpredictable turns, dictated by fortuitous reasons or impenetrable motives*." [23]

Given these multiple objectives and the inevitable indetermination that stems from the existence of more objectives than instrumental variables to achieve them, conventional tax systems have lost effectiveness in performing their essential function, that of raising public revenue.

Some taxes, to a greater or lesser degree, may perform regulatory functions. Others were created with essentially non-revenue objectives, as is the case with import taxes, which exist fundamentally as instruments of industrial policy and for protection of domestic production. Revenue from these taxes is strictly a secondary objective. Others still, such as taxes on tobacco, alcoholic beverages, or on pollution combine revenue goals with social objectives of public health and safety.

Unfortunately, this non-fiscal perspective has influenced fiscal policy so intensely that tax systems have become unintelligible and have performed poorly in its primary revenue-raising function. The multiplicity of objectives to be met by the tax system has turned it into a highly complex, bureaucratic, expensive, inefficient, and sometimes corrupt system, and has become a strong inducement to a wide variety of non-compliance and evasion tactics.

"*This problem has been recently highlighted by a Report to the President of the United States on tax reform, ´Simple, Fair and Pro-Growth: Proposals to fix America´s Tax System´ prepared by the President's Advisory Panel on Federal Tax Reform (November 2005). The Report suggests that legislators have lost sight of the fact that the fundamental purpose of the tax system is to finance public spending. Other goals have distracted the system from its fundamental purpose*".[24]

From a fiscal standpoint, it is essential to collect revenue as efficiently, economically, and simply as possible. For this very same reason bank transactions taxation gains significance as a basis for tax reform.

Theoretical formalism, which is much appreciated by staff economists who seek to

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[23] Federal Revenue Service Secretary, Everardo Maciel, in his introduction to the text [SECRETARIA DA RECEITA FEDERAL, 2001] says: "*tax reform seems at times to be a pool into which converge demands for tax simplification, inter federative conflicts, bills to transpose solutions applied in other countries, calls for more effective distributive justice, tax experimentation exercises, expressions of indignation over the asymmetry that exists between tax payments and public spending, complaints against the size of the tax burden, hidden attempts at tax evasion and avoidance, sincere proposals to correct regional inequalities, to stimulate exports, to strengthen the competitiveness of the economy etc.*".

[24] [TANZI, 2006], p.14.

identify and measure the allocative and distributive impacts of taxes with meticulous precision, is proving itself increasingly misleading as a script for tax reform, given that economic reality does not always adjust itself to the ideal economic models designed in the realm of high abstraction. In the words of Mangabeira Unger, the academic perspective unfolds in the midst of "*edifying and tranquilizing illusions*". But "*the world is wild and obscure*".[25] The world of perfect competition does not exist.

Along this same line of reasoning, Delfim Netto states that economic science creates the impression of being "…*a body of progressive knowledge, a 'hard science'*." He further says, "*What all this sophistication has forgotten is that its conclusions depend upon two implicit postulates: 1) that tax evasion does not exist; in other words, that each citizen is a prisoner of rigid social rules that cast the tax evader into opprobrium, and 2) that collection of these taxes has no costs; that is, they flow naturally and smoothly to the coffers of the treasury… When one considers the falseness of these two postulates, one begins to doubt the quality of suggested recommendations and to have greater intellectual respect for 'non-declaratory tax' proposals…*" [26]

"Governments will rediscover that the objective of taxation is to provide revenue for the state to meet its obligation and not to engage in social engineering through the tax system". [27]

Tax technology and responses to new challenges

Tax reform, therefore, should allow for enough flexibility and realism to be able to adjust itself to a society's environment, and to its social, economic, political, and cultural characteristics.

"*Since around 1980, the annoyance of taxpayers worldwide has been directed with increasing intensity not only at the high levels of taxation, but also at the complexity and instability of the tax systems. This annoyance has become a major factor in the changing attitudes of citizens towards taxation recorded in many countries during that period. In addition therefore to the level of taxation, such issues as complexity, instability and fairness of the tax systems have become important in many countries…instability, inefficiency and absence of fiscal coherence have characterized the tax systems*." [28]

Such dissatisfaction with conventional tax systems that are being used extensively around the world cause even more amazement as they still find strong supporters, despite all evidence to the contrary. The amazement at this state of affairs is precisely described by the following statement: "*no one would design such a system on purpose and nobody did. Only an historical explanation of how it came about can be offered as justification. That is not a justification, but a demonstration of how seemingly individually rational decisions can have absurd effects in aggregate*".[29]

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[25] [UNGER, 1998].

[26] [DELFIM NETTO, 1992].

[27] [TANZI, 2006], p. 24.

[28] [TANZI, 2006], p.13.

[29] [KAY and KING, 1978] p. 1, quoted by [TANZI, 2006] p.13.

In other words, citizens and policy makers are in search of a new “tax technology”, paraphrasing Vito Tanzi. Maybe he is foreseeing the future, although with a certain bias in emphasis, when he mentions that “*the discovery of value-added taxes in the 1950´s and its widespread use in later years must be considered the most important technological development in taxation in the past 50 years. [But also] … gross assets taxes and taxes on financial transactions have been less important technological developments in Latin America.”*

The first part of his statement is gradually becoming less true, although in the past it has certainly helped to improve tax systems in the world. The second part, however, is becoming an increasingly crucial technological development in taxation.

Unfortunately, “*the first law of finance is inertia*”, as we are painfully reminded by Prof. Richard Bird. “*It is surprising that the many governments in the world, most of which are trying to raise more revenues, have not come up with more ingenious ways of doing so. The lure of the familiar and the apparent desire of most governments- like most people- not to be the first to do anything new doubtlessly account for the relative lack of fiscal innovation in the last 50 years.…For the most part, however, a first lesson suggested by history is that the fiscal problems of the next 50 years will probably have to be dealt with using taxes very much like those on hand today. As with most social and political institutions, there seems to be little or no chance of a quick technological fix*.”[30]

Prof. Joseph Stiglitz seems equally skeptical about this issue when he states that “*I do not see that any likely changes in technology in the near future will have a revolutionary effect on the design of our tax system*”. [31]

In spite of the impressive weight of such predictions, we hope the future will confirm Vito Tanzi´s remarks on the technological significance of both the electronic age and of its offspring, the financial transaction taxes, in constructing future tax systems in the world.

[30] [BIRD, 1988] pp.19-20.

[31] [STIGLITZ, 1988], p.278.

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