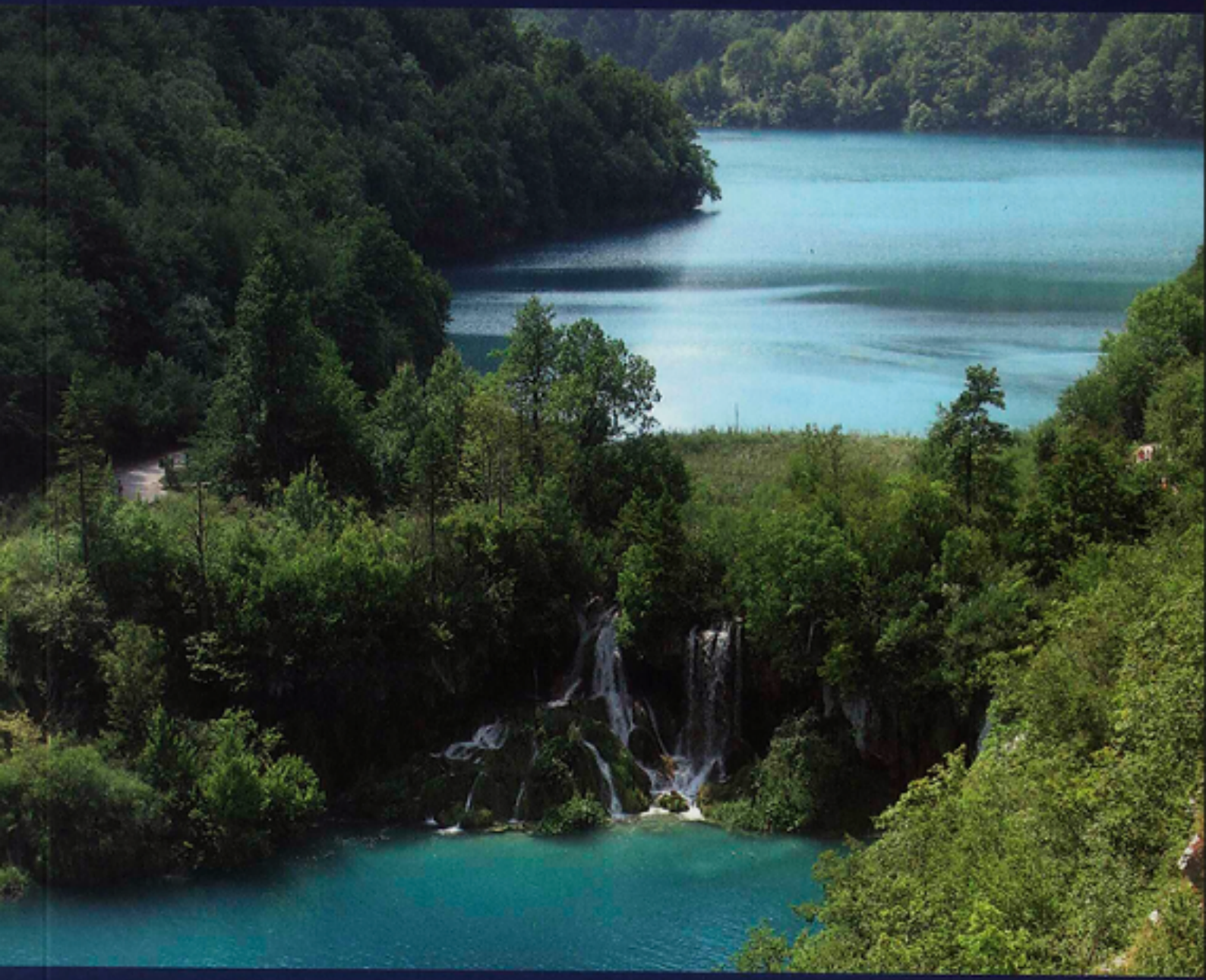
MARCOS CINTRA

BANK TRANSACTIONS: PATHWAY TO THE SINGLE TAX IDEAL



A MODERN TAX TECHNOLOGY
THE BRAZILIAN EXPERIENCE WITH A BANK TRANSACTIONS TAX
(1993 - 2007)

Marcos Cintra

with contributions by: Luiz Henrique S. Guimarães

Paulo Euclides Rangel

Luis Carlos da Silva

Luigi Nese

Bank Transactions: pathway to the Single Tax ideal

A modern tax technology

The Brazilian experience with a bank transactions tax (1993-2007)

An exercise in second-best tax reform

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OPINIONS ON THE USE OF A BANK TRANSACTIONS TAX AS A SINGLE TAX

"My position about the subject has always been clear. I believe the Single Tax is the most modern and most economical tax collecting instrument available."

Roberto Campos

"The classical structure of taxes, to which we hold so tightly, is a curious handicraft relic in the electronic age."

Roberto Campos

"A fair tax is one you can collect."

Mário Henrique Simonsen

"I have not the least respect for conventional wisdom that enthrones, as indispensable, the classical taxes, such as income tax and circulatory value-added taxes. Both are intolerably obsolete."

Roberto Campos

"If Marcos Cintra's Single Tax hauls into the state coffers…the same levels of revenue as the maddening current scheme, what we need to do is…to enact it."

Ives Gandra da Silva Martins

"A good tax is not an "old tax" or even a "classical tax". A good tax is one that is evasion-proof and automatically collected. Any tax that can be evaded is socially unfair. And if collection depends on complex and bureaucratic paperwork, it becomes a waste. Automation and evasion-proof are precisely the features of the Single Tax."

Roberto Campos

"The Single Tax makes possible the simultaneous attainment of objectives such as maximizing the tax base, deep and unheard-of simplification, and the virtual eradication of fiscal corruption, promoting more transparent effective and equitable taxation."

Folha de São Paulo (Editorial)

"Unfortunately, the simplifying methodology of the single tax was undermined by the fact that the government, on two occasions – through the IPMF (1993) and the CPMF (1996) – took advantage of the tax's automatic "method", without absorbing its simplifying "ideology". It is a sophisticated instrument that became brutish through misuse, as a fencing sword would be misused if employed to cut sugar cane."

Roberto Campos

"Abolishing income tax, whether for individuals or corporations, must be the first step."

Roberto Mangabeira Unger

"Bank transactions are one of the few potential bases for future taxation upon which it is possible to anchor an increase in public revenue without penalizing the productive sectors and the social segments…"

Maria da Conceição Tavares

"Financial circulation is a tax base for the future, given that, in addition to the fact that it is constantly expanding, it allows for electronic controls and, therefore, should deter evasion more than current taxes."

Maria da Conceição Tavares

"The Single Tax is not, contrary to what is assumed by conventional wisdom and by tax specialists, naïve or impossible to execute. It is merely an idea that is insolent in its novelty, and whose time has arrived."

Roberto Campos

PREFACE

TAX PARADIGMS, GLOBALIZATION, AND THE ELECTRONIC AGE

The urgent need for a new tax system has been one of the most intensely debated topics on Brazil's list of pressing domestic issues. Clearly, tax reform can no longer be postponed, since it addresses a major element of the country's economy and is a decisive factor in determining choices of all economic agents, both public and private.

Over the past fifteen years, debate on the Brazilian tax system has been greatly intensified. During this period 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. Some of these concepts and canons have been superseded by the effects of recent technological advances, most importantly, electronic information and new means of asset transfers.

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 and of electronic technology.[1]

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 that to defend this school of thought is to engage in a melancholic and poorly disguised exercise of trying "to perfect the obsolete."

The second school of thought calls for the elimination of declaratory taxes and

[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 [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]. See also [MILLS, 1990] and [HALL and RABUSHKA, 1995]. These two proposals refer to the simplification of the Income Tax.

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. Traditionalists call this 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, researchers and defenders of this school of thought 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.

In this book, the terms "declaratory" and "non-declaratory" tax are used here after 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 in use in Brazil from 1993 to 2007.

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 posture of taxation (and even of public finance) as a science.

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.[2] "*The authority of a scientific proposition is founded on its capacity to generate consensus within a given community. This consensus, for its part, does 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.*"*[3] In other words, a proposal that contradicts "conventional wisdom", paraphrasing John Kenneth Galbraith,[4] is summarily considered "unscientific", not because of lack of objective analysis of its scientism, but simply

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

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

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

because it does not apply methods and models considered "correct", "truthful" or "evident".

This perspective of conceptual advances within the domain of science (which can be applied, *mutatis mutandis*, to life in society) allows us, furthermore, to understand the defensive arguments of "traditionalists," who tend to reject the single-tax proposal 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 United States, and this is the foundation that supports the paradigm shift towards the single-tax 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*". [5]

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.[6] Indeed, what we see is the erosion of traditional mechanisms of tax collection. Such mechanisms

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

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

are based on the notion that the taxpayer is a potential defrauder, until proven otherwise, and this has led to the creation of a significant number of control, inspection, auditing and surveillance systems that turn out to be expensive, complex, and highly bureaucratic, but nonetheless, incapable of preventing tax evasion.

In truth, the outcome of this debate 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 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.[7] 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. At that moment 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,

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

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.[8]

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-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 modern known 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.

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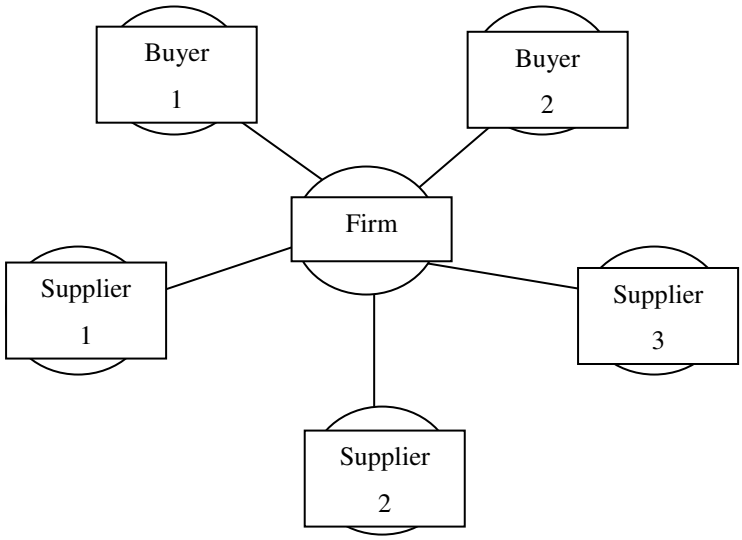
[8] For an interesting report on the difficulties faced by conventional tax systems in dealing with the realities of the modern world, such as globalization, the internet, harmonization, tax havens, transfer prices, evasion and tax bureaucracy, see [THE ECONOMIST, 2000(a)] pp.-3-18; [KELLERMANN, RIXEN,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

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*."[9]

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."*[10] José Eduardo Faria argues that*, "within this*

[9] 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.

[10] [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*

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."[11]

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.[12] 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?[13]

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

---

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.

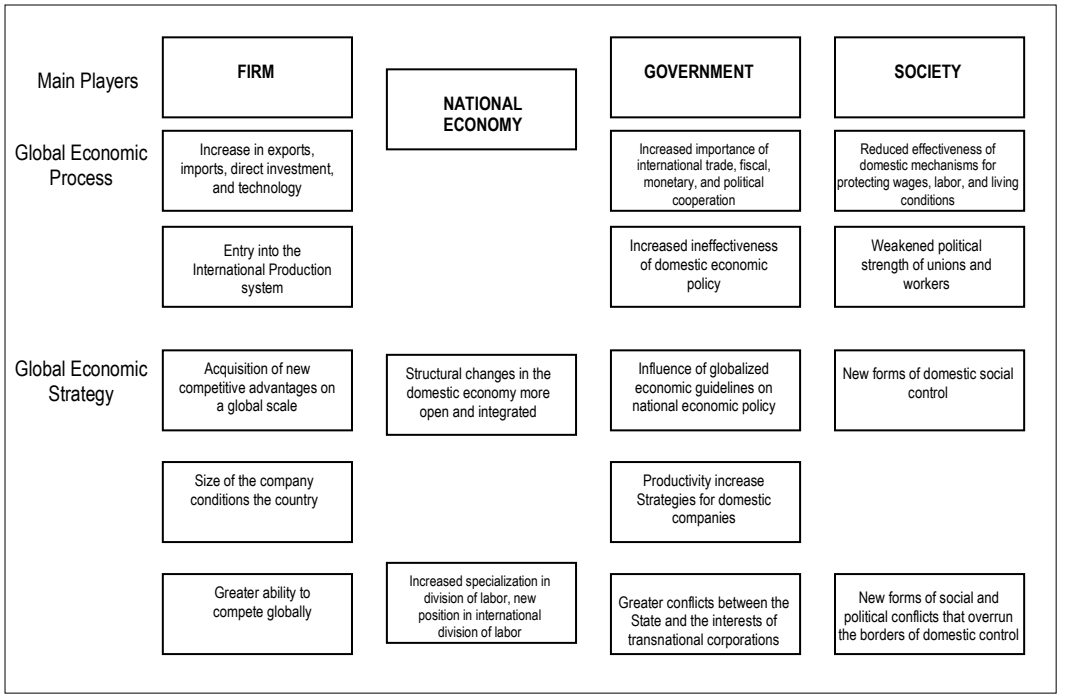
[11] [FARIA, 1999] p.9.

[12] [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."*

[13] [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."*

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).[14]

[14] 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*

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"[15], 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"* [16] 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.

The perplexity facing tax administrators when confronted with such difficulties

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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.

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

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

in preserving their national taxing capacity has led to a twofold solution: one, is objectively trying to typify each possible problem or situation (which is obviously impossible to enumerate and extremely costly to operate). 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 that are evolved in international tax relations among national states.[17]

The second 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.[18]

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."*[19]

Tax reformers in a country like Brazil should not become prisoners of conventional wisdom, nor be restricted to old tax models which have surpassed their useful lives. A country's tax system must be able to adapt to the dynamics of the modern economic world. Taxation falls on ever changing economic bases, and not on consolidated juridical facts[20]. 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.

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[17] [TANZI, 2007].

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

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

[20] [SECRETARIA DA RECEITA FEDERAL, 2002(c)].

"*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*." [21]

Such dissatisfaction with conventional tax systems, which are still being used extensively around the word, cause even more amazement as they still find economists who strongly uphold them, 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*".[22]

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, as will be demonstrated in this text.

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*."[23]

Prof. Joseph Stiglitz seems equally skeptical about this issue when he states that

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

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

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

"*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*". [24]

In spite of the impressive weight of such opinions, we hope this text 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.

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

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THE SINGLE TAX ON BANK TRANSACTIONS

The publication of the article entitled "For a tax revolution", in the *Folha de São Paulo,* in January 1990, was a turning point in the debate on tax reform in Brazil. The article introduced the Single Tax on Bank Transactions. I proposed that current paper-ridden (declaratory) taxes be replaced by a single paperless (non-declaratory) bank transaction tax.[25]

SINGLE TAX ON TRANSACTIONS

The Single Tax is a centuries-old idea. If first appeared in the 18th century when the physiocrats argued for taxation of land as the sole source of government revenue. In the 19th century, Canada and the United States also discussed similar ideas. France discussed a single tax in the post-war period, and in the 1990's, in Brazil this same proposal reappeared in a new format, as a bank transaction tax.

Historically, the difficulty (and the recurrent failures) involved in applying single tax proposals has been to find a tax base that, by itself, is broad enough to generate sufficient revenue for the government without requiring that tax rates be so high as to stimulate evasion.

The modern concept of bank transactions meets this requirement.

Several countries have implemented a tax on bank transactions, such as Argentina, Colombia, Venezuela and Australia, among others, although not as a single levy, as has been proposed in Brazil. As a regulatory tax on the financial markets, with the purpose of slowing down the flow of speculative money, both

[25] [CINTRA, 1990] transcribed in [CINTRA, 1994(a)]. Concerning the Single Tax bill presented before the Brazilian Congress in 2001, and the controversies that were raised, with arguments for and against the bill, see various papers in [CINTRA, 1994(a)], especially [CINTRA 1990] pp. 85-89, and [CINTRA, 1994(b)] pp.203-245. In the United States a similar proposal called "Automatic Payment Transaction" tax (APTTAX) was presented by [FEIGE, 2000]; an earlier version of this paper was presented at the International Institute of Public Finance conference held in Buenos Aires, Argentina, in August 1989. A similar proposal called "Withdrawals Tax" was presented by [COLABELLA and COPPINGER, 1995] from St. John´s University, New York. Also, the introduction of a single federal tax in the US, in the form of a single consumption (retail sales) tax, is under discussion in the US Congress under the FairTax Act (HR 25, S 1025), and is sponsored by politicians, economists such as Laurence Kotlikoff of Boston University, and researchers such as David Tuerck of the Beacon Hill Institute at Suffolk University in Boston; see also [BACHMAN et alii, 2006], [KOTLIKOFF, 2008] and [TUERCK, 2008].

internally and on an international scale, transaction taxes have either been used, or are being considered for use, in a large number of countries around the world, such as India, Australia, Austria, France, Germany, Italy, Japan, Switzerland, UK, USA, Malaysia, New Zealand, Singapore and many others.[26]

The financial, or bank transaction was first noticed as a potential tax base after the advent of digital currency, as it began to replace paper currency, and as banking transactions began to be processed electronically. The success in the search for such a single tax base and the solidification of an economic system based on digital money made possible, and maybe inevitable, the birth of the Single Tax proposal in Brazil.

Though the Single Tax has a long and respectable tradition in the evolution of economic thought, it has never come to fruition because, before the growth of digital transactions, no society in history had ever satisfied two basic conditions necessary for its effective implementation, which modern bank transactions make possible. The first condition is a highly digitized and technologically sophisticated banking sector with a nationwide system for clearing checks and other documents. The second condition is a cultural predisposition within a society not to use paper currency, replacing it with digital currency. In other words, digital bank transactions made possible the birth of a broad tax base, large enough to generate enough revenue to support the public sector of modern societies.

Brazil is the only country that fully meets these two requirements. It has one of the most advanced and digitized banking systems in the world, with technological standards that surpasses those found in developed countries such as the United States and the European Union. In truth, "*Brazil is the banking benchmark of the world*".[27] Further, it is one of world's economies that is least dependent on paper currency. And culturally, it has already absorbed the unavoidable replacement of paper currency by fiduciary money, such as checks, electronic debit and credit cards,

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[26] Such securities transactions taxes, used in the context of the famous "Tobin tax" are justified in terms of a stabilization tool to be used against speculative flows of short term capital. There is a large literature evaluating the efficiency of such instrument. See for further references [SINGH, 2001]. The Tobin tax was first proposed by James Tobin in 1972 in his Janeway Lectures at Princeton University. For further details see [TOBIN, 1978] where the author stated the following: "*I am aware of the distortions and allocational costs that can be attributed to tariffs, including tariffs on imports of foreign currency assets. I don't deny their existence. I say only that they are small compared to the world macroeconomic costs of the present system*." (p.14).

[27] [FONSECA, 2002]. In this article the Director of Technology of the Federação Brasileira de Bancos [Brazilian Federation of Banks] (Febraban) transcribes data from a research report conducted by McKinsey & Company and by the Fundação Getulio Vargas, and he states, "*in Brazil, banks are the biggest investors in technology, earmarking 8.5% of net worth each year toward improving bank technology, more than double the national average*". The startup of the Sistema de Pagamentos Brasileiro [Brazilian Payments System] (SPB), in April 2002, attests to the advances in banking digitization in Brazil, as bank clearing began to take place online and in real time.

internet and email transactions, and other forms of digital currency.[28]

The Single Tax proposal stresses two fundamental points.

First, it reduces all taxes to one single tax. All others would be extinguished, except the extra-fiscal taxes such as customs fees and other non-revenue taxes used as instruments of economic policy by the government. No longer would there be an individual or corporate income tax, or a sales tax such as the ICMS (a state value-added tax), or the ISS (a municipal turnover tax on services). Wages would not be subjected to any withholdings whatsoever, either as an advance toward income tax or to finance social security. Corporations and individuals would no longer have to file tax returns of any kind.

Secondly, the fundamental premise of this proposal lies in transferring the tax base exclusively to banking transactions, ending the multiplicity of tax bases that exist today. Every time an economic agent makes a payment through the banking system there will be a tax incidence assessed to the value of the transaction. The tax will be divided into equal parts and charged both to the issuer and the beneficiary of the payment. And, importantly, it will not be charged to transactions in the financial and capital markets.

COST EFFECTIVENESS

The impact of the Single Tax on Bank Transactions model has triggered a nationwide movement to reform Brazil's tax structure. Those who favor a paper-free tax system embrace the Single Tax proposal, whereas defenders of paper-driven taxes discredit it, stressing its undesirable cumulativeness.

The single 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. The simplification of the fiscal process becomes evident when all revenue is concentrated in a single tax, levied on a single tax base. Public administration costs decrease.

Only recently have economists and public officials begun to estimate auditing and other administrative costs related to tax collection in Brazil. The results of such studies are leading to important conclusions about the advantages and disadvantages of alternative tax models.

In the United States, federal tax collection costs equal 0.5% of revenue. For personal income tax, the compliance costs for individual taxpayers represent from 5

[28] The underlying cause of the hyper development of the banking system and of the generalized rejection of paper currency as a means of payment in Brazil is the result of the hyperinflation spiral that took place during nearly 40 years. Under those circumstances, non-indexed paper currency was abandoned by economic agents. Furthermore, banking activity, stimulated by 'float' that resulted from high inflation, increased its profitability in direct proportion to the speed with which bank deposits could be captured and quickly transferred to be invested in the open market. This led to the use of advanced electronic technology and to the hyper development of banking activity in Brazil.

to 7% of the revenue raised by the federal and state income tax systems combined.[29] Administrative tax costs in the United States are estimated at 1.13% of revenue. Compliance costs related to sales tax are estimated to be 3.93% of revenue.[30] In 1986, the cost of fiscal administration in France was 3 to 4% of revenue, or 1.5% of GDP, not including private compliance costs.[31] Data from research conducted in other countries and reported at the International Fiscal Association Conference in Rio de Janeiro in 1988 are reproduced in TABLE 1.

TABLE 1
Tax compliance and administrative costs, as a percentage of GDP

Country	Compliance costs	Administrative costs	Operational tax costs
Germany	2.40%	0.60%	3.00%
Argentina	1.30%	No data	No data
Canada	No data	0.40%	No data
France	No data	1.50%	No data
Israel	1.10%	0.50%	1.60%
Netherlands	1.50%	No data	No data
Portugal	No data	0.70%	No data
United Kingdom	1.00%	0.50%	1.50%
Sweden	0.70%	0.30%	1.00%
Switzerland	No data	0.70%	No data
Australia	2.10%	0.20%	2.30%
New Zealand	2.50%	0.50%	3.00%
Brazil (total)	0.80%	0.20%	1.00%
Brazil (firms with gross income up to R$ 100,000,000)	5.80%	1.50%	7.30%
Brazil (firms with gross income From R$ 100 to 1,000,000,000)	1.90%	0.50%	2.40%
Brazil (firms with gross income From R$ 1 to 5,000,000,000)	1.30%	0.30%	1.60%
Brazil (firms with gross income From R$ 1 to 5,000,000,000)	0.20%	0.05%	0.25%

Source: [BERTOLUCCI, 2001] p.163.

In Brazil, tax administration costs to the government are probably much higher, not only because of the inefficiency of the tax collection apparatus, but also because of the multiplicity of fiscal obligations to which individuals and corporations are

[29] [SLEMROD and SORUM, 1984]. [TANZI, 2006], p. 14, referring to a study made by Edwards C., of the Cato Institute in Washington mentions that in the US the federal income tax legislation had 400 pages in 1913, when it was first introduced, 8200 pages of rules in 1945, 26300 pages in 1984, and 66498 pages in 2006.

[30] According to [THE ECONOMIST, 2005(a)], p.25, tax legislation in the US is over 60.000 pages long, and annual tax compliance costs amount to US$ 115 billion.; see also [THE ECONOMIST, 2005(b)], pp.59-61, and [THE ECONOMIST, 2004(b)].

[31] For estimates of compliance costs in the world see [GALLAGHER, 2004], p.9.

subjected. Add to these the costs of tax reporting to which private agents are subjected in Brazil, and it is no exaggeration to state that total costs can be as high as 20% of tax revenue. This is unproductive effort, which translates solely into expenditures, without in any way contributing to increases in production or social well-being.

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 and which would be the hegemonic tax in the single tax model) 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.*"

Nevertheless, when asked about the Single Tax model, Secretary Maciel stated, "*Even if I were totally favorable that the CPMF be converted into a permanent tax, I recognize nonetheless that if we go to the trough too eagerly, that is, if its tax rates increases, we could begin to induce ever more sophisticated, ever more elaborate tax evasion procedures. My experience tells me that anytime the rate increases, anytime fiscal pressure turns heavy, taxpayers will seek ways to free themselves of it, and usually through tax evasion. The second point, and Deputy Marcos Cintra knows this, I do not believe that the Single Tax is the best solution for the tax system. We have a large cast of alternatives and options. Rest assured, your Excellencies that every time we build a tax system around a single point, taxpayers will try to run away from that point; they will try to find a way to dodge it. So, we must always have somewhere else to go; if we do not reach it through this avenue, we will reach it through another. And that has been the history of taxes throughout the world; this is how tax theories developed. But I think that, today, the bank debit transaction tax (CPMF) occupies a place of capital importance, a place of distinction in tax theory, especially for taxation in countries that have weak tax collection traditions, as is the case in Brazil."*

Though Secretary Everardo Maciel argues for the permanence of a bank transactions tax, the fear of possible evasion blocks him from fully supporting the Single Tax. Ironically, the bank transaction tax has been showing strong evidence to be capable of minimizing, if not eliminating, tax avoidance in Brazil.

It is also worth noting an opinion that claims that criticisms of the Single Tax are born of "*...small and easily correctible details which are enumerated in order to bombard the most brilliant idea, I dare say, that has ever arisen on tax matters in modern times, in the era of financial capitalism, not by the fact that it is single, but primarily because of the characteristics of the tax, which is practically impervious to*

evasion. Therein resides the fear of its creation."[32]

THE CREATION OF THE IPMF/CPMF

Less than three years after the Single Tax proposal was published, it was quickly misused by the government into becoming one more tax laid atop the many others already existing in Brazil.

Indeed, ignoring the single tax philosophy, in 1993 the government proposed the creation of a bank transaction tax (the IPMF - Provisional Bank Debit Tax - instituted that year), initially for the purpose of helping eliminate the public deficit, and later with the express purpose of financing health expenditures (called CPMF, created in 1996). The Brazilian stabilization plan (known as the Real Plan) put an end to the inflationary tax, and the federal government chose to increase tax revenue in order to balance the budget. President Fernando Henrique Cardoso's fiscal policy was responsible for raising tax revenue from 27.9% of GDP in 1994 to almost 32% of GDP in 2001 (in 2008 it reached 36% of GDP). The CPMF greatly contributed to this result, raising revenues at an extremely low collection cost to the Government.

Criticism soon began to be heard, claiming that such a tax would be harmful to domestic production, especially due to its cumulativeness. Even though historical facts proved false many catastrophic prophecies attributed to a tax on bank transactions, such belief persists up to the present moment, to the point of making public opinion believe that the main distortion that must be eradicated from Brazil's tax system is the cumulativeness of taxes such as the CPMF.

To rebut such argument I published an article in *Folha de São Paulo* [the most important newspaper in the country] in which I defended the CPMF as an efficient tax mechanism, despite its misuse by the Government.[33]

The CPMF achieved several intents: to guarantee fiscal equilibrium, to fund public health expenditures, to capitalize an anti-poverty fund, to detect tax evaders, and to finance the impact of an increase in the minimum wage. Nevertheless, its opponents persistently refuse to acknowledge its qualities, such as bringing relief to taxpayers from necessary increases in other taxes. After all, if the CPMF did not exist, conventional taxes, which are almost always inefficient and inequitable, would necessarily have higher rates, adding to the heavy burden already borne by taxpayers.

The CPMF, which is the backbone of the Single Tax proposal, is a revenue-effective tax. Despite the fact that some economic distortions can be attributed to it, its advantages far outweigh its disadvantages.

The usual objection to the CPMF has to do with the harmful impacts of its cumulativeness on the financial markets and on foreign trade. This is an undeserved

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[32] [BARRETO, 1998], p.26.

[33] [CINTRA, 2001].

criticism. There is nothing to prevent the government from exempting exports, from taxing imports in identical conditions as those applied to domestic products, and from exempting the turnover in financial and capital markets from taxation. It is worth mentioning that government authorities have been making considerable efforts to improve tax exemption mechanisms for exports and to levy an Economic Equalization Contribution on imports in order to remove any tax discrimination against domestic production.

The CPMF has one undeniable advantage, conveniently ignored by several of its critics: it eliminates the greatest anomaly present in the current Brazilian tax system, namely, the artificial differences in production costs caused by widespread tax evasion. Because the Brazilian tax system provides generous possibilities for evasion, the pattern of tax incidence becomes extremely uneven, leading to even more serious economic distortion than the alleged changes in relative prices caused by turnover taxes such as the CPMF. In fact, by making evasion practically impossible, the CPMF attenuates this serious distortion, as will be shown in the next chapter.

Nevertheless, it irritates and enrages powerful interest groups because of this evasion-proof form of operation. For the CPMF, the cost of tax avoidance usually exceeds tax savings. This is the greatest advantage of this type of non-declaratory tax. Because of its evasion-free characteristic, it allows for low rates.

This tax also displeases tax collectors, tax accountants, and attorneys who both defend and prosecute tax evaders, as it makes their intervention in the fiscal process unnecessary. This type of tax reduces costs, eliminates corruption, and results in a pattern of incidence exactly proportional to the volume of financial transactions performed by taxpayers. By doing so, those who presently are disproportionately overtaxed, such as payroll wage earners will be taxed less, heavily while tax evaders will pay their share. This is the essence of the Single Tax proposal.

The issue of cumulativeness is an easily refutable criticism raised against this type of electronic tax, as will be shown later. What must be stressed is that the main objective of tax reform in Brazil is to eliminate the main source of strong economic distortions in Brazil, which is tax avoidance and tax evasion, which are encouraged by the conventional taxes that make up its current tax system.[34] Furthermore, the increasing complexity and irrationality the Government has introduced into the Brazilian tax system in the last decades encourages informality and other forms of tax avoidance, producing corruption and an unfair pattern of tax incidence.

[34] [CINTRA, 2001(a); [CINTRA, 2001(b)].

TURNOVER VERSUS VALUE-ADDED TAXES: DISTORTIONS AND ADVANTAGES[35]

Productivity and competitiveness

A BNDES paper states that cumulative taxes such as a bank transaction tax "*are easier to collect and pay.*", whereas valued added taxes are "*more complex to calculate and even to comprehend*." [36]

Arguing their opposition to cumulative taxes, the authors list two of their undesirable characteristics, supposedly inexistent in VATs. They say cumulative taxes "*are most damaging to the competitiveness of domestic production because of the difficulty in exempting their incidence on exported goods and because of the advantage they grant to imports, which usually are not subjected to the same treatment in the country of origin*."

Concerning this observation, it is interesting to note the reaction of Professor J. A. Scheinkman when invited to lecture on trade competitiveness and tax harmonization in Brazil. He said, "*Competitiveness is a notion that does not make sense for a country as a whole. All countries have greater or lesser competitiveness in different products*." He adds, "*The idea that the tax system… affects competitiveness, as I see it, does not make sense*." [37]

Professor Scheinkman demonstrates that tax evasion and the informal economy are factors that depress an economy's productivity. If a tax system induces high rates of tax evasion and avoidance, productivity loses its correlation with investments in technology, or with administrative and managerial efficiency. A company that has low production costs may be less "competitive" when compared to a company that evades taxes, even if the tax evader has significantly higher cost of production. This causes inefficient companies to survive and depresses a country's economic productivity. Because Brazil's tax system encourages tax evasion and the flight to the informal economy, it "*depresses productivity in a very significant way*". We see, therefore, that "national competitiveness" is not hurt by cumulativeness, but rather by a tax system that induces tax evasion, as usually occurs when conventional declaratory taxes are employed.

He adds, "*The need for tax reform has nothing to do with matters of the country's integration into a trade bloc*," and, "*we need a tax reform that is taken seriously, that lowers the high rates prevalent in Brazil which make people simply avoid and evade taxes*."

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[35] For comprehensive discussions of VAT´s, especially of its advantages and problems in emerging countries that lack strong fiscal tradition, see the following works: [BIRD, 2003], [BIRD and GENDRON, 1998, 2000, 2001(b), and 2005], [PIFFANO, 2003, 2007], [FENOCHIETTO and PESSINO, 2000].

[36] [AFFONSO and ARAUJO, 2000].

[37] [SCHEINKMAN, 2001], pp.133-152.

In other words, removing cumulative taxes will not increase the economy's productivity and competitiveness. Their elimination will result in the need for higher rates of conventional taxes in order to keep revenues constant and, therefore will lead to increased tax evasion. The great villain of the current tax system is not cumulativeness *per se*, but rather tax evasion that results from the complexity and high rates inherent in current declaratory tax models.

It should also be noted that adequate tax policy can fully remove the "disadvantages" of cumulative taxes pointed out in the BNDES paper mentioned above. In fact, the tax reform the Government announced in July 2001 moved in exactly these two directions; that is, zero-rating for exports and the creation of a bank transaction tax on imported goods and services. The objective of these measures was to guarantee absolute isonomy between domestic and foreign producers, which redresses the two criticisms of the CPMF presented by the authors of the BNDES paper. [38]

Allocative Efficiency

Cumulative taxes are often criticized on the basis of comparisons with value-added taxes. In general tax analysts follow the usual text-book conclusions that make extensive use of optimal tax theory in reaching normative conclusions about their respective impacts on allocative efficiency. Such conclusions, however, are fragile to the extent that such theoretical work depends heavily on strong assumptions, which are seldom, or never, found in the real world.

Good economic analysis requires that each type of tax be evaluated not only for its intrinsic characteristics, but must also take account of the empirical circumstances surrounding its application. Failure to consider these circumstances, coupled with a naïve, automatic and uncontested acceptance of the simplifying hypothesis found in the theoretical compendia of public finance, implies running the risk of making gross mistakes. Such is the case when the VAT is discussed in Brazil. [39]

One advantage claimed on behalf of VATs is that they cause fewer distortions in relative prices than would be caused by cumulative taxes. However, for this statement to be true, one must accept the premise that perfectly competitive markets

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[38] A project which I sponsored as a Member of Congress (Chamber of Deputies; Bill for Supplemental Law No. 190/2001), creates an Equalization Contribution with the purpose of guaranteeing equal competitive conditions between imports and local products. Such tax has long been considered necessary as can be seen in various specialized papers. See [FIESP, 2001] and also [VARSANO et alii, 2001]. Strangely, business leaders took an opposing view to such an "equalization tax", fearing higher import costs.

[39] It has been suggested that for federative countries a dual or compensatory VAT is the best alternative, whereby a federal VAT "absorbs" the interstate VAT; see [BIRD AND GENDRON, 1998]. Such solution, however, requires a heavy bureaucratic structure, solid administrative organization, and absence of large scale evasion practices. Unfortunately, such characteristics are totally absent in Brazil. The same authors point out the main difficulties and obstacles to the use of VAT´s and some of its variants in [BIRD and GENDRON, 2000, 2001(b)].

exist, such as assumed in conventional optimal tax theories, based on excess-burden analytics.[40]

We know, however, that such a hypothesis is essentially heuristic and that, in practice, markets do not meet the criteria needed to be considered perfect. As stated by the Federal Revenue Service "*the superiority of value-added taxes in terms of distortionary impacts is readily recognized in the case of easily administered tax systems that are nationally harmonized, with low evasion rates…and with one or two tax rates. However, given the actual restrictions, and considering that the ideal situation cannot be easily reached in the short run, it is wise to adjust the debate and avoid making decisions which can hurt the system*"[41].

In an interesting paper that seeks to establish normative conclusions on the allocative impact of different taxes, Cláudia and Ibrahim Eris use Leontief's linear model in seeking tax policy guidelines. They write, "*the task of ranking taxes as 'better' or 'worse' is very complex, even in simple models such as the one adopted above; and the literature on this matter has been reduced to a few scarce studies that are sometimes even erroneous*." [42] The authors conclude by saying, "*truthfully, the world of Public Finance is a* second-best *world, and as such the traditional graphs of utility frontiers are often irrelevant, because the system's distortions place the economy at a point below such frontiers. The upward movement of the utility frontier says nothing about the point (below the frontier) in which the economy finds itself*."

On the validity of policy prescriptions of optimal tax theory it is worth quoting Frank Hahn, who says *"…while these studies have increased our understanding of what is involved, the tax formulas which they contain cannot be taken very seriously…Welfare economics is the grammar of arguments about policy, not the policy.*" [43]

On this same line of thought Sandmo states that "*The theory obviously has its limitations. It is at its best in yielding rules for the optimal structuring of a given tax system and has less to contribute to the discussion of major problems of tax reform, which typically involves the choice between alternative tax systems. A difficulty with the extension of the theory to cover these global problems is that the costs of administration have not been incorporated into the theory; this is one aspect of the neglect of transactions costs in the theory of general equilibrium.…This raises the question of whether optimum tax formulae can have any claim to be taken seriously, given that they abstract from such central concerns as administrative costs and incomplete information.…it may well be that we shall find the models of optimal taxation to be useful, even though we may have to supplement them with*

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[40] On optimal tax theory see [SANDMO, 1976] pp.37-54. A seminal work on modern optimal tax theory is [DIAMOND and MIRRLEES, 1971(a), 1971(b)], pp. 8-27, 261-278.

[41] [SECRETARIA DA RECEITA FEDERAL, 2002(a)], p.21.

[42] [ERIS and ERIS, 1983] p.20.

[43] [HAHN, 1973], pp.96-106.

considerations which are exogenous to the models themselves."[44]

Indeed, welfare theory demonstrates that society will not choose a point which is allocatively efficient if, compared to another situation (even if inefficient), it is capable of reaching a superior point in its social welfare function. In other words, even though ideally the VATs may theoretically introduce fewer distortions in relative prices, it is possible that cumulative taxes would be preferable if, for example, it can be proven that it decreases tax evasion, or that it requires a lower nominal tax rate to collect a given amount of revenue, and as a result the pattern of tax incidence is considered more acceptable to society, as demonstrated below. [45]

It is generally assumed that efficiency is the only criterion for choosing a particular allocation of resources. However, even assuming a perfectly competitive economy, one may not state that a Pareto-efficient allocative situation resulting from such market configuration will necessarily maximize social welfare.

The implication of this statement is that one cannot guarantee that the use of a neutral tax, such as the VAT is assumed to be (even though in fact it may not always be so), will necessarily maximize the social utility function. Distributive considerations can make possible the attainment of a higher point in the social welfare function of a society through the use of a cumulative tax. In other words, from the standpoint of maximizing the social welfare function of an economy, the use of a tax that is non-neutral and "inefficient" from an allocative standpoint, and thus configuring a Pareto-inefficient situation, may be preferable to a Pareto-efficient position resulting from the use of a neutral tax. This possibility demonstrates the error contained is statements to the effect that VATs are necessarily better and always preferable to cumulative taxation.

A resource allocation is Pareto-efficient if, in order to improve one person's position it is necessary to worsen the situation of at least one other individual. A situation is deemed Pareto-superior if, it is possible to improve one person's initial welfare state without diminishing another's.

The Fundamental Theorem of Social Welfare Economics says that if producers and consumers act competitively, strictly as price takers, a market in perfect competition will produce a Pareto-efficient situation.

To maximize utility, consumers will equate prices of goods and services to their respective marginal utilities; that is, with two products (X and Y) and two consumers (A and B), the marginal rate of substitution (MRS) between the products will be equal to their relative prices (P(X)/P(Y) If consumers are price takers,

$$MRS\ (A) = MRS\ (B) = P(X)/P(Y). \qquad (1)$$

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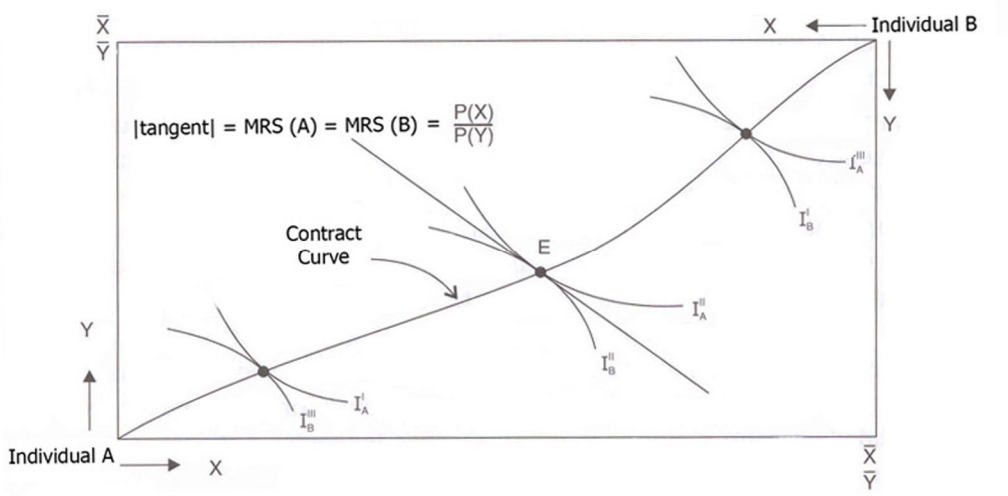
[44] [SANDMO, 1976], pp.37-54.

[45] [ERIS and ERIS, 1983] mention that, "*it is possible, albeit improbable, that a less efficient fiscal plan may be preferable to a more efficient one. The welfare literature is full of apparent paradoxes, and this seems to be one such paradox: the economy as a whole seems to benefit, but the groups that make up that economy were harmed*", p.31.

This equality is a necessary condition for a Pareto-efficient situation in an exchange market economy.

In an Edgeworth Box (GRAPH 1), the points where the condition expressed by equation (1) is satisfied are found on the Contract Curve that results from the tangential points between the indifference curves for consumers A and B.

GRAPH 1
The Contract Curve: Efficiency in an exchange economy



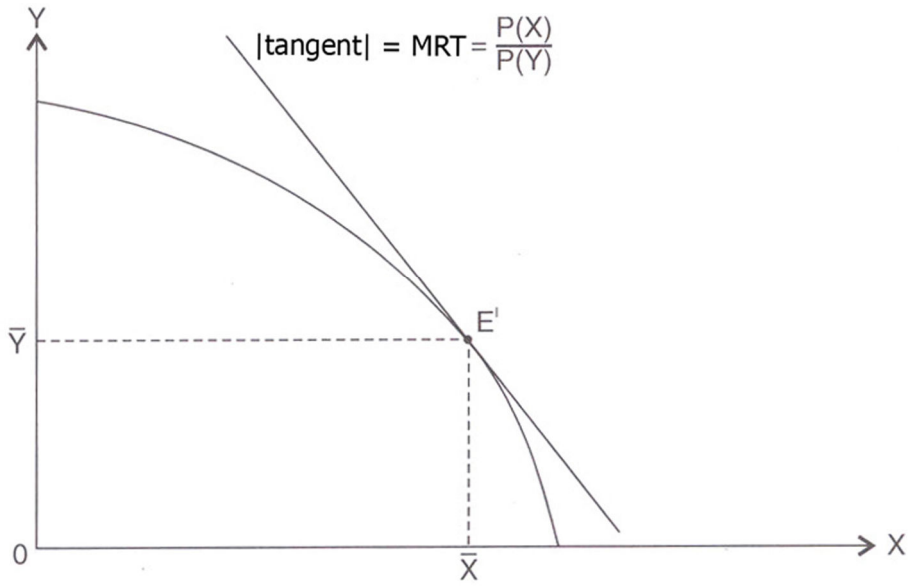
Assuming perfect competition and that the production of X and Y requires the use of scarce resources, firms will maximize their profits equating product prices with their marginal costs (MgC). Firms are also price takers. Thus, P(X) = MgC(X), and P(Y) = MgC(Y).

From the Transformation Curve (GRAPH 2), we know that a Pareto-efficient situation requires the impossibility of increasing production of one good without reducing production of another, from which results that the marginal rate of transformation (MRT) in production of both goods be equal to their relative prices.

$$MRT = MgC(X)/MgC(Y) = P(X)/P(Y). \qquad (2)$$

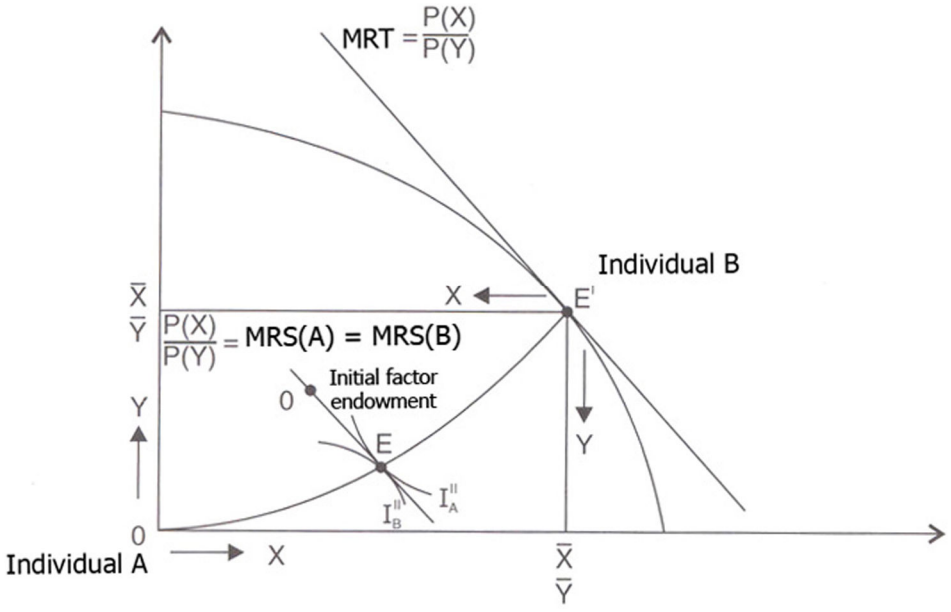
Considering equations (1) and (2), it follows that MRT= MRS (A) = MRS (B). Thus, producers and consumers, as price takers in competitive markets and acting so as to maximize profits and utilities, will produce a set of Pareto-efficient positions in production and in exchange.

GRAPH 2
The Transformation Curve: Efficiency in a production economy



GRAPH 3 depicts the points of competitive equilibrium in a production and exchange economy. Considering an initial factor endowment distribution between individuals A and B, competitive markets will result in such prices and costs of X and Y as given by the marginal rate of transformation T. It is important to remember that, starting at an initial point O of factor distribution, it will be possible to achieve a Pareto-efficient point located in the Contract Curve. Through exchange and production adjustments, the economy will move from the initial point O and attain a Pareto-efficient point E where competitive equilibrium is reached.

GRAPH 3
Competitive equilibrium:
Efficiency in a production and exchange economy



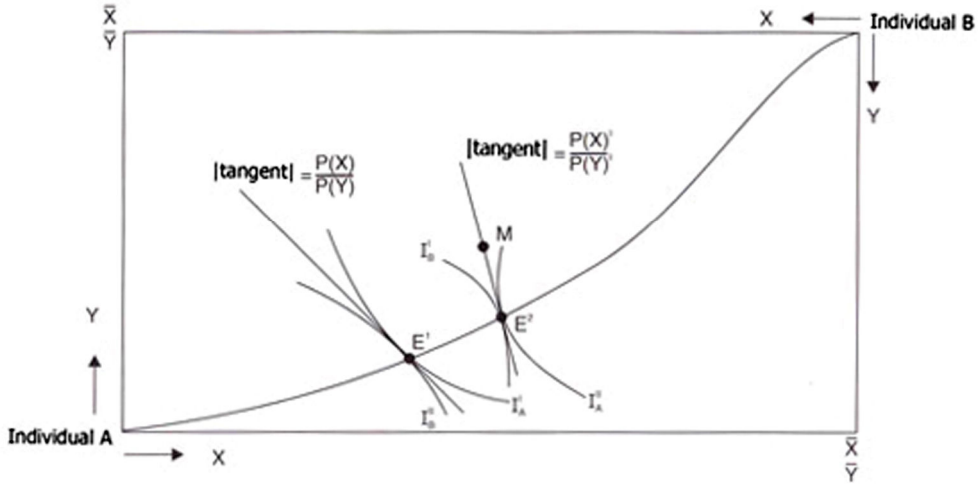
The question now is to find out whether the Pareto-efficient situation resulting from a given initial factor endowment and from the functioning of a competitive market will always be preferable to any other possible situation. The response is clearly negative.

A Pareto-inefficient point can be socially preferable to the point of competitive equilibrium. GRAPH 4 demonstrates such a situation. Given an initial endowment, competitive equilibrium is found at E^1. Can one, however, state that this point is preferable to point M? E^1 is a competitive equilibrium, and therefore Pareto-efficient, solution, while M is a point not on the Contract Curve and, therefore, is inefficient.

Point M could be preferred if the Social Welfare Function attributes value to the pattern of wealth and income distribution among individuals A and B. Point E^1 determines a strong concentration of wealth in favor of individual B. If society prefers a more equitable pattern of distribution, point M could be preferable, even though it is inefficient from an allocative standpoint. Pareto-efficiency alone is insufficient to assess social preferences of a society. I addition to a mere evaluation of allocative efficiency, it may become necessary to use other criteria for choosing a social optimum.[46]

[46] With alteration of the relative prices of P(X)/P(Y) to P(X')/P(Y)' it is possible to achieve Pareto-efficiency point E^2, a Pareto–superior point relative to point M. What can be said, then, is that if there

GRAPH 4
Efficiency and distribution



GRAPH 5 shows the Utility Possibility Frontier (UPC) between individuals A and B resulting from the Contract Curve in GRAPH 4. Given the utility functions of A and B, U(A) = U(X,Y), and U(B) = V(X,Y), each point on the Contract Curve determines a point on the UPC. Assuming a Social Welfare Function W = W(U(A), U(B)) that reflects the preferences of society, it is possible to construct the Social Indifference Curves (IS). The maximization of social welfare occurs at the Pareto-efficiency point W. Pareto-efficient point E^1, however, is inferior to Pareto-inefficient point M, from the standpoint of social values of such a society. In this example, it prefers a more equitable income distribution, even though it implies an inefficient solution from the standpoint of competitive equilibrium.

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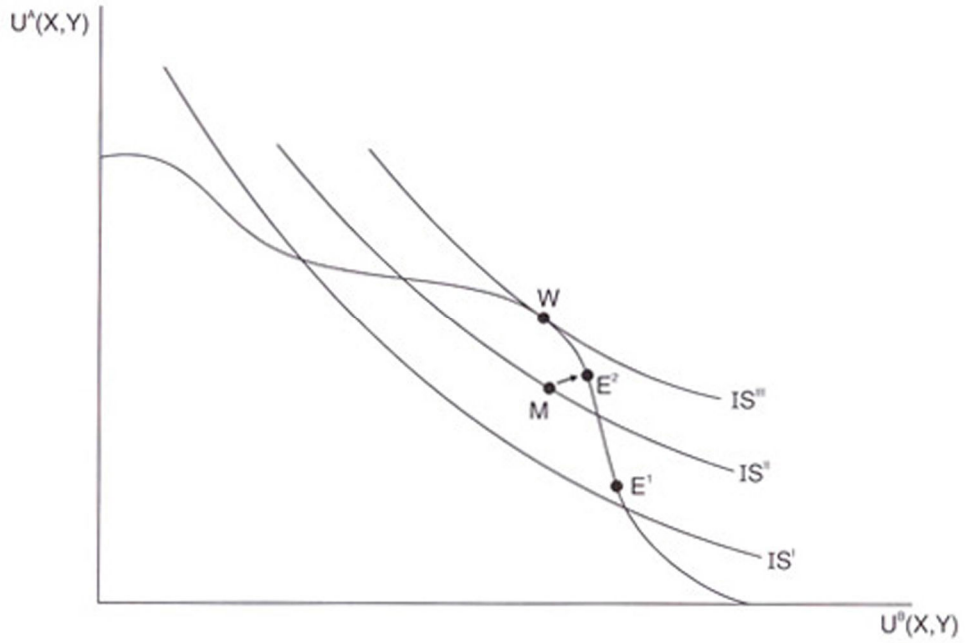
is a Pareto-inefficient point socially preferable to a given Pareto-efficient solution, there will always be another preferable Pareto-efficient point on the Contract Curve. In other words, a point in the Contract Curve is not always Pareto-superior to any other point not situated on it. But there will always be a point on the Contract Curve which is Pareto-superior a point not situated on it.

GRAPH 5
Utility Possibility Curve (UPC)
Maximization of social welfare



The Fundamental Theorem of Social Welfare Economics proves that under perfect competition the market searches for an efficient competitive equilibrium at some point on the Utility Possibility Curve. Nothing guarantees, however, that it will be the point of maximum social utility.

It is possible to draw parallels between this situation and choices involving taxation.

Tax systems based on value-added taxes suffer from higher evasion rates than do cumulative tax systems, such as a bank transactions tax. Though we admit that theoretically VATs are neutral, and therefore more efficient from an allocative point of view (although this may not be true from an empirical standpoint), we cannot conclude that they necessarily result in a resource allocation pattern capable of maximizing the Social Utility Function. This stems from the perverse distributive consequences caused by VATs' patterns of tax incidence, such as higher rates of evasion and higher administrative and operational costs, as compared to cumulative taxes on bank transactions.

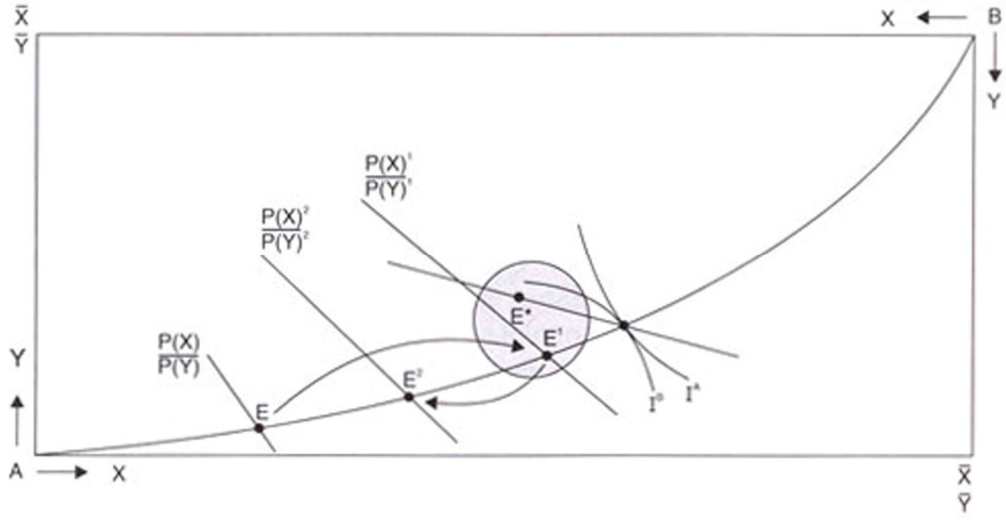
In other words, there is a trade-off between tax efficiency and social evaluation of alternative patterns of tax incidence. A non-neutral tax, such as the bank transactions tax, may be preferable from the social standpoint because it drains less real resources from society due to its lower operational and compliance costs, and also because it does not encourage evasion, and therefore has a better pattern of

incidence than is the case with VATs.

GRAPHs 6 and 7 demonstrate a situation in which a tax introduces distortions, but at the same time is preferred by society.

Initially, the economy is at competitive equilibrium E. It is a Pareto-optimal situation, with income distribution favoring individual B. However, the government seeks a fiscal policy that aims to redistribute income in favor of individual A, and therefore wants the economy to be located at a point in the shaded area, where social preferences for greater equity in income distribution are satisfied, preferably at some point along the contract curve within the area of the government's preference.

GRAPH 6
Tax policy, evasion, and competitive equilibrium

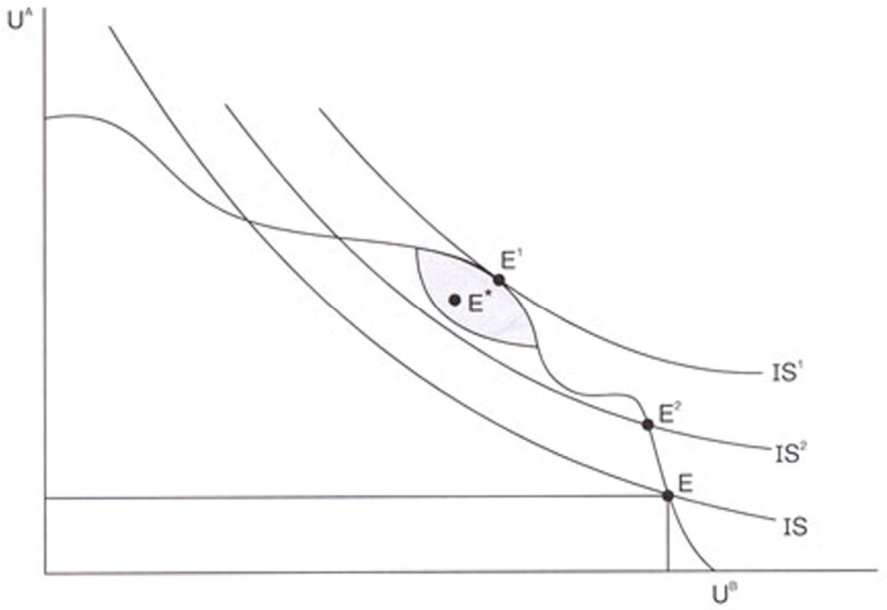


One option is to adopt a conventional tax model, such as a VAT, which is considered to be neutral and efficient from the standpoint of relative-price determination, such as point E^1. In order for this new equilibrium to be attained, relative prices would have to be $P(X)^1/P(Y)^1$, compatible with the competitive equilibrium E^1.

However, if the conventional VAT tax model stimulates evasion, the change to point E^1 will be frustrated, re-concentrating income and dislocating the new equilibrium, to E^2, outside the government's area of preference. In this sense, the option of a Pareto-inefficient solution as the point E* can be preferable, even if it is not a competitive equilibrium solution. In this situation the economy will stand at point E*, with relative prices that are incompatible with a Pareto-optimal situation given by the tangency point between the Indifference Curves I(A) and I(B) on the Contract Curve. However, this point (E*), as demonstrated in GRAPH 7, is

preferable to points E and E^2, despite the fact that it is Pareto-inferior relative to the solution originally desired by the government, point E^1.

GRAPH 7
Tax policy and social welfare



What these examples demonstrate is that one cannot state *a priori* that the best tax policy must necessary be made up of taxes that are considered allocatively efficient. In principle, neither cumulative nor any other type of tax system should be rejected strictly due to judgments about their allocative efficiency. There may be room for them in configuring a tax system capable of improving the social welfare of an economy. It is an empirical question.

A second reason why one cannot state *a priori* that a VAT is preferable to a turnover tax is that the assumptions required for a perfectly competitive market to exist are not usually met in the real world. What happens when the conditions for obtaining a Pareto optimum are not met? Richard Lipsey and Kelvin Lancaster, in pioneer writing on "second-best economics", discussed this issue in 1956.[47]

The second-best theory has shown that it is impossible to reliably rank different market situations without empirical analysis of each specific scenario. "*The general theorem for the second best optimum states that if there is introduced into a general equilibrium system a constrain which prevents the attainment of one of the Paretian conditions, the other Paretian conditions, although still attainable, are, in general,*

[47] [LIPSEY and LANCASTER, 1956].

no longer desirable. In other words, given that one of the Paretian optimum conditions cannot be fulfilled, then an optimum situation can be achieved only by departing from all other Paretian conditions. The optimum situation finally attained may be termed a second best optimum because it is achieved subject to a constraint which, by definition, prevents the attainment of a Paretian optimum. From this theorem there follows the important negative corollary that there is no a priori way to judge as between various situations in which some Paretian optimum conditions are fulfilled, while others are not. Specifically, it is not true that a situation in which more, but not all, of he optimum conditions are fulfilled is necessarily, or even likely, to be superior to a situation with in which fewer are fulfilled….It follows from the above that there is no a priori way to judge as between various situations in which none of the Paretian optimum conditions are fulfilled. In particular, it is not true than a situation in which all departures from the optimum conditions are of the same direction and magnitude is necessarily superior to one in which the deviations vary in direction and magnitude."[48]

The "second best" theorem proves that if any one of the conditions necessary for obtaining a Pareto Optimum situation is not satisfied, then the best possible situation (the second-best) in general can only be attained if all other Pareto conditions are relaxed. In other words, as stated by Paul Samuelson "*a given divergence in a subset of the optimum conditions necessitates alterations in the remaining ones*".

What is interesting in this theorem is the counterintuitive result that sometimes when one variable does not achieve its desired value, the best policy choice will involve moving other variables away from their first-best position.

Obviously, the postulates of the second best theorem are violated when critics of cumulative taxes, such as the bank transactions tax, declare, *a priori*, that value-added taxes are more efficient than turnover taxes. Thus, the ranking of alternative tax regimes become problematic in the presence of market failures, tax avoidance, transaction costs, and other important departures from the postulates of perfect and complete markets.

According to second-best theory, as interpreted by J.A. Kay, "*tax reform proposals must not be evaluated by counting the number of distortions, and arguments based on 'double-taxation' disregard the fact that it is the relative level of taxation, not the number of times the tax is levied, which is relevant in economic decision-making.*"[49]

One must recall that economic models impose conditions, hypothesis, and assumptions from which logical conclusions are drawn. The conclusions of a model depend on satisfying a set of given conditions for equilibrium. In economics,

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[48] [LIPSEY AND LANCASTER, 1956] p 11-12. For an advanced analysis of optimal taxation see [GUESNERIE, 1998]. See also, [KAPLOW, 2008]. For a brief survey of taxation theory see [KAPLOW, 2006].

[49] The author is referring to double taxation in income tax. See [KAY, 1990].

conditions of equilibrium depend on the behavior of consumers and producers who seek to simultaneously optimize their objective functions. Economic models usually assume a large number of behavioral hypotheses and conditions. One can assert that a second-best situation occurs when all conditions of equilibrium are not simultaneously met.

Lancaster and Lipsey demonstrated that usually when a single condition of equilibrium is not met, all other conditions must be altered, that is, satisfying all other conditions of equilibrium falls short of being the optimal behavior of economic agents. Therefore, it is possible to state that under such conditions, in order to achieve optimal equilibrium, the introduction of other distortions that correct the initial distortion may become necessary.

Therefore, given that the real world does not satisfy the rigorous requirements for achieving a Pareto optimum, it is easy to understand the futility of systematically avoiding the introduction of economic variables deemed to be allocatively inefficient on the arguments that society wishes to reach a perfectly competitive equilibrium. Usually, in order to achieve allocative efficiency targets that are almost always unachievable, such arguments ignore considerations about equity and income distribution, about fairness and about public and private costs. In so doing, issues of equity and ethics are sacrificed, albeit their importance when it comes to maximizing the social welfare function.

This is an important argument in the debate on tax reform in Brazil, where fierce battle is waged between those who support taxes that are deemed more efficient, such as the VAT, and those who call for bank transaction taxes, which are fairer because they are less prone to evasion.

In the debate, which involves matters of efficiency versus equity, the conclusions of the second-best theory become highly relevant, in that they demystify the need to attempt to satisfy competitive equilibrium conditions at any cost, even if this means reducing levels of social welfare, and compromising the social goals of tax justice and equity.

But perhaps, the most deadly criticism of the neo-classical analytics used in appraising the efficiency of taxation through the measurement of the excess burden caused by each type of tax (inspired by the path-breaking formulations of optimal taxation by Edgeworth and Ramsey) comes from the School of Public Choice led by James Buchanan and Richard Wagner.

"*Excess burden is used widely throughout public finance for both normative and positive analyses…Both the normative and the positive uses of excess burden in contemporary fiscal theory start from the same analytical point of departure, where a tax is said to distort some margin of choice. The analytical task is then to appraise the extent of the loss brought by the distortion. Although (excess burden) is generally treated as a universal quality of all but lump-sum taxation…it is not a universal quality of taxation, but it is at most a contingent feature of a subset of the possible institutional frameworks within which fiscal outcomes emerge. The*

conventional excess-burden analytics transpose results from individual experiments where they do apply, onto market experiments where they do not apply… In an exchange each of the participants may well be modeled as maximizing utility, but there is nothing that is maximizing over the set of those participants…In democracies, taxation is something that citizens do to themselves…taxation emerges from inside the body politic of taxpayers…taxation in a democratic regime cannot lower utility for everyone …(excess-burden approaches to taxation) are inept because they show everyone losing utility…To the extent governance is mutually beneficial…there is no excess burden from taxation because taxation is the price that allows gains from trade to be exploited…" Wagner concludes by stating that "*Within the context of democratic ideology, even if perhaps not democratic practice, taxation would seem to be judged good or bad according to its ability to facilitate or impede mutually profitable fiscal exchange and not according to some excess burden metric that is assessed independently of the fiscal process and the institutions that frame it. Excess burden would seem truly to be a grin without a cat.*[50]

Such considerations give weight to tax appraisals which are based on each tax's own advantages and disadvantages, independently of the alleged allocative distortions derived from conventional neoclassical analyses. As will be shown by the simulations presented in the next chapter, even according to conventional excess-burden metrics, VATs can be more distortionary than cumulative taxes if we assume the existence of evasion and of differential tax rates among products.

Furthermore, it will be shown that they also introduce other serious distortions as they require comparatively higher tax rates for any given revenue target and impose extremely high operational and compliance costs. Cumulative taxes are levied on the total value of production, whereas VATs are levied solely on wages, profits, interests, and rents at each stage of the productive process. Consequently, for a given revenue target, the VATs need rates that are higher than those of cumulative taxes. This means taxing factors, including labor, at rates that are higher than those of cumulative taxes. Thus, it is clear that VATs discriminate against labor, especially in the highly labor intensive sectors, such as the service sector.

According to the well-known Meade Report[51] on tax reform in the United Kingdom "*the economist distinguishes between the 'income effect' and the 'substitution effect' of a tax burden.... 'income' effects are not a symptom of economic efficiency… but 'substitution' effects are an indication of economic inefficiencies and wastes… Avoidance of economic inefficiencies would involve avoidance of high marginal rate of tax where these substitution sensitivities were great. One corollary of this need to keep marginal tax rates down is a general*

[50] For a concise and clear-cut explanation of the 'public choice' criticism to the excessive-burden approach for measuring allocative efficiency impacts of alternative tax models, see [WAGNER, 2002], pp-531-544; also, [BUCHANAN, 1960].

[51] [MEADE, 1978], pp. 9-14.

presumption in favor of tax systems which provide a broad basis for revenue-raising purposes. To raise a given revenue by means of low rates of tax spread over a large tax base may be assumed to cause less marked 'substitution' distortions than to raise the same revenue by concentrating high rates of tax on a few activities, unless special circumstances suggest that those particular activities show exceptionally low substitution sensitivities".

Regarding the allocative effects of a tax system, it should be observed that, ideally, in order to minimize distortions, taxes should not cause any changes in economic decisions that would have been made in the absence of taxes. The ideal tax system would minimize dead-weight tax loss. However, we know that only a tax on life, that is, a fixed value *per capita* tax would achieve this *desideratum*. But being an unacceptable option in modern societies, we are left with trying to minimize, not avoid, losses in efficiency. Thus, a basic rule would be the use of taxes with high average rates, but low marginal rates, as recommended by Martin Feldstein when he says that it is the marginal tax rates that determine their dead-weight loss caused by excess-burden.[52] Because economic decisions are always made at the margin, the use of taxes with this characteristic would be more desirable than taxes that show equal average and marginal rates (such as VATs), or even marginal rates that are higher than average rates (such as a progressive income tax).[53]

Thus we see that, by requiring lower marginal rates for raising a given revenue target, the bank transaction tax can be less distortionary than value-added taxes, which require significantly higher marginal rates. This assertion clears up the mistake that surrounds assertions about the supposedly natural evils of cumulativeness and the supposedly natural merits of value-added taxes. The Meade Report actually concludes that, "*it is an impossible task to trace through the complete efficiency and distributional effects of a tax change in a complex economy in which there is a complicated network of market and productive inter-relationships between a large number of products and activities and in which there many kinds of market imperfection and of environmental and similar side effects*." [54]

All in all it is important to remember when designing tax systems or when proposing tax reform, that theoretical models used by economists require strong assumptions for optimality, always highly unrealistic, which turns them into inadequate guides for policy purposes.

"*The theory of optimal taxation has, for the past two decades, been the reigning*

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[52] [FELDSTEIN, 2006].

[53] For more on this, see [ECKSTEIN, 1964] p.73.

[54] The "Meade Report" also points to the difficulty of making a normative evaluation of different types of taxes because of the non-existence of perfect markets: *"If all markets for goods and services were competitive and perfect, these direct substitution effects of the taxes themselves would be our only concern in considering the efficiency effects of a tax system... but the fact that not all markets for goods and services are perfect and competitive introduces other considerations in assessing these efficiency effects." p.11.*

normative approach to taxation. This paper argues that, in its current state, optimal tax theory is incomplete as a guide to action concerning many critical issues in tax policy. It is incomplete because it has not yet come to terms with taxation as a system of coercively collecting revenues from individuals who will tend to resist. The coercive nature of collecting taxes implies that the resource cost of implementing a tax system has been and will continue to be a critical determinant of appropriate tax policy…production efficiency is in general not desirable when there are constraints on how commodities and profits can be taxed…that the apparent triumph of production efficiency as a goal is somewhat surprising in view of the strong assumptions needed to demonstrate its desirability.[55]

Joel Slemrod, the author of this quote presents us with a demolishing view of optimal tax theory as a guide to policy. Indeed, many of the critical issues in tax policy nowadays lie "outside the domain of optimal taxation theory" and of its efficiency implications. He goes on to say, "*I believe that its critical problem is the failure to consider the technology of collecting taxes…the leap from the blackboard to the real world is a large one when it comes to taxation…integrating the issue of administrative ease into optimal tax theory will require a shift of emphasis away from the structure of preferences, which has been the principal focus of optimal tax theory, toward the technology of tax collection*". [56]

Also, as quoted elsewhere in this text, Frank Hahn has stated that due to its inherent limitations optimal tax theory "cannot be taken very seriously" as policy prescriptions.[57]

In sum, the entire optimal taxation theory, of which the excess burden analysis represents its main analytical construct, has been forcefully challenged by Public Choice economists such as James Buchanan and Richard Wagner. Their main argument states that conventional excess burden analyses are limited in their usefulness at most to a contingent subset of possible institutional frameworks, such as a "*monopolistic or exploitative state to explain fiscal outcomes*", which represent and "*secure advantages to the dominant classes or groups at the expense of the remainder of society. Such exploitive models assimilate the state more strongly to the practice of brigandage and rent extraction than to the supply of public goods*". According to them, excess burden analytics are not adequate for modern societies that act through a "*cooperative state to explain fiscal outcomes… (through which) fiscal programs advance the common interests of everyone, evoking images of public goods and the benefit principle in the process*". As such, taxation does not allow for measurement of losses and of inefficiencies such as implied by excess burden

[55] [SLEMROD, 1989]. He stresses some key aspects of optimal taxation excises, such as perfect competition, separable utility functions, constant returns to scale, costless administration, and utilitarian social welfare functions. Such assumptions severely limit the practical usefulness of the model´s conclusions. Pp. 1, 2, 8, and 15.

[56] [SLEMROD, 1989] pp. 17-18.

[57] [HAHN, 1973] pp.96-106.

analysis. Instead of being an autocratic regime that rulers impose on their subjects, in democracies it becomes a mutual and voluntary relationship among citizens, and "*taxation is something that citizens do to themselves"*. Thus, "*taxation in a democratic regime cannot lower utility for everyone. At least some people must gain utility, and in the limit everyone could gain"*. In conclusion, "*excess burden analytics make no relevant analytical contribution and would seem to represent a grin without a cat…there is no excess burden from taxation because taxation is the price that allows gains from trade to be exploited."* [58]

Enforcement and compliance

Another situation could result from comparing the high operational costs of the VATs to the cost of tax collecting through cumulative taxes such as bank transactions tax or the Single Tax. By being non-declaratory and electronically collected, they show extremely low operational costs both to the public and to the private sectors.

The administrative costs of VATs are absurdly high, especially in federative countries such as Brazil.[59] From an operational perspective, they are complex and inefficient if imposed by sub-national governments. VATs are appropriate for centralized countries. Few federative nations use them, and the ones that do, incur high costs and enormous bureaucratic complications, as happens in Brazil and Canada.[60] The United States have kept away from them for good reason. And in Brazil the attempt to unify the ICMS (a VAT administered by each of the States) is warranted by the unfortunate experience of having in place an absurdly complex system.

A paper written in the United Kingdom showed that even in countries with centralized administration the operational costs of VATs are high.[61] After the personal income tax, value-added taxes are the most costly to collect, absorbing 4.72% of revenue, as shown TABLE 2. Excise taxes carry the lowest operational costs. Because they have essentially non-declaratory characteristics, their operational cost is only 0.45% of revenue.

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[58] For a critical analysis of the excess burden concept, from where the quotes were extracted, see [WAGNER, 2002].For a discussion of tax systems as they arise from democratic choices and from voting behavior and political competition, see [HETTICH and WINER, 1999]

[59] [GALLAGER, 2004] shows that VAT´s in various Latin-American countries have proven to have low productivity and disappointing revenue raising capacity. p.10.

[60] For an eloquent description of the challenges faced in applying VATs in federatively organized countries, see [BIRD and GENDRON, 2001(a)].

[61] [SANDFORD et alii, 1989], quoted by [BERTOLUCCI, 2001] p.52.

TABLE 2
Operational costs of the tax system – United Kingdom
(1986-1987)

Tax	Tax Revenue	Administrative Costs		Compliance Costs		Total
	Pounds (000,000,000)	Pounds (000,000)	%	(000,000)	%	%
Personal Income Tax and contributions	65.1	997	1.53	2,212	3.40	4.93
VAT	21.4	220	1.03	791	3.69	4.72
Corporate income tax	13.5	70	0.52	300	2.22	2.74
Excise	16.5	42	0.25	33	0.20	0.45
Others	5.8	40	0.70	73	1.25	1.95
Subtotal (central governments)	122.3	1,369	1.12	3,409	2.79	3.91
Local governments	15.5	236	1.52	58	0.37	1.89
Total	**137.8**	**1,605**	**1.16**	**3,467**	**2.52**	**3.68**

Source: BERTOLUCCI, A. op.cit. p.52.

Following this line of analysis, the conclusions of the International Symposium on Tax Reform, held in São Paulo and attended by some of the world's major tax professionals (including Arnold Harberger, Charles McLure, Richard Bird, James Buchanan, Vito Tanzi, Anwar Shah, and John Edwards) were unanimous in condemning the Brazilian tax system for empowering sub-national government units to collect VATs.[62]

Furthermore, in federative countries this type of tax leads to federal tax competition, and to the raising of customs barriers between states and even between cities. It is the paradise on earth for tax attorneys and corrupt tax collectors.

Everardo Maciel, former Secretary of the Federal Revenue, said, "*we committed a grave tax policy mistake in this country during the 1960s. Brazil was extremely reckless and bold when it introduced … the value-added tax, the ICM… and imposed it down the line until the retail sector. Certainly the country was not prepared for this type of tax mainly because of its pervasive culture of tax evasion. Another error was committed…making the ICM replace the IVC (a turnover sales tax collected by states). Basically, the mistake lay in conferring on the States the competence for collecting a value-added tax on consumption, which resulted in two almost insoluble problems. The first was related to tax exemptions for exports… the second appeared in interstate transactions. Value-added taxes on consumption do not lend themselves to co-existing comfortably with federal customs barriers*." [63]

Ives Gandra teaches us that the Gordian knot in tax reform in Brazil rests in the ICMS.[64] It is a VAT-type tax. The vast majority of countries throughout the world

[62] See [McLURE, 1993] pp. 45-69, and [BIRD, 1993], p.91.

[63][MACIEL, 2001].

[64][MARTINS, 1999(a)]

have adopted this type of tax, but almost always under the responsibility of the central government. Rarely are they used in federations such as Brazil. The ICMS should be a federal tax, not a state tax, and stubbornness in keeping it in the hands of the states has caused serious distortions in its operation.

In Brazil, organized groups use the tax system as a weapon in their political battles for conquering greater economic space. The criticisms raised by certain groups opposed to more innovative tax reform proposals, such as the Single Tax, are markedly pseudo-scientific. As such, they must be interpreted as being merely an instrument in the struggle for economic power.

Intuitive perceptions indicate that tax evasion, fraud and avoidance vary in direct proportion to the level of nominal tax rates and to the complexity of the tax system in use. Although theoretical models that simulate tax compliance do not come to clear conclusions or to correct indications of taxpayers behavior when faced with varying tax rates or with changing levels of difficulty in tax assessment procedures, it is safe to say that under usual assumptions about risk preferences a rise in the marginal tax rate or in revenue-neutral progressivity increases the flight to the underground economy and increases the tax gap[65]. That is, the higher the rates, the greater the stimulus and the reward for tax evasion and avoidance, such as suggested by the Laffer Curve construct[66]. It is easy therefore to conclude that VATs stimulate tax evasion and avoidance more intensely than do taxes that require lower rates, such as certain non-declaratory cumulative taxes. VAT models of taxation are becoming increasingly fraud-ridden, even in countries with high ethical standards, as most of the European countries.[67]

As tax avoidance and evasion increase, new rounds of rate hikes and of bureaucratic controls become necessary. Therefore, it is not surprising that in countries where the VAT has been imposed, compliance and administrative costs have risen continually, leading to rate increases. Paraphrasing Henry Simons, the experience with VATs, especially in developing countries, is like “dipping deeply with a sieve”.[68]

In Brazil, VATs were initially set at 12% and today are at 17% for most products; in some cases they reach 25 or even 30%. Therefore, because they require higher rates and because they stimulate tax avoidance, VATs show undesirable patterns of incidence. Some taxpayers are taxed in excess, whereas many others pay

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[65] [TRANDEL AND SNOW, 1999], pp.217-222. For a review of the tax compliance literature and of the contradictory evidence found in theoretical models of tax compliance behavior see [ANDREONI et alii, 1998].

[66] See [PAPP and TAKÁTS, 2008] where the authors show that the Russian experience with the flat-tax confirmed that rate cuts increase both revenues and effective tax rates by improving tax compliance.

[67] See [AINSWORTH, 2006, 2007(a), and 2007(b)].

[68] Mentioned by [BIRD, 1988], p.26.

too little, or less than they should.

In Brazil, the tax system stimulates collusion against the public sector, sales without invoices, fake transactions, and "tax planning". This system creates large-scale allocative distortions, in which production costs and competitive capacity no longer define production efficiency. On the contrary, the competitive capacity of businesses depends to a great extent on the administrator's skill in practicing crafty tax avoidance schemes more effectively than his competitors. This stimulates survival of the most cunning and domination by the corrupt. Market selectivity no longer rewards the most efficient. It is not perchance that in economies with high tax avoidance rates, the tax burden falls disproportionately on those who are least equipped to avoid taxes, such as wage earners. In Brazil, payroll income accounts for 52% of the tax burden, but labor income represents only 27% of national income.

Enforcement and compliance costs are becoming crucial elements in appraising the efficiency of tax systems. "*The significance of compliance costs and enforcement difficulties warrants rethinking basic questions of tax design; perhaps tax rules or even tax systems that are desirable in principle should be redesigned in practice, sacrificing the original equity and efficiency goals to some extent for the sake of improving tax administration*".[69]

Differential incidence

Cumulative taxes may certainly cause typical distortions. They introduce changes in relative prices, although such negative effects are greatly eased by their low marginal rates. They are less transparent because they are embedded in production and in input prices, and they become invisible to the consumer. In the case of exports, cumulative taxes require more complex mechanisms for zero-rating, although this is a manageable technical problem if detailed inter-industry relations matrices are available.

Another alleged distortion in evaluating bank transactions taxes stems from the assumption that being collected cumulatively at each stage of the production process they imply high tax burdens on products with "long" production chains. This is a mistake. Production chains should never be described as "short" or "long" – they are always infinite in their number of transaction links. Production of any good or service involves contributions from all other sectors of the economy. It is a circular process that necessarily uses inputs from several other sectors which, for their part, also need inputs from other sectors, and so on. Therefore, production chains are always infinite, never ending.

What truly determines the tax burden of a cumulative tax is the relationship between the value of inputs and the value-added at each stage of the production process. For example, if a given production sector buys inputs at a certain price and adds an equal amount of value, the cumulativeness carried by the prior production

[69] [KAPLOW, 1995], p. 1.

phases is totally imbedded in the price of the acquired inputs. The value-added at this step of production does not carry any cumulative effect, and only in the following stage of production, when the final product of this stage becomes an input, it begins to carry the cumulativeness of previous stages of taxation.

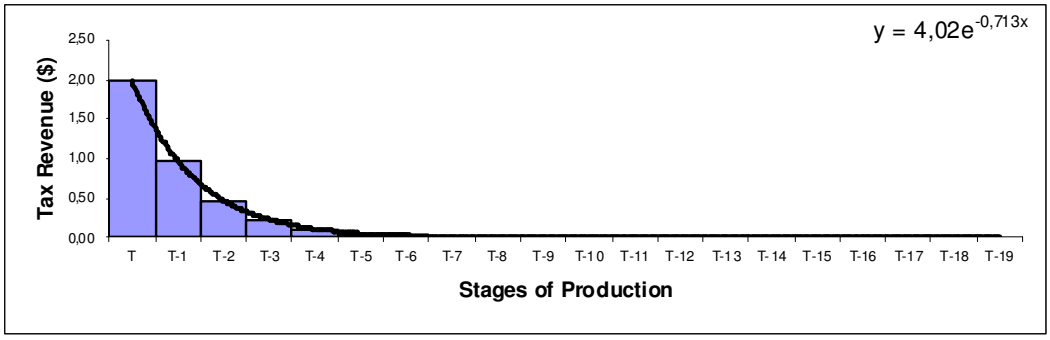
TABLE 3 reflects this fact, assuming a value-added of 100% of the value of acquired inputs. In the example, we assume that the product's final value is R$ 100, and the bank transaction tax has a rate of 1% on each bank credit and debit transaction. The data shows that the turnover effects dissipate rapidly when we analyze the tax carried over from previous production stages, following a decreasing geometric progression. In this example, the total value of tax accumulated into the product's final price is R$ 3.8646; that is, the tax burden on final price is 3.8646%.

TABLE 3
Impact of cumulative
taxation at each stage of the production chain

	Final Price (R$)	Tax at Each Stage (R$)	VA (R$)	Input (R$)
T	100.0000	1.97039506	49.0148025	49.01480247
T-1	49.01480247	0.96578525	24.0245086	24.02450861
T-2	24.02450861	0.47337773	1.7755654	11.77556544
T-3	11.77556544	0.23202516	5.7717701	5.77177014
T-4	5.77177014	0.11372667	2.8290217	2.82902173
T-5	2.82902173	0.05574290	1.3866394	1.38663941
T-6	1.38663941	0.02732227	0.6796586	0.67965857
T-7	0.67965857	0.01339196	0.3331333	0.33313331
T-8	0.33313331	0.00656404	0.1632846	0.16328463
T-9	0.16328463	0.00321735	0.0800336	0.08003364
T-10	0.08003364	0.00157698	0.0392283	0.03922833
T-11	0.03922833	0.00077295	0.0192277	0.01922769
T-12	0.01922769	0.00037886	0.0094244	0.00942441
T-13	0.00942441	0.00018570	0.0046194	0.00461936
T-14	0.00461936	0.00009102	0.0022642	0.00226417
T-15	0.00226417	0.00004461	0.0011098	0.00110978
T-16	0.00110978	0.00002187	0.0005440	0.00054396
T-17	0.00054396	0.00001072	0.0002666	0.00026662
T-18	0.00026662	0.00000525	0.0001307	0.00013068
T-19	0.00013068	0.00000257	0.0000641	0.00006405

One will notice that under the conditions specified in the example, cumulativeness carried along the production chain quickly dissipates, reaching a value of merely five cents of a real (R$ 0.05), in phase T-5, and quickly moving to near-zero values as we move backward in the chain. It can thus be seen that the accumulation of taxes occurs with a much less alarming intensity than critics of bank transaction taxes would have one believe. In phase T-3 the value of the accumulated tax is little more than 5% of the total tax burden on final price, as can be seen in ILLUSTRATION 3.

ILLUSTRATION 3
Tax generated per stage of the production chain (VA = 100%)



Taking an extreme example, in which the value-added in each step is only 10% of the value of acquired inputs, the tax burden contained in the final price reaches 18.1066%. Notice that even in this case the tax carried over from the previous phase of the production chain also drops quickly to near-zero values as we move backwards in time. In phase T-6 the value of the tax is only 5% of the total tax burden (ILLUSTRATION 4).

ILLUSTRATION 4
Tax generated per stage of the production chain (VA = 10%)

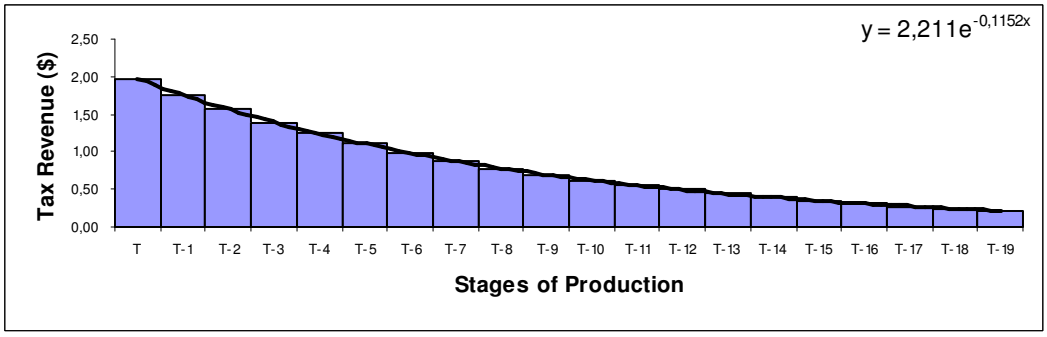
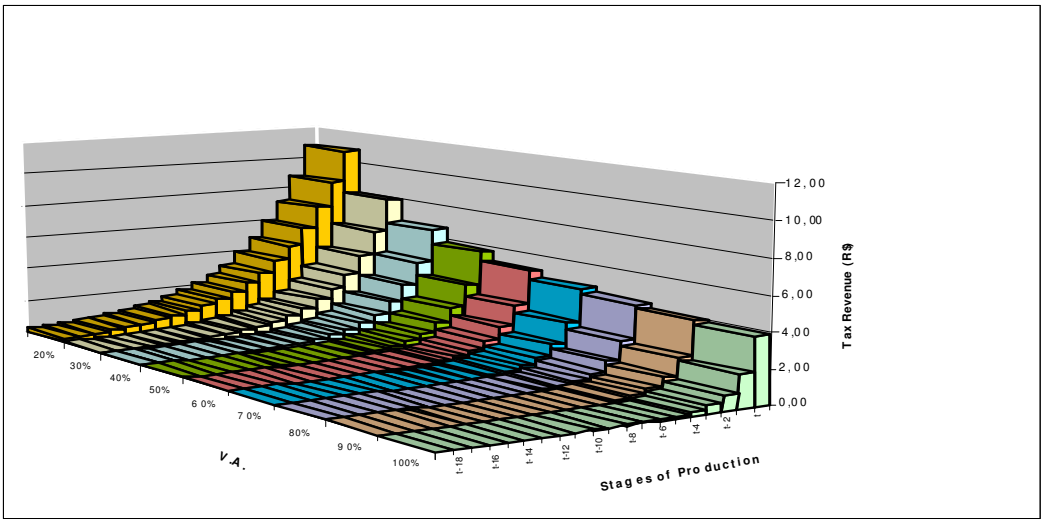


ILLUSTRATION 5 shows the impact of cumulativeness on the production chain for several levels of value-added.

Critics claim that the CPMF goes against all modern principles of tax theory and contradicts everything other countries are doing. The first part of this comment is false, and the second, irrelevant, and deserves no response.

ILLUSTRATION 5
Tax burden in the production chain



The myth about the inevitable evils of cumulativeness must be placed in proper perspective. No tax is neutral, whether cumulative or on valued added. All taxes have advantages and disadvantages, as is widely acknowledged both by critics and supporters of bank transaction taxes. And comparing advantages to disadvantages, cumulative taxes such as the CPMF show a clearly positive balance. There is no evidence, either in Brazil or in other countries, that bank transaction taxes are more distortionary than other available alternatives.[70] They do not discriminate against wages, they have rates that are structurally lower than those of the VATs and, therefore, discourage tax evasion and corruption. Furthermore, they have extremely low operational costs, almost zero in the case of electronic bank debit taxes such as the CPMF.

CUMULATIVENESS AND THE FINANCIAL MARKETS

Since the Single Tax proposal was first presented in the early nineties, it has been known that transaction taxes impact interest rates in direct proportion to the rate of turnover of market financial transactions. This could imply losses to investors and would require a corresponding increase in interest rates to offset this effect. Furthermore, extending the investment term in order to neutralize the turnover effect would imply an unjustified discrimination against short-term investments, although proponents of the Tobin Tax see this as a necessary instrument to slow down the flow of speculative money around the world.

I have insistently demonstrated that, because of its cumulative nature, borrowers

[70] Such point is stressed by [GAGGERO and GRASSO].

would have to bear increased costs. For this reason I proposed a specific methodology for applying the Single Tax on financial transactions, on the capital markets, and on the stock exchange.

Financial transactions should be considered as rental payments on capital. Thus, just as the value of a good being rented in the real market is not taxed by a transaction tax (only the value of the flow of services is taxed), the principal in a financial transaction should also not be reached by such a tax (only the interest payments should). In a residential rental, the transaction tax is imposed solely on the value of the rental flow, and not on the stock value of the real estate being rented out. Likewise, in financial transactions only the interest earnings should be taxed, and not the capital that produced the earnings. If this were not the case, shorter transaction periods would bear higher impact of this tax. This would make short-term transactions in the stock market, such as day-trade, too expensive, even impracticable.

According to our proposal, financial transactions would take place only through special bank accounts, similar to savings accounts. These special accounts, unlike regular checking accounts, would only be allowed to have credits or debits from other special accounts, or from the accountholder's own checking account. Credits in the special accounts would be exempt from the tax. Whenever funds are debited from a special account and credited to a checking account of the same account holder, that portion of the transferred value that represents real returns earned during the period in which the funds were held in the special accounts would be automatically taxed. Once those funds are released for other uses from the checking account they will be taxed like any other transaction. It is worth noticing, that in order to improve the application of the CPMF in Brazil, the Central Bank adopted similar procedures in 2005.

Some people fear that applying a transaction tax without those special precautions could drastically reduce the already modest returns of short-term funds (which are rolled over daily), causing a massive exodus to cash deposits, where they would be less taxed. The monetary base could suffer a contraction as the result of the increase in the compulsory deposits of the banking system in the Central Bank since the rate of compulsory deposits for cash accounts are approximately 50% higher than those required from short term investment funds. This would also cause a reduction in the financial system's supply of loan able funds, causing economic contraction.

As mentioned before, the initial implementation of the CPMF did not avoid these inevitable distortions. The correct operational system contained in the Single Tax proposal would exempt financial transactions insofar as they occur strictly within the scope of the financial or capital markets. Taxation would only occur upon transfer of real returns to the investor's own checking accounts, when they become available for other uses. Thus, short-term transactions would not be discriminated, borrowers from banks would not be punished, the fear of possible migration to foreign stock market funds would be reduced and trade would not flee abroad in

order to escape the CPMF.

Unfortunately the CPMF was introduced in Brazil nos as a Single Tax, but as an additional tax in a confusing and inefficient system. And despite the growing evidence that it had negative impact on financial markets, the government took too long to correct such distortions.

RATES, REVENUE, AND EVASION

The Single Tax has countless advantages, such as enormous simplification and reduction of tax collection costs. This latter advantage is not restricted to a reduction in the size of the governmental apparatus, but also includes lower compliance costs to businesses, that currently use about 10% of their administrative staff to meet the requirements of tax reporting. Altogether, such costs now amount to as much as 20% of the country's gross tax revenue, which presently amounts to 37% of GDP. This means that the impact of the Single Tax proposal in terms of releasing real resources to be put to other uses would be on the order of 7.4% of GDP. This amount is more than double the net capital earnings transfers to foreign income recipients – payments of interest, profits, and dividends. These are resources that could be channeled to productive investments and would be capable of leveraging economic growth, instead of being absorbed in government consumption activities and private administrative costs.

The Single Tax, if we take the experience of the bank debit transaction tax (CPMF) as an example, could lead to the virtual elimination of tax evasion and fiscal corruption, and to a reduction of the underground economy, at practically no cost to the public sector. Tax collection would take place automatically upon each debit or credit transaction within the banking system. Each credit and each debit account would be charged a fixed percentage of the value of the transaction. Thus, every time a check or other payment method is cleared, the system would automatically transfer the proceeds of the tax to the federal, state, and municipal treasuries, pursuant to predefined criteria. To make tax evasion practically disappear it would suffice to monitor the bank clearing systems.

Practical administrative and operational aspects of taxation are usually ignored, or simply assumed away as non-existent, by economists. Only recently have economists turned their attention to such issues. Public policy towards evasion reflects complex issues involving efficiency, equity and growing compliance and administrative costs, and generally need much more attention from economists than has happened in the past. "*Tax evasion clearly complicates measures of the distortionary effect of taxation; given a fixed revenue requirement, evasion means that higher and more distortionary taxes on reported income may be needed, while unreported income largely escapes taxation and its distortionary effects*"[71]

[71] [ANDREONI et alii, 1998] p.818.

Skinner and Slemrod say that "*the cost of tax evasion include violations of horizontal equity, vertical equity, and efficiency…Increased enforcement will generate more revenue, but often at a substantial resource cost….The advantage of tax simplification is that it will generally reduce the loopholes that are breeding grounds for tax evasion schemes. Finally, reduced marginal tax rates have been associated with a significant decline in tax evasion.*"[72] Thus, the Single tax proposal stands on a superior level relative to conventional declaratory taxes such as the VATs, which are notoriously prone to corruption, high operational costs and growing complexity.

The most significant element of the Single Tax proposal is that, being evasion proof, the tax rate could be low. Using the statutory regulations that apply to the bank debit transaction tax (CPMF), the Single Tax revenue can be estimated by simple linear projection. Despite all existing constitutional immunities and even in the absence of adequate government auditing of bank payment systems,[73] revenue from the CPMF was significant and indicates that a 3% rate on each side of each transaction is capable of generating around 40% of GNP in revenue. This amount is larger than the combined tax revenue from all federal, state, municipal, and social security taxes and contributions.

However, the initial Single Tax revenue forecasts assumed a universal tax base, which is significantly broader than the present tax base of the CPMF.[74] Furthermore, precarious auditing of banking institutions is responsible for a significant part of the difference between the revenue estimates done in early studies of the Single Tax and actual revenue collected through the present system. The data available at the time of the first revenue estimates were done in the early nineties implied that, with a 1% rate, annual revenue from the Single Tax would be between US$ 69 billion and US$

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[72] [SKINNER AND SLEMROD, 1985], pp-345-353.

[73] Former Secretary of Federal Revenue, Everardo Maciel, responding to a question presented by the author in a seminar that took place at the Federation of Brazilian Industries, in Brasília, on August 7, 2001, discussed the precariousness of the auditing system for the CPMF. Such deficiencies were made evident in various newspaper articles printed during April 2002, according to which the Central Bank uncovered the existence of mechanisms, which banks offered to their largest clients that avoided collection of the CPMF. Such schemes resulted in heavy fines imposed by the federal revenue service against banks and their clients. The frauds became possible through the use of exemptions in colleting the CPMF allowed for flows of payments involving reserves among bank's own checking accounts (or belonging to their respective financial agencies), in association with the permission to endorse checks. See *Carta Capital*, May 15, 2002, *Valor Econômico* Apr.24, 2002 and May 09, 2002. The Federal Single Tax bill under discussion in National Congress includes simple provisions that practically make such frauds all but impossible.

[74] [CINTRA, 1994(b)], pp.235-239, where the author analyzes and compares various revenue estimates for the Single Tax: a first estimate based on data from a sampling of eight commercial banks, gathered by Febraban, the Brazilian Federation of Banks; a second estimate, made by the author based on data obtained directly from the accounting records of a large commercial Brazilian bank; a third one, made by the MCM Consultores, a consulting firm, and a fourth estimate carried out by KPMG, Peat Marwick Consultants.

89 billion.[75] At the then current exchange rate, these revenue levels accounted for between 19.6 and 25.3% of GDP. TABLE 4 reproduces the main results obtained by different research groups in their projections.

During the period immediately following the announcement of the Single Tax proposal, and following the publication of a study which contained the initial revenue estimates, a large banking institution began to provide the author with monthly volumes of debit and credit transactions related to its clients' checking accounts. That banking institution's accounting was the basis for transactions estimates, and made possible to obtain data equivalent to a significant sample of Brazil's total banking system. These data were reported to the author monthly between June 1990 and May 1996. The reported values at December 2000 prices can be found in ANNEX I-B.

TABLE 4
Transaction volume and Single Tax revenue estimates
(R$ 000,000,000/year)

Type of transaction	KPMG	MCM	Author (Febraban)
Checks	7,200.0	5,932.8	10,368.0
Cash	2,558.4	2,275.2	2,592.0
Financial transactions	3,600.0	4,003.2	5,068.8*
Other	2,5940	4,519.2	5,011.2
Total value of transactions	15,952.8	16,732.8	23,040.0
Projected revenue	177.6	165.6	213.6
Revenue/GDP (%)	21.0	19.6	25.3
Total value of transactions/GDP	18,9	19,8	27,2

Source: [CINTRA, 1994(b)], pp.235-239.
*Values may be inflated due to overnight operations.

TABLE 5 shows the annual banking transaction data for that institution and, based on the estimates of its share of the national banking system, it was possible to estimate projected revenue of the Single Tax, at rates of 1% for debit and 1% for credit bank transactions.

The conclusion to be drawn from these projections is that, considering the low marginal rate for the Single Tax needed to replace current tax revenue, the incentive for tax evasion would virtually disappear. Tax evasion would become impossible except in cash or barter transactions. In these two cases the cost of evading taxes (transaction costs) would most likely exceed the benefit from tax evasion, thus

[75] These estimates adopted operational procedures proposed in the Single Tax bill, that is, 1-) tax overcharges on withdrawals and deposits, 2-) immunity on operations in the financial and capital markets, 3-) non-declaratory taxation of 25% on real returns of financial investments, and 4-) elimination of present constitutional tax immunities.

removing the stimulus for attempting to circumvent the tax system. Furthermore, the regulations for the Single Tax should provide that transactions above a certain value must be processed through the banking system, under penalty of legal nullification if processed otherwise.

TABLE 5
Transaction volume and revenue estimates for the Single Tax
Source of data: a financial institution's monthly accounting
(R$ 000,000/year)
(Dec/2000)

Year	GDP	Credit transactions	Debit transactions
1990	836,518.56	12,932,577.95	12,938,219.66
1991	845,134.70	10,826,442.70	8,991,287.59
1992	840,540.72	12,865,062.34	12,811,422.97
1993	883,144.34	9,780,748.42	9,899,884.84
1994	934,833.65	10,443,753.19	11,099,530.00
1995	974,319.10	13,008,261.04	12,918,568.13
1996	1,000,222.24	13,087,289.24	13,012,175.79

Year	Share of banking system (%)	Projected Revenue (tax rate = 1%)	Revenue/ GDP (%)	Transactions/ GDP
1990	4.0	258,707.98	31	15.46
1991	4.0	198,177.30	23	11.72
1992	4.0	256,764.85	31	15.28
1993	4.5	196,806.33	22	11.14
1994	4.5	215,431.83	23	11.52
1995	4.5	259,268.29	27	13.31
1996	5.0	260,994.65	26	13.05

Source: The author and Central Bank Economic Indicators

It is important to remember that under the Single Tax model any withdrawal or deposit of cash into or from the banking system would be charged an overtax at a rate that is equivalent to the revenue raised considering the number and value of transactions carried out with that cash amount until its return to the banking system. This operational procedure would deter the use of cash transactions as a means of tax evasion.

Such a taxation system would eliminate (or compensate for) tax evasion – the value of which is presently estimated to be between 30 and 40% of public revenue. There would be a noticeable reduction of production costs and prices, a fall in the costs of the public apparatus, and, potentially, a significant reduction in the tax burden. Certainly some of these gains would be once and for all, but would be sufficient to allow a significant fiscal adjustment and a noticeable recovery of the country's investment capacity.

STRENGTHENING THE REVENUE-RAISING FUNCTION OF TAXES

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 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*." [76]

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

We know that some taxes, to a greater or lesser degree, may perform regulatory functions. Some taxes 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, such as the IPI (a federal value-added tax on industrial production) on tobacco and alcoholic beverages, combine revenue goals with social objectives of public health and safety.

Unfortunately, this non-fiscal perspective has influenced so intensely the Brazilian fiscal policy that its tax system has become unintelligible and has 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 highly 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*

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[76] Federal Revenue Service Secretary, Everardo Maciel, in his introduction to the text [SECRETARIA DA RECEITA FEDERAL, 2001(b)] 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.".*

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".[77]

From a fiscal standpoint, it is essential to collect revenue as efficiently, economically, and simply as possible. For this very same reason the Single Tax proposal gains significance as a basis for Brazil's tax reform.

Theoretical formalism, which is much appreciated by staff economists who seek to 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*".[78] 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…*" [79]

The rescue of the concept of revenue as the fundamental and primary goal of any tax system is supported by two articles published in *Folha de São Paulo*, by Prof. Roberto Mangabeira Unger.

In "Taxes and Paradoxes"[80] the author confirms the need to rescue the revenue function of taxes, when he states that indirect taxes, even cumulative ones, can "*generate a lot of money with little economic disruption*", whereas direct and progressive taxes, so dear to staff economists, "*such as individual income tax, do not produce the expected revenue. Neither can it do so, for the time being, without engendering disincentives, capital flight, and devastating tax avoidance*." Unger goes further and says that the essential objective of a good tax is to generate "*money for the State to invest in social issues*."

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[77] [TANZI, 2006], p.14. For a seminal approach to taxation and collective choice, stressing the endogenous nature of tax complexity in democratic societies see [HETTICH and WINER, 1999].

[78] [UNGER, 1998(b)].

[79] [DELFIM NETTO, 1992].

[80] [UNGER, 1998(b)].

In another article by Roberto Mangabeira Unger, titled "Tax Reform (1)",[81] the author confirms the theory espoused by supporters of the Single Tax, that redistribution of income "*is done more efficiently from the expenditures side of the budget than from the revenues side supported by a progressive tax model*", thus demystifying the academic theory that progressive taxes are a necessary condition for good tax reform.

Mangabeira Unger's conclusions and proposals on tax reform, different from the Single Tax, feed into a system made up of consumption, inheritance, and financial gains taxes. But the fundamental point is that the premises that restore the focus of taxes on revenue, displacing its non-fiscal effects, are the same that support the defense both of the Single Tax and of Mangabeira Unger's proposals.

"*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".* [82]

THE VIRTUES OF BANK TRANSACTION TAXES

A bank transaction tax is a good tax if it is used as a single tax; but is a bad tax if added onto many others. The CPMF was created as one more tax to be added to Brazil's fiscal paraphernalia.

The Government disfigured the proposal of the Single Tax on bank transactions. Conceived to be the basic tax for the entire fiscal system, it was ultimately reduced to a dishonorable role as one appendix in the nation's confusing tax structure. The Government acted as a rapist who, in its brutality, sees nothing but the immediate object of its appetite. It completely ignored the virtues of the Single Tax – such as reducing bureaucracy, instilling morality, and promoting development. Instead, it adopted the tax solely for its high capacity to raise revenue.

However, even if spurious, the CPMF produced a worthy result, in that it allows an accurate evaluation of the efficiency of the bank transactions tax, which is the foundation for the Single Tax construct.

Described by adversaries as a hated cascading tax, the CPMF is called by every offensive name that can be given to an innocent tax: dumb, unfair, anti-production, anti-savings, and harmful to exports. Several political analysts, financial reporters, and especially collectors and other tax professionals criticize cumulative taxes, while heaping praise on value-added taxes, such as the ICMS. They support VATs as if they were the eighth wonder of the world. They consider them to be fair, neutral, and efficient.

Reading the literature on the tax reform debate, a rookie economist who believes

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[81] [UNGER, 1998(a)].

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

everything said by adversaries of turnover taxes, cannot avoid the impression that the simple elimination of turnover taxes would redress all that is wrong with it, and that with a simple flick of the wand Brazil's tax system would become rational, fair, modern, and efficient.

There is nothing more mediocre than to accept, without rigorous critical evaluation, the prejudices and *clichés* contained in these opinions. The CPMF and its experience in Brazil brought to light many positive aspects of this tax.

It is not necessary to overemphasize its virtues. All one needs to do is consider that with rates of merely 0.38% (0.30% from June 2000 to March 2001) and with practically no costs to the government or to the taxpayer, the CPMF raised R$ 14.4 billion in 2000, approximately R$ 17.1 billion in 2001, and R$ 36.2 billion in 2007. Taxes that are highly complex and carry high administrative costs, such as the IPI (a federal value-added tax on industrial products) and the corporate income tax, generated revenue of only R$ 18.8 billion and R$ 17.6 billion in 2000, respectively; R$ 19.4 billion and R$ 17 billion in 2001 and R$ 32.9 billion and R$ 70 billion in 2007.

The CPMF is universal, evasion-proof, and it grasps all economic agents, eliminating the inequity of self-assessed, paper-driven taxes that impose high tax burdens on some taxpayers while favoring tax evaders and expert tax planners who enjoy markedly lower individual burdens. The CPMF is able to eliminate the greatest anomaly present in the current tax system, which is artificial production cost differences and consequently unfair competition caused by widespread tax evasion. Tax avoidance and evasion distort desirable patterns of distribution of the tax burden, and this distortion is more serious and disrupting than the alleged distortions in relative prices that a turnover tax, such as the CPMF, might be causing to Brazil's economy.

Concerning this issue, Everardo Maciel says, "*The literature of public finance is full of examples of economic distortions caused by taxes. What is not stressed, however, is that the comparisons presume a context in which tax evasion is non-existent or of little relevance. This, however, is not the reality in emerging countries. In these countries, to parody a well-known aphorism, one might say,* ***create a tax, create evasion***." He continues, "*ultimately, what we intend to assert is that tax evasion in emerging countries is the greatest economic distortion caused by taxes, far superior to any other*." [83]

Notwithstanding, IPEA (a Brazilian government-sponsored think tank) states the

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[83] Everardo Maciel reinforces his argument, by asking: *"is there any better way to send Brazilian industry to ruin than to submit it to competition that uses under-invoicing or false import papers? Tax evasion, some would say, should be dealt with through auditing and punitive measures. In emerging countries, this is a partial truth. Inspection and punitive measures are insufficient. It is indispensable that the concept of a tax itself prevent evasion as much as possible. Complex taxes are fertile ground for tax evasion, not to mention avoidance. Tax evasion, in these cases, requires prevention rather than cure or punishment."*[SECRETARIA DA RECEITA FEDERAL, 2001(b)].

following: "*The injurious elements of cumulative taxation can be classified into two groups: it harms the allocation of resources and the competitiveness of domestic goods. These distortions are due to the fact that this type of tax* ***unintentionally*** *and* ***uncontrollably*** *alters the economy's relative prices*." [84]

To respond to this assertion, we should invert the argument and ask its authors if the changes in relative prices introduced by value-added taxes are **intentional** and **controllable** in an environment with widespread tax evasion and avoidance, as happens in Brazil An inevitable conclusion is that taxes that are easily evaded, such as VAT-style self-assessed taxes, certainly create even more **unintentional** and **uncontrollable** changes in relative prices, because nothing is as **unpredictable** or **uncontrollable** as tax evasion.

The Brazilian economic environment has greatly changed in the present computerized and globalized world. Thus, one should not imagine that conventional taxes, created during the time when information technology was based on paper, on accounting ledgers, on physical transportation, on economic isolationism and on political fragmentation, such as prevailed during most of the 20th century, will be able to avoid widespread tax evasion and its dramatic consequences. Conservative tax policies will only deepen such inadequacies in the future.

In a country like Brazil, that suffers from all sorts of administrative deficiencies, from a slow and inefficient judicial system, from a weak and discredited tax auditing apparatus, and from a deeply rooted culture of tax evasion, it is easy to understand the reason for so much criticism aimed at the CPMF. It corrects such anomalies. After all, for rent seekers, it is preferable to "pay" taxes on profits and on value-added, since they can be easily manipulated by delinquent taxpayers, than to have a tax system that eliminates privileges, prevents avoidance, and turns universal the set of taxpayers in the country.

The CPMF has been used successfully to achieve extremely important objectives, such as fiscal balance and currency stability. Still, there is generalized rejection against it although, if it did not exist, conventional taxes, which are always more inefficient and inequitable, would require even higher rates than they do at the moment.[85] Therefore, the criticisms about cumulativeness need to be more deeply analyzed, and cannot be uncritically accepted.

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[84] [VARSANO et alii, 2001].

[85] Another common criticism of the CPMF states that its automatic collection mechanism disregards the principle of contributive capacity. However, critics forget that this principle is not upheld in conventional taxes such as the IPTU, ISS, IPVA, or ITR, and not even in value-added taxes such as the IPI or ICMS, because these are due irrespective of the profit earned. Those who deny the notion that taxes can only be collected when contributive capacity is assessed respond by stating that, according to the benefit principle of taxation, even in a loss, companies benefit from the country's infrastructure and, therefore, should pay taxes.

INCIDENCE AND EQUITY OF BANK TRANSACTION TAXES

One of the most frequently raised questions about a bank transaction tax has to do with its progressiveness. Critics claim it is regressive.

Actually, because it is a cumulative (turnover) tax, products that involve a greater number of transactions along the productive chain – with more roundabout production methods – and those that add less value at each stage, will be more heavily taxed. Thus, the Single Tax system should have a natural degree of progressiveness given that wage goods – staple products that make up the demand bundle for lower income families– would tend to have a lower tax burden than that of relatively more sophisticated products. Wage goods usually have less roundabout production chains, with less processing and a high rate of added value relative to the value of inputs at each production stage.

Another interesting feature of the Single Tax proposal is that income and production become no longer the main components of the tax base, as happens in conventional tax systems. The tax base would shift to financial transactions. Thus, productive activities become less taxed, and those that involve mere asset transfers, that currently are notoriously under-taxed, such as estate and personal property transactions, would be more heavily taxed.

The Single Tax proposal has, therefore, some essential characteristics that must be stressed: it ensures tax collection; it eliminates tax evasion and fiscal corruption; it increases efficiency of tax collection; it frees up significant resources in the private and public sectors; it is a comprehensive system; and it exhibits natural progressiveness.

Maria da Conceição Tavares evaluated the alleged regressiveness of bank transaction taxes, considering their incidence by income brackets. In her article "Imposto sobre circulação financeira"[86] (a Tax on Financial Circulation) the author says, "*The argument that the tax would basically penalize the middle class is unjustified. This is a tax that primarily penalizes individuals who turn the financial circulation of their savings into an extra and often considerable source of income*." She further states, "*because they are one of the dynamic vectors in the economic restructuring and globalizing process, bank transactions constitute one of the few potential bases for future taxation in which it is possible to anchor public revenue increases without punishing the productive sectors and the needier social segments"*.

Because of the difficulties in simulating transactions for businesses and financial institutions, the results presented in her article refer to a partial revenue base, restricted to individuals, on whom a tax similar to the CPMF would be levied at a rate of 0.25%. The conclusions of the exercise rebut arguments that a bank transactions tax is unfair because it is regressive. Her conclusions (although they may have lost some validity given the increasing use of bank transactions by all income groups) are reproduced here, in full:

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[86] [TAVARES, 1995].

"1 - The lower-income groups, with average monthly income equal to 1 to 3 minimum wages and half of the group with average monthly income equal to 4 minimum wages – which together account for 70.6% of the reference population (income receiving individuals older than 10 years of age that are economically active) – are presumed not to use the banking system and therefore would not be directly affected by the tax.

2 - Of the remaining 29.4% that operate through the banking system, the tax burden falls predominantly on the higher-income groups (those with average monthly incomes that fall between 20 and 38.7 minimum wages).

This latter segment, which accounts for a scant 3.4% of the reference population and less than 12% of individuals with bank accounts, holds 29.2% of total income and would account for 63.5% of the IPMF revenue paid by individuals.

The group that has lower incomes (between 7.2 and 14.2 minimum wages per month), which represents 62% of the taxed universe and 18.2% of the reference population, accounts for 31.1% of revenue, whereas this group's share of income is 38.6%.

Even the upper-middle segment, with average income of 14.2 minimum wages accounts for a smaller share of tax revenue than it should, given its total income. In other words, the argument that the tax would unfairly penalize the middle class is not supported. This is a tax that burdens those individuals who make bank transactions an extra and considerable source of income.

3 - The average effective rates on members of each group are also progressive, varying from 0.25% (affecting only that lowest-income portion of the group, which is taxed only once at the time of salary withdrawal), up to 0.70% levied on the group whose average monthly income is equal to 38.7 minimum wages.

Rate progressiveness is determined by values attributed to coefficients of financial circulation. The underlying theory is that greater savings coefficients correspond to higher income levels, and that the lion's share of those savings goes into financial investments.

The portion of income that is earmarked for this purpose is expressed by the financial investments coefficient. This coefficient, in turn, is associated with a greater number and volume of transactions; in other words, a higher turnover rate of financial credits and debits. The relationship between the volume of transactions performed during the year and income determines the magnitude of the financial circulation coefficient.

4 - Finally, the index of progressiveness, presented in the simulation (which expresses the relationship among differentials of taxation and of average income among various taxable groups), shows absolute values that are increasing and greater than unit.

This indicates that higher-income sectors not only pay relatively more taxes, but they also pay at proportions that are much higher than the differences between

their average income and that of other groups."

Conceição Tavares's simulation truly demonstrates that an electronic transactions tax is proportional, or slightly progressive. It burdens more intensely those who have greater resources.

From the standpoint of corporations (which were not included in the exercise), the author says that, the greater the volume of bank cash withdrawals, that is, the greater the circulation coefficient and the turnover rate of financial capital, the greater will be the participation of the tax on the volume of income invested in the financial system.

Concerning the impact of the tax on prices, Tavares concludes that it should not be significant and it would not trigger (as it has not triggered) financial disintermediation.

Summarizing, Conceição Tavares says that an electronic tax is desirable, given that it does not create distortions in the productive structure and is levied proportionally on taxpayers. Furthermore, it reaches the informal sector and minimizes tax evasion. In other words, bank transaction taxes are shown to be reasonably progressive taxes in their patterns of incidence, directly contradicting those who accuse them of being regressive. The tax falls more heavily on rentiers, whether "formal" or "informal". Maria da Conceição Tavares concludes by stating, "*Financial circulation is the tax base of the future, given that, in addition to its continual expansion, it allows for electronic controls and, therefore, should allow for less tax evasion than is allowed by current taxes*."

As a direct tax, the bank transaction tax – in its formal expression – is neither progressive nor regressive; it is proportional, as long as it has a single rate. This means that for each individual transaction, the single rate would guarantee incidence that is proportional to the value of the transaction. Indirectly, as it becomes an item in production costs, it is alleged to be regressive.

Zockun M. H. estimated that the CPMF accounted for 2.2% of family income for the lowest income bracket (two monthly minimum salaries), and only 1% for families in the highest bracket (thirty or more monthly minimum salaries).[87]

Such results were not confirmed by other estimates, such as those of Paes and Bugarin showing a virtual proportionality in the CPMF incidence by income classes, varying from 1.31% and 1.33% of family income.[88] Using family budget research by IBGE I estimated that the tax burden of the CPMF on total expenses were the following: 1.64% for families with 1.2 minimum salary of monthly earnings, 1.58% for the 3.20 minimum salaries bracket, 1.51% for the 6.5 minimum salaries bracket, and 1.41% for the 23 minimum salaries bracket. According to estimates by the Ministry of the Economy made public in Congressional hearings in 2007 the CPMF

[87] [ZOCKUN, 2007(b)].

[88] [PAES and BUGARIN, 2006].

is a "redistributive" tax, both by income classes and by regions of the country. According to the presentation 72% of the CPMF is collected by companies, and only 28% by individuals; of the revenue collected from individuals 17% are collected from the richest 10% of the population, and only 2% of revenue comes from the poorest 50% of the population. Actually it is very closely a proportional tax if we take account of possible measurement and estimation errors.

However, what really interests economists is the evaluation of tax incidence from the perspective of the complete set of transactions performed by individuals in the market. In this sense, the bank transaction tax can have a natural progressiveness, inherent to the different patterns of expenditures of the various income brackets of Brazil's population, as shown by Tavares.[89]

Furthermore, a more equitable distribution of national income must not be sought solely through progressiveness in taxation, but rather through the final impact of the fiscal process, which is comprised not only of the pattern of taxation, but more importantly by the composition of public expenditures, which can be progressive or regressive. The Ministry of the Economy showed that the poor northern and northeastern regions of the country collect only 24% of the CPMF revenue, but receive 42% of the CPMF collected by the federal government. Thus, the CPMF is not as regressive as claimed.

The concept of tax progressiveness has been strongly attacked by several scholars. Indeed, "*progressive taxation appears to have lost much of its political appeal…people became increasingly convinced that the economic costs of progressiveness were too high to make it worthwhile*". Furthermore, "*what can be done through the tax system to redistribute income … no matter how extreme such redistribution might be, is unlikely to have much effect on the overall distribution of income*".[90]

Ives Gandra[91] points to "*the noticeable trend of European economies to begin, gradually replacing direct taxation, which has always been considered socially equitable, for indirect taxation, believed by economists to be regressive and anti-social. And the most curious consequence of this trend is that countries that have begun to reduce direct taxation have shown an increase in investments; and increasing investment is socially fairer because it generates growth, jobs, and better social conditions, facilitating the exercise of labor rights. On the other hand,*

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[89] [TAVARES, 1995]. See also [CINTRA, 1994(b)]. In there I stated, "*it is true that at the margin, that is, for products analyzed in isolation, the Single Tax is regressive. However, what needs to be evaluated is the progressiveness on average of all family expenses, and in this case the Single Tax would be progressive. (...) I should add that what we seek is progressiveness of the fiscal process, and not only tax progressiveness. Progressive taxation is not worth much if public spending is regressive, benefitting those who least need governmental resources. (...) the concept of 'progressiveness at any cost' has been quickly wearing down from the standpoint of public policy".* (p. 226).

[90] [BIRD, 2003] p. 19.

[91] [MARTINS, 1990].

progressive direct taxation (...) ultimately causes recession and inflation, with unemployment, lower wages, and less possibility for a proper dialogue on the claims of the labor class. Europe, well into the 1980s, decided openly to head toward abandonment of ideological social justice theories, which are inhibitors of development, and to begin to thread the pathways of the practical theories of international competitiveness, the only [theories] that are truly equitable from a communitarian perspective. This is the reason for which the European Union is turning to two orders of taxes; that is, indirect taxes and social contributions, gradually reducing direct taxes, including income tax." [92]

On this same issue, Roberto Campos[93] addresses the question of equity in Brazil's tax system. He says, "*Our fiscal ethics have been practically destroyed. The great American judge, Oliver Wendell Holmes, said that to pay taxes is to purchase civilization. In Brazil, it means acquiring annoyance. The taxpayer has three perceptions: a) the Government does not return reasonable services, even minimally; b) the fiscal system is extremely complex, with high bureaucratic costs and three levels of corruption; c) the federal revenue agency is wholly inequitable because government-owned companies, which are notoriously noncompliant, and the entire informal economy escape the tax burden. Only one-third of the economy, represented by organized businesses in the private sector and by formally registered payroll wage earners actually pays taxes. The other two-thirds are delinquents. Thus, the estimated fiscal burden of 24% of GDP (in 1991), which would seem reasonable in worldwide terms, is abusive when it is levied solely against the formal private sector. Not to mention, of course, the inflation tax*."

Roberto Campos continues criticizing the excessive progressiveness of taxes: "*It is a socialist superstition. Everyone must pay proportionally to their income. To impose on successful persons burdens that are more than proportional to their income is simply a confiscation, only understandable if: a) the wealth is undeserved and to be punished and is not, as often occurs, the result of greater diligence and creativity; b) if the Government were inspired by Puritan ideals, with unquestionable priorities, and were not a squandering spender. The best fiscal system is that which does not punish the rich, but which preserves for each person the maximum of incentives for its productive capacity. 'Fiscal justice' is much better served from the expenditures side than from the revenue side of the budget*." Indeed, "*any serious fiscal attempts at poverty alleviation must be undertaken primarily on the*

[92] United States Treasury Secretary Paul O'Neill suggested, in May 2001, that the corporate income tax be eliminated. See also [TANZI, 1993] pp.125-143, where he claims that *"proportional general sales taxes have gained in popularity as compared with highly progressive income taxes"* (p.132), and defends the application of a minimum corporate income tax, using gross sales revenue as the tax base. (p.135).

[93] [CAMPOS, 1991].

expenditure side the budget."[94]

Mario Henrique Simonsen[95] reaffirms the same concern about excessive progressiveness, saying, "*Today, the merits of progressiveness are strongly contested. A good portion of developed countries has considerably reduced the number of progressive rates, as well as the maximum rate. And the trend seems to return to proportional taxation, with one single exception: the exemption limit below which the taxpayer is released from any tax. The fall of the myth of progressiveness is due to several factors. First, the distribution of wealth promoted by the Government is not a function merely of a single tax, but depends on a set of taxes, and most importantly on the composition of public spending. What good is there in having an income tax that is strongly progressive if other taxes live along side it that are strongly regressive? The best thing would be to merge them into a single proportional or averagely proportional tax. On the other hand, what good is a progressive tax system if public spending benefits the rich much more than the poor? It would be better, in that case, for the budget to shrink and for the market to handle the conflicts of interest of the rich. Truthfully, the great distributive task of the Government should be handled through the operations of public spending, offering education, health, and assistance to the most needy. By doing this, the enchantment of progressiveness would, at least to a great extent, be undone.*

"*Secondly, excessive progressiveness simply makes the taxpayer more disinterested in working and in assuming risk, which explains the stagnation produced by the welfare state of England's Labor Party, which was rightly dismantled by Prime Minister Margaret Thatcher. Why work harder and run more risk if the Government takes 80% of the earnings, when these are positive? In the 1970s we discovered the obvious: highly progressive taxes engender laziness.*

"*Thirdly, progressiveness creates the incentive for transferring fictitious income from one taxpayer who has a higher marginal rate to another who has a lower marginal rate. Suppose one individual, X, whose marginal rate is 50%, is a customer of physician Y, who has a 30% marginal rate, and let us allow for medical deductions, as is usual, to be deducted from taxable income. One additional $1 in*

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[94] On this issue see [BIRD, 2003] p.38; see also [CETRANGOLO and GÓMES-SABAINI, 2007], where the authors conclude that the redistributive effects of both income and value-added taxes are very modest, and that public expenditures have a much stronger impact on income redistribution in Latin American countries (p.38). For a statement showing the inefficiency of fiscal incentives, see [HERBERGER, 1993] where he states that: *"public finance experts have broadly agreed that the great bulk of incentive legislation has had high costs, reducing fiscal revenue and economic efficiency at the same time"* (p. 30).

[95] [SIMONSEN, 1991]. It is interesting to note that a large portion of the complexity of current tax systems stems from the structure of progressive rates. In the case of the Single Tax, it is possible to maintain a single rate while at the same time guaranteeing a measure of progressiveness, through deductions. As mentioned by [MILLS, 1990] *"it is a common misconception that you must have graduated tax rates to achieve progressivity. This is not true. A single rate tax with allowances can be more progressive than a graduated rate system that allows loopholes"*. (p 28).

medical receipts is worth 50 cents to the customer and costs only 30 cents to the physician. The natural incentive would be a fake receipt from the physician to the customer. The customer would give the physician a check, and the physician would return $1 in cash. This example of fictitious transfer of income is merely one among thousands in a progressive tax system – and there is no screen so finely meshed that it is capable of preventing it."

On this same issue, Prof. Roberto Mangabeira Unger goes further, asserting that, "*in the short run, and under the conditions of most contemporary societies, the progressive structure of taxation is irrelevant, when not harmful.*" [96]

Mangabeira Unger goes on, stating: "*a comparative study of taxation and public spending reveals a shocking fact. There is an almost inverse relationship between the theoretical fairness of tax systems and the success each of them may actually have in funding social expenditures for investment and for income equalization. In places where there is, in fact, more redistribution, such as France, indirect and 'unfair' taxation of consumption serves as a major source of public revenue. In countries where inequalities are stronger and social spending is restricted, such as in the United States, homage to progressiveness in taxation prevails. (…) In the name of "fairness", the first step must be to abolish the income tax for individuals and corporations, along with all other taxes that burden production and wages and torture the middle class. The paradox that delights the thinker bores the practical man. This is one of the reasons why the reformative actions of practical men regularly produce paradoxical effects. Both political life and the academic milieu are being exercised in the midst of edifying and tranquilizing illusions. The world is wild and obscure. To confront it one must be possessed by a passion that takes us outside of ourselves and places in our hands the trumpet Joshua blew before the walls of Jericho. Do you think, reader, that basic information such as this, about the inverse relationship between tax progressiveness in revenue and in spending, would occupy the center of the attention of scholars of public finance and tax law? You are wrong. Sheltered in their analytical apparatus, few allow themselves to be surprised by reality*."

Ultimately, the question to be answered is whether bank transactions taxes are fair. The evidence presented in this text points to the unequivocal advantage of bank transactions taxes compared to conventional tax bases, which have been fast losing efficiency as revenue collectors and as income redistributors. Further, they tend to stimulate tax avoidance, in addition to carrying high operational and compliance costs.

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[96] [UNGER, 1998(b)]. [HALL AND RABUSHKA, 1995] mention that John Rawls, in his unforgettable book *A Theory of Justice* says that: *"a proportional expenditure tax may be... the best tax scheme."* (p. 27).

SINGLE TAX: CRITICISM AND REPLIES

In this section it will be shown that usual criticism of the Single Tax concept is mostly wrong, and often biased and unfair. Below, we summarize some of the most commonly heard allegations.

Regressiveness

The Single Tax's structure is accused of not meeting the requirements for vertical equity. It was shown, though, that it is flexible enough to accommodate reasonable progressiveness, if so desired, by exempting operations that add to values below a given floor, during a given time period, or even by using progressive rate structures for different transaction value brackets. Though this possibility does not deserve our support, it could be easily implemented.

The distribution of Brazil's tax burden by income groups reveals the extremely regressive nature of our present tax system. The supposedly progressive income tax only reaches the income of middle-class wage-earners in the formal sector, and fails to reach other income recipients, showing therefore a limited potential for income redistribution.[97]

The Single Tax, by using the filter of bank transactions, inexorably reaches all types of income. It is ultimately more equitable and more progressive than, for instance, Brazil's tortuous income tax. As for indirect taxes embedded in prices, the Single Tax is not comparatively more regressive, and induces less allocative distortions than do conventional systems for taxing consumption, as shown in this text.

Cumulativeness

The Single Tax is indisputably a cumulative tax, incident on bank transactions at each successive stage of the economic process. But this in no way discredits it as a good tax. The non-cumulativeness requirement for good tax system is a mindless fetish. No tax is perfectly non-cumulative, except those found in theoretical constructs divorced from reality.

Value-added taxes would be impracticable if they did not contemplate, as they actually do wherever they are practiced, the most diverse types of exceptions, exemptions and special regimes, which give them appreciable degrees of cumulativeness.

Brazil has a plethora of cumulative taxes, of which, curiously, some are execrated, others tolerated, while others still are fully appreciated, such as the special tax regime for small firms. The Single Tax is not different from these on this aspect,

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[97] [SIQUEIRA et alii, 2003]; see also [KOTLIKOFF, 2005] p.A-18, where the author states that "*switching from taxing wage and capital income to taxing consumption can significantly improve economic efficiency and growth...it can make our tax system much more progressive and generationally equitable.*"

but it does exhibit the notable advantages described above – it's simple, cheap, gentle…

Furthermore, the well-known conclusions of the second-best theory, as well as those of modern optimal tax theory, demonstrate that one cannot state *a priori* that a cumulative tax is less efficient than non-cumulative taxes. It is most likely that, for a given amount of revenue, a cumulative tax, which requires a low rate, is preferable to a value-added tax with a high rate, as shown in this text.

Incentive to excessive vertical integration

The weight of the Single Tax in the composition of final prices is inversely proportional to the ratio of value-added relative to purchased value of inputs, at each stage of the production process. However, incentives to vertical integration resulting from this peculiarity may be less present in the Single Tax world than in the tax structure that exists today. *Coeteris paribus*, the incentive to vertically integrate is obviously present in a Single Tax system, but it is a marginal thrust compared to the heavy cumulative burden that exists nowadays. One need only see that the PIS/Cofins (a former turnover tax on gross sales) alone had a statutory rate of 3.65%, and an effective rate of 3.79%.[98]

The incentive for vertical integration in production is intensified as the turnover rate increases. If we consider the Single Tax system's low marginal rate, it is improbable that this integration process would go beyond what can be predicted by reasons strictly related to economies of scale and other types of externalities. Verticalization beyond what would be justified in a neutral economic environment implies costs, against which the tax savings would have to be compared.

Furthermore, our simulations show that distortions in relative prices caused by the Single Tax are lower than those present in the current system, as was shown before.[99] Actually, the decision to vertically integrate hinges preponderantly on technological reasons, such as gains of specialization and scale, compared to which the weight of the Single Tax should not be very significant.

Discrimination against domestic production

Imported products reach the final consumer after a few, one or two, intermediate domestic transactions. Thus, critics say, the Single Tax on imported products is significantly lighter than the tax load carried by locally produced goods. It could be argued that either for imports or for domestic production the tax load is relatively light compared to present levels of taxation. On the other hand, if necessary, such differences in tax regime can be compensated by customs duties, and by application of countervailing taxes on imports, as provided under international laws that govern

[98] [CINTRA and ZOTTMANN, 2002].

[99] [ZOTTMANN, 1994] pp. 299-315; see also [CINTRA, 1994(b)] pp.203-245.

foreign trade.[100]

Tax exporting

It is true that it is easier to exempt taxes on exports under the value-added tax system than under the Single tax. But exempting exports it is also feasible under the Single Tax system, though it requires more elaborate procedures. Tax exonerations would have to be calculated by empirically monitoring production chains, or by using Leontief input-product matrices, and thereby offering exporters tax credits, rebates, returns, or equivalent subsidies – not too different than what is nowadays practiced elsewhere, as demonstrated in various empirical studies.[101]

It is false that the Single Tax has an inherent anti-export bias. What hurts exports is not the existence of the tax, but rather carelessness in exempting it for exports.

Cluttering tax harmony

If most countries, including our trading partners (except, most noticeably, the United States) adopt the VAT model, and tend to avoid taxing exports or practice other types of discriminatory policy instruments, such as outright subsidies, it makes sense to search for tax formulas generally accepted in the context of foreign trade regulation.

On the other hand, the supposition that the Single Tax would be so dissonant with tax practices around the world, when compared to our trading partners' systems, as to hamper trade and political rapprochement within regional commercial blocks is unfounded. As we have seen, the Single Tax is similar to gross sales taxes found in many countries.

The obsession with tax harmonization, seen as homogenization of tax systems, is something of a myth. In truth, the tax systems of different countries are profoundly heterogeneous for traditional, cultural, political, economic, and geographical reasons, and this has not hindered the accelerated growth of international trade.

Stimulus for banking disintermediation

At a reasonable level of taxation, the tax savings obtained by avoiding the banking system, and thereby having to carry out business transactions in cash or barter, does not compensate for the resulting additional transaction costs such as cash storage and transportation, the lack of safety, the risks of counterfeits, the illegality

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[100] A bill presented by the author, in discussion in the Chamber of Deputies, PL nº 190/2001, creates a Tax equalization payment whose objective is to impose a tax on imported products equivalent to those levied on domestic production.

[101] The use of tax rebates to exonerate exports is a common practice in countries like France (*detax* for tourists), Argentina, and many others. In China their VAT is not credited, but rebated to exporters. See [WHALLEY and WANG, 2007]. China *"does not zero-rate its exports but rather permits fixed rates of export rebate on a presumptive basis, with different rates for different products"* as shown by [BIRD and GENDRON, 2005] p. 96 . For Brazil, see [CINTRA, 1994(b)] pp.216-225.

of foreign currency transactions, etc. To this, we add measures such as surcharges for cash withdrawals and deposits and other dissuasive measures that have been mentioned throughout this text.

Social injustice

At least 30 million individuals in Brazil do not have bank accounts, despite being participants in the active labor force. They do not qualify for bank accounts – i.e., they are illiterate or lack stable income sources, permanent addresses, property, etc. In the Single Tax world, critics claim that these individuals would be harmed by surcharges or any other penalizing measure applied to cash transactions.

We rebut this objection along two lines. First, it is possible to universalize access to the use of electronic money through the use of debit cards, even if the use of checking accounts is subject to restrictions.[102] Second, such people already suffer from a regressive tax system, with heavy fiscal overcharge, that would decrease under the Single Tax system. Because they have a strong propensity to consume, they are victims, under the current system, of an extremely high indirect tax burden imbedded in prices. This burden would certainly be reduced as the Single Tax replaces current consumption taxes.

Excessive indirect tax burden on consumer prices

Under the current consumption tax system, which is subject to exuberant evasion, substantial portions of the price paid by consumers are taxes that, in fact, are not collected by the government. To a great extent, they are appropriated by the tax evaders themselves. By replacing current taxes with the Single Tax, tax evasion would be eliminated and the tax burden, built into prices, would be more lightly distributed. The anticipated effect would be a fall in prices, which would benefit, first and foremost, the neediest segments of the population, who spend all their income in consumption goods.

Abandoning fiscal policy

The proposed Single Tax system is accused of giving up the use of tax instruments for economic policy making. In general, however, the use of tax instruments to achieve redistributive or greater social equity purposes does not achieve the goals desired by society and by policy makers.[103]

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[102] In an interesting article [THE ECONOMIST, 2006] the so-called "unbanked" or "under banked" population in the US amounts to approximately 40 million people. They receive over $ 1 trillion a year from employers, government, insurers etc. Such families are now being transformed into a new pool of potential customers to banks, debit and pre-paid card companies and stored-value and other forms of multi-purpose cards. Such plastic money is being increasingly used throughout the world.

[103] [SIQUEIRA et alii 2001] pp.513-544; [IMMERVOLL et alii, 2006 (a) and 2006(b)] pp. 203-223, where it can be read that "*the redistributive effects of tax-benefit systems in developing and transitional countries are much less expressive than those observed in developed countries…the predominance of indirect taxes and the way the progressivity of the personal income tax interacts with the highly unequal income distribution renders the tax system a poor redistributive tool*.". (p.219)

The Single tax actually does away with the use of tax incentives, or disincentives, as instruments of economic policy. However, policies related to prices, income, as well as growth and anti-cyclical policies can still be carried out through the utilization of non-fiscal instruments such as monetary, credit, consumer relations regulations, and even direct subsidy policies and cash transfers. All of these instruments are more transparent and more subject to social controls than obscure tax benefits, which usually do not achieve the intended purposes of tax policy makers.

The loss of tax instruments does not immobilize economic policy; it only makes it less tortuous. Policy makers must adapt to a new paradigm of economic policy, one that does not count with tax instruments for intervening in production, consumption, and investment, but which can be both more powerful and more efficient than tax incentives.

It is not our intention to abolish tax instrument in customs policy and in regulating financial markets. In many countries taxes on foreign trade are administered as customs duties, and customs administration is usually separate from federal tax administration. Foreign trade duties would not be abolished.

Single tax base benefits property and wealth

The Single Tax unifies all income and consumption bases, but allows the property base to escape taxation. Critics say that property owners would escape taxation tax more easily than would those whose savings are concentrated in the financial market. They would also escape taxation by avoiding financial transactions through the use of barter trade.

We respond that, first, barter, or “in kind” type of trade is hardly a realistic alternative in the modern world. Furthermore, this type of economic relationship can easily be avoided by proper regulation. Also, property and wealth taxation have been showing a declining trend relative to other taxes in the world. Brazil has a certain aversion for this type of taxation due to it being costly to administer and unproductive in terms of revenue collection.

But surely the Single Tax model does not preclude its concomitant use, if desired.

Weakening the federative principle

Replacing municipal and state taxes with the Single Tax inevitably raises questions about weakening the Federation. The Single Tax could not work on sub national geographical bases because it would privilege areas that enjoy high concentration of banks. This excludes the possibility of transferring the Single Tax to state or municipal control. It can only be a federal tax, and the sharing of revenue must occur according to predominantly political criteria.

Under our proposal’s approach of gradual adoption, the Single Tax would initially be implemented only at the federal level. Later, states and municipalities could also be included in the Single Tax model, thus postponing to a later time the

difficult question of revenue sharing among them.

There are many models of federalism, with greater and lesser degrees of autonomy for decentralized political entities. From a strictly financial point of view, it seems that a constitutional guarantee of revenue sharing among the various federated entities, adhering to a negotiated proportionality system, would be sufficient to ensure federative autonomy. However, we cannot disregard that, according to a respectable current of jurists, the Brazilian federative model would be inseparable from the relative taxing autonomy of the federated entities, which means they must have their own taxing jurisdiction and authority, with the power to determine the variables that make up their own taxes and their respective administration.

It is not convenient to ignore the legal/political institutionalism anchored in our historical tradition. This is the reason we, when in doubt, may prefer the gradual path, with the introduction of the Single Tax in phases, beginning exclusively in the federal sphere and postponing facing the problems associated with the federative issue to when states and municipalities join in this tax model at a later point in time.[104] This alternative abstains from suppressing state and municipal tax jurisdictions. The constitutional provisions will remain intact. Governors and legislators, both regional and local, responding to the demands of their respective populations, will decide whether to make full use of their tax jurisdictions and authority, or whether they prefer to abstain from using them, adhering to the federal Single Tax model.

[104] In my Single Federal Tax proposal, states and municipalities retain their respective taxing powers, as the single tax model applies only to the federal government.

2

ALLOCATIVE EFFICIENCY AND MEASUREMENT OF THE IMPACT OF THE SINGLE TAX[105]

After more than fifteen years of controversy, the debate between those who defend and those who oppose the Single Tax model has produced important conclusions.

As we have shown throughout this text, some of the criticisms have turned out to be mistaken, and others were broadly refuted by facts. Among them are the fears of remonetization of the economy, of flight of depositors from the banking system, of the excessive verticalization of the productive process, of the impossibility of tax exonerations especially for exports, and of worsening the income distribution. At the same time, some of the positive features of bank transaction taxes, such as its imperviousness to tax evasion and its low operational and compliance costs have been widely acknowledged even by the tax's earlier detractors.

Delfim Netto reflects on these conclusions in an article[106] in which he evaluates the study conducted by the Federal Revenue in defense of the bank debit transactions tax (CPMF).[107] Following a brief summary of what he called "*the government's fiscal/financial philosophy*", he expresses, "*certain sympathy with this position, despite finding it nihilistic*". Yet, despite this concession, he immediately criticizes cumulative taxes such as the bank debit transactions tax (CPMF) on an issue which he considers to be the last one not yet properly rebutted by those who defend such taxes. "*This discussion avoids the real question of defining what should be the role of fiscal policy in the process of economic development*", and continued, saying, "*the productive efficiency of the market economy increases in direct proportion to the decrease in the distortions introduced into relative prices when compared to the free functioning of supply and demand. [...] it is known that cascading taxes introduce greater distortions than value-added taxes.*"

Therefore, it is important to evaluate the impact of alternative tax models (cumulative versus VATs) on relative prices.

One of the most important issues in public finance is the normative evaluation

[105] This chapter was jointly written by Luiz Henrique S. Guimarães, Luis Carlos da Silva, and the author.

[106] [DELFIM NETTO, 2001].

[107] [SECRETARIA DA RECEITA FEDERAL, 2001(a)].

of allocative and distributive effects of different systems of taxation. One specific point of interest has to do with comparing the changes in relative-prices introduced by value-added taxes (VAT) to those introduced by turnover taxes, such as the bank transactions tax.

Under highly restrictive conditions, a VAT introduces less relative-price changes than a cumulative tax. For this statement to be true, the following conditions must be met: (a) perfect competition; (b) absence of tax evasion; (c) universal tax base – that is, both taxes must apply to all goods and services transacted in the economy; and (d) a single and identical tax rate applied to both forms of taxation.

The four conditions listed above are very strong assumptions, and none of them is satisfied in the Brazilian economy. The absence of perfect competition is notorious. Large-scale VAT evasion is practiced in a broad variety of forms. Generally, taxation is applied to tax bases that are segmented by sector, activity, or by income categories. And almost all taxes in Brazil have multiple rates.[108]

As such, it is impossible to state, *a priori*, which form of taxation, VAT or turnover, causes fewer distortions in price determination. With multiple rates, patterns of tax incidence virtually randomized by tax evasion, and sectoral income influenced by varying competitive conditions prevailing in each sector, a definitive statement one way or the other becomes all but impossible.

Thus, it becomes necessary to evaluate empirically the effects these two taxes have on price formation mechanisms.

THE CONSTRUCTION OF THE BRAZILIAN INPUT-OUTPUT TABLE FOR 2006

Input-output economics has proven to be a valuable instrument for investment and development planning. Nevertheless, it has seldom been used in simulating the impact of different tax models on prices.

In this text, an input-output model will be developed to analyze the effects of alternative tax models. The objective is to draw normative conclusions, in terms of equity and allocative efficiency. The simulations will compare value-added to cumulative taxes, such as a bank transactions tax, and will attempt to draw conclusions about their relative advantages and disadvantages in an effort to throw further light in the debate on tax reform in developing countries.

Physical input-output

The system of equations below describes a closed economy with no government, one factor of production (labor), and “n” productive sectors:

[108] Tax evasion, multiple tax rates and the non-universal levying of a VAT type tax such as the ICMS in Brazil makes the tax load included in the price of a good or service different than the nominal tax rate defined in its statutory regulations. The tax load on prices of goods and services is identical to the nominal rate of a given tax only if the conditions listed above are satisfied.

$$
\begin{aligned}
X_1 &= X_{11} + X_{12} + X_{13} + \ldots + X_{1n} + D_1 \\
X_2 &= X_{21} + X_{22} + X_{23} + \ldots + X_{2n} + D_2 \\
X_3 &= X_{31} + X_{32} + X_{33} + \ldots + X_{3n} + D_3 \\
&\cdot \\
&\cdot \\
&\cdot \\
X_n &= X_{n1} + X_{n2} + X_{n3} + \ldots + X_{nn} + D_n \\
L &= L_1 + L_2 + L_3 + \ldots + L_n
\end{aligned}
\qquad (1)
$$

where

$i, j =$ production sectors (1...n)
X_i = gross output of sector i,
X_{ij} = amount of product i used as input by sector j
D_i = final demand for product i,
L = labor inputs in sectors 1…n.

Let $a_{ij}= X_{ij}/X_j$. They show the amount of input i necessary for the production of a unit of output j. Thus, $X_{ij}=a_{ij}X_j$, and $X_i= \sum a_{ij}X_j+D_i$. Thus, in matrix notation, and defining

A= matrix of technical input-output coefficients, with typical elements given by $a_{ij}= X_{ij}/X_j$

it becomes possible to conclude that

$$
\begin{aligned}
X &= AX + D \\
D &= (I-A)\, X \\
X &= (I-A)^{-1} D \\
X &= [c_{ij}]\, D
\end{aligned}
\qquad (1a)
$$

where (I-A) is called the matrix of Leontief Coefficients, and its inverse, $(I-A)^{-1}= [c_{ij}]$ is the matrix of direct and indirect requirements of input i for the production of a unit of output j. In order for a sector i to have a positive net production, it is necessary that $X_i > X_{ii}$ and $Xi - a_{ii} X_i > 0$. Thus, $a_{ii} <1$.

Model (1a) is widely used for output and investment planning, since it predicts the correct output combination necessary to produce a projected vector of final

demand goods.

Value input-output

The basic physical relationships given by (1) have a dual representation in value terms, where sums of columns and rows are equal:

$$
\begin{aligned}
Y_1 &= Y_{11} + Y_{12} + Y_{13} + \ldots + Y_{1n} + D_1P_1 \\
Y_2 &= Y_{21} + Y_{22} + Y_{23} + \ldots + Y_{2n} + D_2P_2 \\
Y_3 &= Y_{31} + Y_{32} + Y_{33} + \ldots + Y_{3n} + D_3P_3 \\
&\cdot \\
&\cdot \\
&\cdot \\
Y_n &= Y_{n1} + Y_{n2} + Y_{n3} + \ldots + Y_{nn} + D_nP_n \\
W &= W_1 + W_2 + W_3 + \ldots + W_n
\end{aligned}
\qquad (2)
$$

Let $Y_{ij} = X_{ij} P_i$, and $Y_j = X_j P_j$. where

Y_{ij} = value of sales of sector i to sector j

$P_{i,j}$ = price of product i, j

W_i = total wage bill paid by sector i.

The value of sales of sector i necessary to produce one unit value of output j is defined as

$$b_{ij,} = Y_{ij}/Y_j = X_{ij}P_i/X_jP_j = P_ia_{ij}/P_j.$$

Total wage bill paid by sector j is given by $W_j = P_L L_j$ and $w_j = W_j/Y_j = P_LL_j/P_jX_j = P_Ld_j/P_j$ where

P_L = price of labor

L_j = total labor input used by sector j

$d_j = L_j/X_j$ = labor used in a unit production of output j (labor coefficient).

These relationships imply that

$$Y_i = \sum_j Y_{ij} + P_iD_i = \sum_j b_{ij}Y_j + P_iD_i$$

which in matrix notation can be expressed as

$$Y = BY + PD$$
$$PD = (I-B)Y \qquad (2a)$$
$$Y = (I-B)^{-1} PD$$

where

Y = value of gross output
B = matrix of input coefficients in value terms
P = vector of product prices

and $(I-B)^{-1} = [I- (P_i a_{ij}/P_j)]^{-1}$ represents the direct and indirect value of product j necessary for the production of a unit value of final demand i.

Model (2a) is also widely used for output and investment planning, and determines the value of production and investment targets, disaggregated by sectors, given a vector of final demand.

Price input-output

Since in value terms sums of rows and of equivalent columns are equal, a typical equation in the system is given by $Y_i = \sum Y_{ij} + W_i$. Thus, adding along columns of (2)

$$Y_1 = Y_{11} + Y_{21} + Y_{31} +...+ Y_{n1} + W_1$$
$$Y_2 = Y_{12} + Y_{22} + Y_{32} +...+ Y_{n2} + W_2$$
$$\cdot$$
$$\cdot$$
$$\cdot$$
$$Y_n = Y_{1n} + Y_{2n} + Y_{3n} +...+ Y_{nn} + W_n$$

Since $Y_i = X_i P_i$ and $W_i = P_L L_i$, and taking i=1 as a typical equation we get

$$X_1P_1 = X_{11}P_1 + X_{21}P_2 +...X_{n1}P_n + L_1P_L \qquad (3)$$

Dividing both sides by X_1,

$$P_1 = (X_{11}/X_1)P_1 + (X_{21}/X_1)P_2 +...+(X_{n1}/X_1)P_n + L_1P_L/X_1$$

and remembering that $a_{ij}=X_{ij}/X_j$ and that $d_j = L_j/X_j$ we get the basic economic identity in production and price formation, without taxation,

$$
\begin{aligned}
P_1 &= a_{11}P_1 + a_{21}P_2 + ... + a_{n1}P_n + d_1P_L \\
P_2 &= a_{12}P_1 + a_{22}P_2 + ... + a_{n2}P_n + d_2P_L \\
P_3 &= a_{13}P_1 + a_{23}P_2 + ... + a_{n3}P_n + d_3P_L \\
&\cdot \\
&\cdot \\
&\cdot \\
P_n &= a_{1n}P_1 + a_{2n}P_2 + ... + a_{nn}P_n + d_nP_L
\end{aligned}
\qquad (4)
$$

In matrix notation,

$$
\begin{aligned}
P &= A' P + d P_L \\
P &= (I-A')^{-1} d P_L
\end{aligned}
\qquad (5)
$$

where

A'= transpose of $A = [a_{ij}]$
$d = [d_i]$ =vector of labor coefficients.

Model (5), which is a variant of model (2a), allows the simulation of the impact of factor prices (wages in this simple model) on product prices. This is the basic relationship that will be used to analyze the impact of different tax models on product prices.

THE SIMULATION MODEL AND THE STATISTICAL DATA BASE

According to model (5), simulations will require data on the technical input-output coefficients a_{ij}, as given by the intermediate consumption matrix A.

Brazilian National Accounts are reported in value terms. Thus, it is possible to derive the b_{ij} coefficients which express the value of sales of sector i necessary to produce one unit value of output j, as expressed in matrix B. This will be the basis of our simulation models, and the equivalence of matrices A and B for our purposes will be shown below as we need to normalize the price vector to be equal to unity.

In this section, the model to be used in our simulations will be constructed, considering the data availability as given by the official National Income Accounts.

Brazilian National Accounts Tables report the profit margins in each sector. Thus, such information is incorporated in the model by making equation (3) equal to

$$X_1P_1 = (X_{11}P_1 + X_{21}P_2 + ...X_{n1}P_n + L_1P_L)\ (1+ m_1)$$

where

m_1 = mark-up coefficient on circulating capital.

Since $a_{ij}=X_{ij}/X_j$ and $d_j = L_j/X_j$ we get

$$\begin{aligned}
P_1 &= (a_{11}P_1 + a_{21}P_2 + ...+a_{n1}P_n + d_1P_L)\ (1 + m_1)\\
P_2 &= (a_{12}P_1 + a_{22}P_2 + ...+a_{n2}P_n + d_2P_L)\ (1 + m_2)\\
P_3 &= (a_{13}P_1 + a_{23}P_2 + ...+a_{n3}P_n + d_3P_L)\ (1 + m_3)\\
&\cdot\\
&\cdot\\
&\cdot\\
P_n &= (a_{1n}P_1 + a_{2n}P_2 + ...+a_{nn}P_n + d_nP_L)\ (1 + m_n)
\end{aligned} \qquad (6)$$

In matrix notation,

$$P = (F^0 A')\, P + F^0 d\, P_L \text{ , and}$$
$$P = (I - F^0 A')^{-1}\, F^0\, d\, P_L \qquad (7)$$

where

A'= transpose of $A = [a_{ij}]$
F^0 = diagonal matrix of mark-up coefficients [1+mi]
$d = [d_i]$ =vector of labor coefficients.

Since, as seen before, $a_{ij} = X_{ij}/X_j$ and $d_j = L_j/X_j$ algebraic manipulation of a typical row (such as i=1) of system of equations (6) results in

$$P_1 = [(X_{11}/X_1)P_1 + (X_{21}/X_1)P_2 + ...+(X_{n1}/X_1)P_n + L_1P_L/X_1]\ (1 + m_1)$$

Multiplying both sides by (X_1/ X_1P_1) yields

$$\begin{aligned}
1 = {} & [(P_1X_{11})/ X_1P_1 + (P_2X_{21})/ X_1P_1 + ...(P_nX_{n1})/X_1P_1 +\\
& + (P_LL_1)/ X_1P_1]\ (1 + m_1)
\end{aligned}$$

Remembering that each element in the input-output table B is given by $b_{ij} = (P_i X_{ij})/(P_j X_j)$, and that $w_j = (P_L L_j)/(P_j X_j)$, by substitution we get the basic estimating data used in the simulations, whereby prices are normalised to be equal to one. Thus,

$$
\begin{aligned}
1 &= (b_{11} + b_{21} + b_{31} + ...+ b_{n1} + w_1)\ (1 + m_1) \\
1 &= (b_{12} + b_{22} + b_{32} + ...+ b_{n2} + w_2)\ (1 + m_2) \\
1 &= (b_{13} + b_{23} + b_{33} + ...+ b_{n3} + w_3)\ (1 + m_3) \\
&\cdot \\
&\cdot \\
&\cdot \\
1 &= (b_{1n} + b_{2n} + b_{3n} + ...+ b_{nn} + w_n)\ (1 + m_n)
\end{aligned}
\qquad (8)
$$

An input-output table for 2006 constructed in the format of equation (8) is used in simulating the economic impacts of different taxes. Note that since it is built in a way that forces $P_i = 1$ for all i, and since we know that $b_{ij,} = P_i a_{ij}/P_j$, then b_{ij} must be equal to $a_{ij,}$. Thus, model (8) is equivalent to model (6). In other words, in building our simulation models it is irrelevant which one is actually employed. Thus, in describing the dynamics of the structure of industrial price formation we chose model (6), which is more intuitive as far as price formation and tax simulations are concerned.[109]

The construction of the input-output table

It is necessary to produce a matrix of input-output coefficients representing intermediate use of inputs in production. In terms of value, such information is contained in matrix B, as in model (8), or, in physical units, in its dual matrix A, as in model (6).

Brazilian National Accounts statistics, which follow the guidelines set up by the 1993 United Nations System of National Accounts (1993 SNA), allow the construction of the input-output matrix B for 2006, the latest available year up to the date of this publication.

The starting point for the construction of an input-output table is the Supply and Use tables (SUTs) which are part of the National Accounts Statistics, as published by the IBGE (Brazilian Institute of Geography and Statistics).[110]

The Brazilian SUTs contain production and use (supply and demand) statistics for 110 products and 55 activities. The official Brazilian input-output table is made

[109] For a clearer understanding of the model it is interesting to note that equation (6) represents an input-output model constructed "down the columns" of the Use Table of the Supply and Use Tables contained in the Brazilian National Income Accounts, while the model given by equation (2) represents its dual, constructed "along the rows".

[110] For the methodology used in constructing the Brazilian Input-Output Tables see [IBGE, 1997].

up of 55 activities. However, as the SUTs contain production information for 110 products, it is possible to construct a 110 entry input-output table organized in terms of *products X products*, instead of *activities X activities*. Doing so results in more disaggregated information, which is preferable as it allows more precise analysis of the impact of taxes on prices.

This was done as follows.

SUTs are *products X activities* matrices that have three parts:

1. The resources table, (also called the "make" table);
2. The intermediate uses table; and
3. The final uses (or final demand) table.

From the SUTs, and assuming that i=row, j= column, that a capital letter represents a matrix, and that a lowercase letter represents a column vector, the following tables can be derived:

	Domestic Product	**Activity**	**Margins and Taxes**	**Final Demand**	**Value of Production**
Domestic Value		U	M	F	q
Activity	V				g
Imported Product					m

where

V= matrix of value of production of each activity, by product, in basic prices;

U = matrix of total intermediate consumption (domestic and imported goods) of each product by activity, in market prices;

M= matrix of margins, taxes and imports, where columns represent respectively a trade margin vector (tm), a transport margin vector (trm), a vector of import taxes (mt), an IPI tax vector (ipi), an ICMS tax vector (icms), and a vector of other taxes net of subsidies (ot);

F = matrix of final demand by type of final demand, where columns represent respectively the vectors of final consumption by families, government consumption, exports, capital formation, and inventory changes; such final demand vectors will be referred to as (F_j), and are all expressed in market prices;

m = vector of value of imported products

q= vector of gross value of production for each product; and

g= vector of gross value of production for each activity.

For illustrative purposes a reduced 12 sector National Account Table is reproduced in ANNEX I-C.

In order to produce an input-output table from the SUTs it is necessary to make important adjustments for two basic reasons: a) because prices in the table of intermediate consumption (U) are reported in market (or consumers´) prices, whereas we wish to have an input-output table in basic (or producers´) prices, and b) because the intermediate consumption table does not differentiate between domestic and imported products, whereas we wish to have an input-output table of domestic production.

The relationship between basic and market prices are given by

Basic Prices = Market Prices – Trade Margin – Transport Margin – (Taxes - Subsidies).

Thus, the first task is to take margins, taxes, and imports out of the values reported in the intermediate use table, and transform them from total intermediate use tables at market prices to intermediate use of domestic products at basic prices.

In other words, it is necessary to find dt such that

$$Un_{bp} = U_{mp} - dt$$

where

Un_{bp} = matrix of intermediate consumption of domestic goods of each product by activity, and

dt = matrix that registers the sum of the value of margins, taxes and imports to be subtracted from the corresponding entry in the U matrix in order to turn it from a market price total intermediate use table at market prices into a basic price table of intermediate consumption of domestic products, by each activity, and

bp = basic prices

mp = market prices.

Since trade margins, transport margins, and taxes (which are columns of M), and the imports vector in the supply table of the SUT´s are column vectors by products, and therefore do not discriminate by activities, it becomes necessary to adopt a distribution criterion according to which total margins, taxes, and imports are distributed to the activities that produce such products. It should be noticed that even in the construction of a *product X product* input-output table the margins, taxes, and imports are first distributed among activities, and the resulting intermediate domestic consumption (now in market prices) by activities are allocated to the various

production processes and to their secondary production. This two-stage procedure is necessary since the SUTs tables are reported in the *product X activities* format.

The transformation of market values into basic values, and of total intermediate consumption into domestic intermediate consumption, is obtained through the construction of two distribution matrices (P and P*) used to introduce a weighted average method of distribution of margins, taxes and imports among activities.

Let P be the distribution matrix with a typical cell that represents the value of the intermediate consumption of a product (elements from the U matrix) divided by the value of total demand for the same product, all at market prices as published by the IBGE. Since by construction of the SUTs

$$q = U.i + F$$

where

i = column vector where each element has value equal to unity,

it follows that

$$P = U \,.\, \langle q \rangle^{-1}$$

where

<a> is a diagonal matrix with elements given by vector a.

A typical element of P is

$$[u_{ij} / \sum j\, u_{ij} + \sum j\, F_j]$$

showing the proportion of a product´s total demand used up as intermediate consumption in each of the activities that produce such a product.

Matrix P can be used to distribute the values of a column vector (such as total trade margin, or total transport margin) used up by the production of a good or service (a product) proportionally to the fraction of the product value which is produced by each activity.

Thus, the allocation of trade margins among the various activities is given by

$$P_{tm} = P'. \langle tm \rangle$$

where

P_{tm} = matrix of products´ total trade margin distributed by activities that produce such product, and

P´= transpose of P

The transpose of matrix P_{tm}, expressed as

$$P'_{tm} = (P'.<tm>)' \quad (9)$$

has as each of its elements the portion of the of total trade margin to be subtracted from each respective entry in the U matrix.

Similar procedure is used to calculate the matrix

$$P_{trm} = P'. <trm>$$

where

P_{trm} = matrix of products´ total transport margin distributed by activities that produce such product.

Similarly, we can derive

$$P'_{trm} = (P'.<trm>)' \quad (10)$$

which has in each of its cells the portion of the of total transport margin to be subtracted from each respective entry in the U matrix.

Following the same procedures, the distribution matrix for the IPI tax (ipi) and for Other Taxes Minus Subsidies (ot) are given by

$$P'_{ipi} = (P'.<ipi>)' \quad (11)$$

$$P'_{ot} = (P'.<ot>)' \quad (12)$$

The need to construct two distribution matrices (P and P*) is due to the fact that it is necessary to subtract the value of exports (a column of the F matrix) from total

final demand when computing the distribution coefficient for some vectors of the final demand, such as Import Taxes, and the ICMS tax. This becomes necessary since none of such taxes are levied on exports, and therefore the value of exports should not influence the weights on the distribution of such taxes, which are levied entirely on domestically consumed products.

Furthermore, since we wish to produce an input-output table for domestic production, it also becomes necessary to subtract the imported components from each element of the U matrix. Thus,

$$P^* = U \,.\, \langle q^* \rangle^{-1}$$

where

$$q^* = U.i + (F - F_x)$$

and

F_x = vector of value of exports by product.

The "net of exports" distribution matrix P* is used to calculate the value of imports, import taxes and the value of the ICMS tax to be subtracted from each element of the U matrix, following similar procedures as those used with trade and transport margins, and with IPI and Other Taxes. Thus, the required adjustment for the ICMS (icms), for Imports (m) and for Import Taxes (mt) are given by

$$P^{*\prime}_{icms} = (P^{*\prime} . \langle icms \rangle)^{\prime} \qquad (13)$$

$$P^{*\prime}_{m} = (P^{*\prime} . \langle m \rangle)^{\prime} \qquad (14)$$

$$P^{*\prime}_{mt} = (P^{*\prime} . \langle mt \rangle)^{\prime} \qquad (15)$$

Finally, to transform the U matrix from a market price table into a basic price table, and also from a total intermediate use table into a domestic intermediate use table (and remembering that $Un_{bp} = U_{mp} - dt$) it suffices to subtract each of the distributed margins, taxes, and imports from each cell in the U matrix, thus transforming it from a market price, total intermediate use table (U_{mp}) into a basic price table of intermediate consumption of domestic products by activities (Un_{bp}).

Thus, the matrix dt is the the sum of the matrices given by equations (9), (10), (11), (12), (13), (14) and (15) where each equation gives the value of the margins,

taxes, and imports that should be subtracted from the respective entry in the U matrix in order to turn it from a market price (U_{mp}) into a basic price table (Un_{bp}).

The resulting Un matrix, at basic prices, is the fundamental component in the development of the input-output models used hereafter.

But before the basic input-output model is constructed a second methodological question must be tackled.

The published official SUTs (more specifically the U matrix from which we derived the Un matrix) are rectangular matrices containing 110 products and 55 activities. The IBGE also publishes a square input-output table with 55 entries by activities. However, as seen before, it is possible to construct a 110 entry input-output table organized in terms of *products X products*, instead of *activities X activities*.

To do so, we start with a few basic questions and relations.

One question is how to transfer demand for 110 products to the 55 activities; alternatively, how to distribute the output of 55 activities into the 110 production processes.

The second question is how to allocate the intermediate consumption of inputs to the 55 activities; or alternatively to the 110 production processes.

The methodology to deal with the first question implies the construction of a Market Share Matrix D as follows:

$$D = V \,.\, \langle q \rangle^{-1}$$

and

$$V = D \,.\, \langle q \rangle \qquad (16)$$

The market share matrix D will be used to distribute demand from products to activities.

To answer the second question, and to allocate the intermediate demand for domestic products to activities, we assume that inputs are proportional to value of production according to the Matrix of Domestic Technical Input-Output Coefficients at basic prices Bn given by

$$Bn = Un_{bp} \,.\, \langle g \rangle^{-1} \qquad (17)$$

from where it follows that

$$Bn \,.\, \langle g \rangle = Un_{bp} \qquad (18)$$

showing that each intermediate use of a product by an activity is divided by total value of production for that same activity.

Finally, observing the Use Table of the SUTs , it can be seen that the vector representing the value of production *by produc*t is given, from the demand or use side, by

$$q = Un_{bp} \,.\, i + Fn \qquad (19)$$

with a typical element in basic prices given by $[q_i = \sum j\ un_{ij} + Fn_i]$, or alternatively, from the supply or resource side of the SUTs,

$$q = V'.\, i$$

where V´is the transpose of V, and with a typical element given by

$$[q_i = \sum j\ v'_{ji}].$$

Also, the value of production *by activity* is given by

$$g = V.i \qquad (20)$$

with a typical element equal to $[g_j = \sum i\ v_{ij}]$.

Total value of production, the sum of columns or of rows, is given by

$$\sum i\ q_i = \sum j\ g_j\,.$$

Substituting equation (18) into equation (19) and eliminating Un_{bp} yields

$$q = Bn \langle g \rangle .\, i + Fn$$
$$q = Bn \,.\, g + Fn \qquad (21)$$

Next, multiplying both sides of equation (16) by the column vector i , remembering equation (20), and since $\langle q \rangle .i = q$

$$g = D.q \qquad (22)$$

and substituting (22) into (21) yields

$$q = Bn \,.\, D \,.\, q + Fn$$
$$q - Bn.\, D.\, q = Fn$$
$$q\,(I - Bn.D)^{-1} = Fn$$
$$q = (I - Bn.D)^{-1}\, Fn \qquad (23)$$

Equation (23) is the basic *product X product* input-output model used in the simulations that follow.

It is worth noticing that the *activity X activity* input-output model could be easily obtained by substituting (21) into (22), yielding

$$g = D.(Bn.g + Fn)$$
$$g - D.Bn.g = D.Fn$$
$$g.(I - D.Bn) = D.Fn$$
$$g = (I - D.Bn)^{-1}\, D.Fn \qquad (24)$$

Equations (23) and (24) are therefore the two possible representations of the input-output model given the SUTs tables reported for the Brazilian economy, and both are strictly compatible with equation (2a) above, which defines conceptually the input-output model as created by Wassily Leontief. Pre-multiplying the Bn matrix by D (D.Bn) yields the matrix of technical coefficients *activity X activity*; post-multiplying the Bn matrix by D (Bn.D) yields the matrix of technical coefficients *product X product*; D.Fn yields final demand vector *by activity*; and Fn is the final demand vector *by product*.

After constructing matrix Bn.D, which is what interests us in our simulations, and remembering that prices of all products were constrained to be equal to unity, the matrix of technical coefficients Bn.D is complemented with the following rows: a *Sum* row, with sums of technical coefficients by column, an *Imports* row containing the sum by column of the technical coefficients of imported intermediate products, a *Wages* row, containing coefficients given by the division of the "wages paid" by the "gross value of production" both contained in the value-added part of the Use Table of the SUTs , and finally a residual *Gross Profit Margin* row, by activity.

Of course, summing the column of intermediate use and adding the value-added components of the production process amounts to unity.

Simulation models

The SIM (0) model

We now construct our simulation models, which will incorporate the basic

conceptual input-output model given by (6) together with the empirical matrix of domestic technical input-output coefficients at basic prices (BnD) contained in equation (23).

Equation (6) incorporates information on profit margins through the use of mark-up coefficients applied on circulating capital. We adopt the hypothesis that advances on purchase of inputs and on payment of wages have to wait for a certain production period before it is recovered through sales to other sectors and to final demand. During this period the firms earn a "waiting fee" of m_i % of the circulating capital used in purchasing inputs and in paying wages. Such mark-up margin may also include a competitive profit margin, or normal profits. This model is certainly more realistic than the zero-profit assumption implied by (4). Thus, remembering that equation (6) is equivalent to equation (8) (since, as seen before, $a_{ij} = b_{ij}$) a typical price accounting equation is given by

$$P_i = [\ \textstyle\sum_j (b_{ij} P_j) + w_i\ ]\ (1 + m_i\ )$$

where

$P_{i,j}$ = price of product i, j , (1...n)

b_{ij} = value of input j per unit value of product i

w_i = value of labor input per unit value of product i

m_i = mark-up on circulating capital of product i.

In matrix notation the model described above can be expressed as

$$P=[\ F^*K\ ]\ P + F^*w$$
$$P- [F^*K]\ P = F^*w$$
$$[I - F^*K]\ P = F^*w$$
$$P= [I - F^*K]^{-1}\ F^*w \qquad \text{SIM (0)}$$

where

P =vector of final prices (n x 1)

I = identity matrix (n x n)

F^* = diagonal matrix $[(1 + m_i)]$ (n x n)

K = the transpose of matrix B of technical coefficients b_{ij} (n x n)

w = vector of w_i , value of labor input per unit value of product i (n x 1).

This model, called SIM (0) is the benchmark with which all other simulations will be compared. It represents an economy without taxation, and in which all prices are normalised to equal unity. Note that, in terms of the statistical data available, matrix K above is the exact equivalent to the transpose of matrix (Bn.D) in equation (23). Thus, for strictly denominational purposes K= (BnD)´ in this and in all other variants of the simulation models, as described below.

The introduction of taxation will result in a different set of prices which, compared to unit prices implied by the SIM (0) model, will describe their percentage change resulting from the choice of taxes used by the government. Different taxes will be introduced, and the resulting prices will be compared to those given by the benchmark model (SIM 0) with no taxation.

The SIM (1) model:

This model introduces the bank transactions tax. It is charged on both debit and credit entries on clients´ bank accounts. It has a double incidence on each transaction, shared by purchaser and seller. As an example, suppose that the bank transaction tax with a 1% rate is applied on a $100 purchase of an input for production of a certain output. The purchaser's bank account will be charged $101, and the sellers bank account will be credited $99. Thus, a $100 transaction will result in tax revenue of $2, shared between the two agents involved in the transaction.

For each economic agent such as a producer, the cost accounting records will register a 1% tax cost on all outlays on inputs and on labor, and also another 1% tax on sales of final products. This can be expressed in terms of prices as

$$P_i = (1+t)\ \{(1+t)[\textstyle\sum_j (b_{ij} P_j) + w_i\ ]\ (1 + m_i\ )\}$$

where

t = the bank transaction tax rate.

In matrix notation,

$$P = F[KP + w]$$
$$P = [FK]P + Fw$$
$$P = [I - FK]^{-1}[Fw] \qquad \text{SIM (1)}$$

where

F = diagonal matrix $[(1+t)^2\ (1+m_i)]$

The SIM (1) model estimates the effect on sector prices of a bank transactions tax. The matrix F, is the product of two diagonal matrices: the first $[(1+t)^2]$, represents the effect of the uniform rate of the bank transaction tax, and the second, $[1+m_i]$ reflects the impacts of the sector mark-up coefficients. Matrix F introduces the turnover effect into the system, iterating with the mark-up coefficients.

The SIM (1) model implies that no other tax is imposed, and therefore it isolates the effect of the bank transactions tax on prices. If compared to the hypothetical "no tax" situation implied by the SIM (0) model, the total cumulative effect of a bank transactions tax on sector prices can be effectively evaluated.

The SIM (2) model:

This model introduces a value-added tax into the initial no-tax system SIM (0). As usual, tax payments included in the price of purchased inputs will be deducted from tax liabilities due by the seller of the final product. It is assumed that the final price for each sector comprises the VAT cost according to the following relation:

$$P_i = [\text{total outlays plus profit margin}]/(1-v)$$

where

v = uniform VAT rate.

Thus, the pricing model can be expressed as

$$P_i = (1/(1-v))\{ [(\sum_j(b_{ij}P_j) + w_i) (1 +m_i)] - v\sum_j(b_{ij}P_j)\}$$

or,

$$P_i = [((1+m_i-v)/(1-v)) \sum_j b_{ij}P_j] + ((1 +m_i)/(1-v)) w_i$$

In matrix notation the model can be expressed as

$$P = [F^1K]P + F^2w$$
$$P = (I - F^1K)^{-1} F^2w \qquad \text{SIM (2)}$$

where

F^1 = diagonal matrix $[(1+m_i-v)/(1-v)]$

F^2 = diagonal matrix $[(1+m_i)/(1-v)]$

Defining M as the mark-up diagonal matrix with elements $[1+m_i]$, A as the VAT diagonal matrix with elements $[1/(1-v)]$, and C as the value-added credit diagonal matrix with elements $[-v/(1-v)]$ it can be seen that $F^2 = MA$ and $F^1 = F^2 + C$.

It is important to note that in this model the mark-up rate is levied on input prices with the VAT tax included, in the same way as with any other cost of production. Thus, it is assumed that VAT taxes included in input prices are paid as an advance to the government, and that there is a waiting time equivalent to an average production period before the tax advance is paid back to the producer in the form of a credit against his VAT tax liabilities due when final product is sold.

This hypothesis implies that the VAT incidence on final prices is not uniform and cumulative, as opposed by standard theoretical analysis of the incidence of value-added taxation on final prices. VAT´s may have differential impacts on prices of different products, thereby distorting relative prices of intermediate goods in a way that is formally quite similar to cumulative taxes.

It becomes clear, therefore, that the alleged neutrality of the VAT can only be guaranteed in the unlikely situation where all $m_i = 0$, in addition to the seldom seen application of a single VAT tax rate for all products and services traded.

Thus, the assumption that VATs have a neutral impact on relative prices is not warranted, and proves erroneous the assumption that they are less distortionary than turnover taxes as far as their effects on prices are concerned.

The SIM (2´) model:

In a mark-up model, a VAT will show the neutrality properties usually assumed in simplified textbook models, only if it meets an exceedingly strong assumption: that value-added tax credits are **instantaneous**. In other words, the pricing model becomes

$$P_i = (1/(1-v))\{ [(\sum_j(b_{ij}P_j) + w_i) - v\sum_j(b_{ij}P_j)] (1 +m_i) \}$$

$$P_i = (1/(1-v))\{ [(1-v) \sum_j(b_{ij}P_j) + w_i] (1 +m_i) \}$$

and

$$P_i = (1 +m_i) \sum_j(b_{ij}P_j) + (1+m_i)/(1-v)\, w_i$$

In matrix notation,

$$P = MKP + F^2w$$
$$P = (I-MK)^{-1} F^2w \qquad \text{SIM(2´)}$$

where

M= the mark-up diagonal matrix with elements $[1+m_i]$

F^2 = diagonal matrix $[(1+m_i)/(1-v)]$

It should be pointed out that in this model the prices of intermediate inputs are multiplied by matrix M, composed solely of the mark-up coefficients. Thus, the value-added tax will not influence prices through their effect on prices of intermediate inputs, as happened in model SIM (2) when intermediate prices were multiplied by the F^1 matrix, which includes both the mark-up coefficients m_i and the value-added tax rate v.

Furthermore, it should be noted that even if mark-up rates equal zero in all sectors, the expected "neutrality" of value-added taxes (defined loosely here as a proportional increase in all prices of intermediate inputs), will only occur if there is a uniform VAT rate applied to all sectors. The multiplicity of value-added tax rates, as is the case in practical applications of such taxes throughout the world, does not guarantee its neutrality, as commonly claimed, even in the (unlikely) case of zero mark-up rates.

On the other hand, the labor cost, which by definition is the same as the value-added in production, is amplified by the mark-up margin and by the VAT rate v, present in the F^2 matrix. The incidence of the VAT on the labor component in production does not allow for credits, since its total incidence falls completely on final prices, as expected by conventional value-added tax theory. Thus, its effects are similar to a tax on final sales, guaranteeing neutrality in intermediate prices, and therefore on production costs. Nevertheless, the assumptions of such model are extremely unrealistic, restricting severely the usefulness of its policy prescriptions.

SIM(2)EXT: extensions of the SIM(2) model

Given the exceedingly strong assumptions implied by the SIM (2´) model, the original SIM (2) structure will be used for comparing alternative tax systems.

Such construct can easily incorporate other taxes in its analytical framework.

Three other important taxes in current use in Brazil can be easily included into that same input-output framework, namely a turnover tax on services, the ISS, a value-added tax on industrial products (IPI, similar to a value-added excise) and the payroll social contribution to the INSS, the federal social security agency.

The incidence of the ISS is upon the value of both intermediate and final gross

sales of services. It has an identical impact on prices as the mark-up rate, and thus it suffices to add the sectoral ISS rates to each corresponding mark-up rate, simply adding each s_i (the ISS rate applicable to sector i) to each m_i. Identical procedure, *mutatis mutantis*, should be used to introduce the IPI in the model, adding its rate p_i to the sectoral VAT rate v_i.

As far as the INSS is concerned, its impact on prices is equivalent to an additional labor cost corresponding to the INSS uniform rate μ. Thus, it suffices to replace each w_i for w'_i, where $w'_i = (1+\mu)$. Therefore, the simulation model used to represent the conventional Brazilian tax model made up of two value-added taxes, a turnover services tax, and a single social contribution rate on wages can be represented as

$$P_i = (1/(1-v_i'))\{ [(\sum_j(b_{ij}P_j) + w'_i)(1 + m_i + s_i)] - - v_i' \sum_j(b_{ij}P_j)\}$$

where

s_i= the ISS rate for sector i

$v_i' = v + p_i$

p_i = the IPI rate for sector i

$w'_i = w_i(1+\mu)$

μ = the social security rate on wages.

As a result, in the extended SIM(2)EXT model

F^1 = diagonal matrix $[(1+m_i+s_i-v_i')/(1-v_i')]$

F^2 = diagonal matrix $[(1+m_i+s_i)/(1-v_i')]$

w' = vector of w'_i, value of labor units per unit of product i , including social contributions.

The simulations contained in this text, therefore, will use the SIM(0) model as the benchmark for a “no tax” situation, which theoretically represents the least distortionary situation, and against which the effects of alternative taxation systems will be compared. The effects of the bank transactions tax on prices will be measured by comparing SIM(1) results against SIM(0). And the SIM(2) model, and its extensions as in the SIM(2)EXT model, will be used to evaluate the current tax system applied in Brazil, as compared with the least distortionary situation implied by model SIM(0).

Evidently, the comparison of both the SIM (1) and the SIM (2) models with the benchmark SIM(0) model, will imply a corresponding comparison of models SIM(1) and SIM(2), as far as their impact on prices are concerned. Thus, the debate between the supporters of a VAT tax and those in favor of a bank transactions' tax will finally occur with a quantitative perspective in sight, as opposed to the predominantly loose and fragile conceptual framework in which it has been occurring in the last two decades.

SETTING RATES FOR THE SINGLE TAX

The electronic tax on bank transactions was introduced in Brazil in 1993 through the enactment of Article 2 of Constitutional Amendment 3, which authorized a Complementary Law to create a Provisional Tax on Financial Transactions (IPMF). It should be effective until December 31, 1994, with a rate of 0.25% (a quarter of 1%) levied on the value of all current account bank debt entries.

The use of the IPMF, which began to be collected in August 26, 1993, was suspended by a Judiciary order on September 15, 1993 (Adin 939-7/DF). It became effective again on January 1, 1994, and was in force until December 31 of the same year, collecting R$ 3.7 billion, which amounted to 5.17% of total federal revenue, and 1.06% of Brazilian GNP.

Constitutional Amendment 12/96 reintroduced the financial transactions tax under the name of Provisional Contribution on Financial Transactions (CPMF), with a rate of 0.20%. Law 9311/96 authorized its use from January 23, 1997 until February 23, 1998.

From this period onwards a series of time extensions of the CPMF were enacted. The rate was changed in certain short periods, but it remained at 0.38% from 2001 until its extinction in December 31, 2007. The rates of the CPMF were the following:

- 0.20% between January 23, 1997 and January 22, 1999;
- 0.38% between June 17, 1999 and June 16, 2000;
- 0.30% between June17, 2000 and March 17, 2001; and
- 0.38% between March 18, 2001 and December 31, 2007.

TABLE 6 below shows the IPMF/CPMF revenue between 1994 and 2008. Revenue collected in 1995/1996 and 2008, when the financial transactions tax was not in effect, is attributed to residual revenue from taxable transactions which occurred in 1994 and 2007 respectively.

TABLE 6
IPMF/CPMF Revenue, tax base, GNP, and Federal Revenue (1994/2008)

	Revenue (R$ 000,000)	Average Tax Rate	IPMF/CPMF Tax`Base (R$ 000,000)	
1994	3;692	0.25%	1,476,800,000	349,205
1995	159	-	-	705,641
1996	1	-	-	843,966
1997	6,910	0.19%	3,636,842,105	939,147
1998	8,113	0.20%	4,056,500,000	979,276
1999	7,949	0.22%	3,613,181,818	1,065,000
2000	14,395	0.34%	4,233,823,529	1,179,482
2001	17,157	0.36%	4,765,833,333	1,302,136
2002	20,336	0.38%	5,351,578,947	1,477,822
2003	23,029	0.38%	6,060,263,158	1,699,948
2004	26,399	0.38%	6,947,105,263	1,941,498
2005	29,188	0.38%	7,681,052,632	2,147,239
2006	32,058	0.38%	8,436,297,368	2,369,797
2007	36,320	0.38%	9,557,894,737	2,597,611
2008	1,148	-	-	2,904,942

TABLE 6 (CONTINUATION)
IPMF/CPMF Revenue, tax base, GNP, and Federal Revenue (1994/2008)

Year	Tax Base/ GNP	(IPMF/CPMF) Revenue/GNP (%)	Total Federal Revenue (R$ 000,000)	(IPMF/CPMF) Revenue/Total Federal Revenue (%)
1994	4.23	1.06	71,456	5.17
1995	-	0.02	129,321	0.12
1996	-	0.00	150,708	0.00
1997	3.87	0.74	171,082	4.04
1998	4.14	0.83	186,561	4.35
1999	3.39	0.75	215,568	3.69
2000	3.59	1.22	248,004	5.80
2001	3.66	1.32	281,300	6.10
2002	3.62	1.38	326,362	6.23
2003	3.56	1.35	364,321	6.32
2004	3.58	1.36	432,192	6.11
2005	3.58	1.36	498,535	5.85
2006	3.56	1.35	550,788	5.82
2007	3.68	1.40	632,674	5.74
2008	-	0.04	726,579	0.16

Source: Central Bank, Federal Revenue Agency and the author.
1-It includes taxes, social security contributions, and other economic contributions.

In the six years during which the full rate of 0.38% was applied, the financial transactions tax collected on average 1.37% of GNP, or 6% of total federal revenue. Its tax base amounted to 3.6 times the Brazilian GNP.

The Brazilian Tax Burden (2007/2008)

Even without the CPMF, total tax burden in 2008 was 1.15 percentage point above that of the year before, maintaining the upward trend initiated in the early 1990's. Between 1995 and 2008 total tax burden, including federal, state, and municipal revenues, grew 7.5 percentage points, going from 28.4% to 35.9% of GNP.

To compensate for the projected loss of revenue in 2008 resulting from the cancellation of the CPMF, the rate of the pre-existing tax on loans and credit (IOF) was raised by 0.38%, and that of the Social Contribution on Net Profits (CSLL) of the financial sector was raised from 9% to 15%. Such measures resulted in additional revenue of R$ 23.6 billion in 2008.

TABLE 7 below shows federal and social security revenues for 2007 and 2008, as well as state and municipal fiscal revenues.

TABLE 7
Tax Revenues (2007-2008)

Taxes and Contributions	Revenue 2007 (R$ 000,000)	% of GNP	Revenue 2008 (R$ 000,000)	% of GNP	Change in pp
International Trade (Imports and Exports)	12,257	0.47	17,235	0.59	0.12
Tax on Industrial Production (IPI) – Total	32,867	1.27	39,466	1.36	0.09
IPI Tobacco	2,785	0.11	3,211	0.11	0.00
IPI Beverages	2,581	0.10	2,438	0.08	-0.02
IPI Vehicles	5,167	0.20	5;998	0.21	0.01
IPI on Imports	7,702	0.30	10,402	0.36	0.06
IPI Other products	14,632	0.56	17,417	0.60	0.04
Income Tax (IR) – Total	160,315	6.17	191,754	6.60	0.43
IR – Individuals	13,655	0.53	14,986	0.52	-0.01
IR – Corporate	70,034	2.70	84,726	2.92	0.22
IR –withholdings on labour income	42,347	1.63	51,610	1.78	0.15
IR –withholdings no capital income	21,421	0.82	24,854	0.86	0.03
IR – withholdings on foreign residents income	7,801	0.30	9,562	0.33	0.03
IR – withholdings on other income	5,057	0.19	6,016	0.21	0.01
Tax o n Loans and Credit (IOF)	7,795	0.30	20,341	0.70	0.40
Rural Land Tax (ITR)	331	0.01	470	0.02	0.00
Federal Service Fees	383	0.01	290	0.01	0.00
Total Federal Fiscal Revenue	**213,948**	**8.24**	**269,556**	**9.28**	**1.04**
Financial Transactions Tax (CPMF)	36,320	1.40	1,148	0.04	-1.36

TABLE 7 (CONTINUATION)
Tax Revenues (2007-2008)

Taxes and Contributions	Revenue 2007 (R$ 000,000)	% of GNP	Revenue 2008 (R$ 000,000)	% of GNP	Change in pp
Social Security Contribution on Firms Revenue (Cofins)	99,164	3.82	120,801	4.16	0.34
Contribution for Workers' Social Integration Fund (PIS/Pasep)	25,839	0.99	31,598	1.09	0.09
Social Security Contribution on Net Profits (CSLL)	32,880	1.27	43,970	1.51	0.25
Federal Govt. Workers Social Security Contribution (2)	15,216	0.59	19,463	0.67	0.08
Social Security Contributions (3)	140,412	5.41	163,355	5.62	0.22
Other Contributions (2)	3,242	0.12	3,486	0.12	0.00
Total Federal Social Security Revenues	**353,073**	**13.59**	**383,821**	**13.21**	**-0.38**
Economic Contribution (Cide – Fuels)	7,950	0.31	5,934	0.20	-0.10
Economic Contribution (Cide – Foreign Remittances)	793	0.03	871	0.03	0.00
Economic Contributions for Tax Auditing Fund (Fundaf)	307	0.01	252	0.01	0.00
Workers Unmotivated Dismissal Compensation Fund (FGTS) (4)	41,630	1.60	48,616	1.67	0.07
Funds for Education (INSS e FNDE)	7,156	0.28	8,814	0.30	0.03
Funds for Workers Social Activities and Training ("S" System)	6,674	0.26	7,553	0.26	0.00
Other Economic Contributions (2)	1,143	0.04	1,162	0.04	0.00
Total Federal Economic Contributions	**65,653**	**2.53**	**73,202**	**2.52**	**-0.01**
State Value-added Tax (ICMS) (5)	187,625	7.22	219,909	7.57	0.35
State Tax on Vehicles (IPVA) (5)	14,690	0.57	17,201	0.59	0.03
State Tax on Inheritance and Donations (ITCD) (5)	1,207	0.05	1,92	0.05	0.00
State Service Fees (5)	4,436	0.17	6,416	0.22	0.05
State Social Security (5)	19,052	0.73	21,206	0.73	0.00
Other (5)	4,110	0.16	4,758	0.16	0.01
Total State Revenues	**231,120**	**8.90**	**270,982**	**9.33**	**0.43**
Municipal Tax on Gross Revenue of Service Firms (ISS) (2)	18,746	0.72	22,658	0.78	0.06
Municipal Estate Property Tax (IPTU) (2)	11,388	0.44	12,782	0.44	0.00
Municipal Tax on Estate Transactions (ITIBI) (2)	2,795	0.11	2,614	0.09	-0.02
Municipal Service Fees (2)	2,925	0.11	3,776	0.13	0.02
Municipal Social Contributions (2)	3,881	0.15	4,357	0.15	0.00
Other (2)	133	0.01	175	0.01	0.00
Total Municipal Revenues	**39,868**	**1.53**	**46,362**	**1.60**	**0.06**
Total National Fiscal Revenue (Tax Burden)	**903,662**	**34.79**	**1,043,923**	**35.94**	**1.15**

Source: 1-Federal Revenue Agency - Estudos tributários nº 20 – Carga tributária no Brasil - 2007 – Análise por Tributos e Bases de Incidência – December/2008, and Análise da Arrecadação das Receitas Federais - December/2008.

2-Author estimates for 2008

3-Author estimates for 2008 based on cash flow of National Social Security Institute (INSS).

4-Estimates by Federal Savings Bank for 2008 (CEF).

5-Estimates by Fiscal Council for 2008 (Confaz)

In addition to the effects of higher tax rates on the IOF and on the CSLL for the financial sector, revenue from these taxes increased significantly due to higher volumes of credit transactions and also to higher corporate profits. In 2008, the IOF collected a larger share of GNP than in the previous year (+ 0.4 percentage point), while the CSLL showed a growth of 0.25 percentage point.

Other federal taxes that showed significant revenue growth were the corporate income tax, the withheld income tax on labor income, the international trade tax, and the industrial tax on imports (IPI). Such performance was due to larger corporate profits, to growth in formal employment, and to larger value of imports.

Social Security taxes showed a slight decrease due to the discontinuation of the CPMF, although the loss of revenue was almost completely compensated by the larger revenue raised by the Cofins, the CSLL, and by other social security contributions.

The satisfactory performance of the Brazilian economy in recent years also contributed to the larger state and municipal revenues, such as the ICMS, the ISS and the IPVA.

Single Tax: Estimating the Required Rate

In 2002 the Brazilian tax burden reached 31.86% of GNP. The rate of the Single Tax on Financial Transactions necessary to raise the equivalent revenue was estimated at 5.3%, equally split between the value of banks' debits and credits.

According to a paper issued by the Federal Revenue Agency named "*Brazilian Tax Burden- 2007*", the tax burden in 2007 reached 34.79% of GNP. Together with information issued by another of its various papers called "*Analysis of Federal Revenue*" published in 2008, and also with data from the "2007 *Social Security Statistical Yearbook"* we estimate that the rate necessary for the Single Tax to replace in 2007 the same revenue raised in 2002 would be 5.62%. While the tax burden increased 2.93 percentage points during those five years, the Single Tax rate would have to increase by 0.32 percentage point. Thus, for each percentage point increase in the tax burden, the single tax rate would have to be raised by 0.11 percentage point.

The estimates for the Single Tax rate necessary to replace the revenue raised by all predominantly fiscal taxes are shown in TABLE 8 below, and were based on the performance on the CPMF in 2007, the last year it was collected. We estimated an "enlarged" tax base, which in addition to the conventional CPMF tax base, includes the double taxation of the bank cash withdrawals and deposits, and the Single Tax levying on bank transactions done by the government and by privileged sectors and institutions, constitutionally exempt from the CPMF until 2007.

TABLE 8 below shows the "enlarged" tax base for the Single Tax. The starting point for the estimates is the tax base of R$ 9.6 billion for the CPMF in 2007.

TABLE 8
Single Tax Base

Items of "enlarged" tax base	R$ 000,000 (2007)
Revenue for CPMF (0.38% rate)	36,320.0
CPMF Tax Base	9,557,894.7
(+) Cash transactions equivalent (1)	1,939,402.7
(+) Public Sector Bank Transactions (2)	903,709.0
(+) Former Immunities and Exemptions (3)	83,123.6
"Enlarged" Tax Base	12,484,130.0

1-Obtained by multiplying the average stock of paper-money in circulations (R$ 63.8 billion) by the velocity of M1 (15.2). Cash transactions will be double taxed with a levy of 5.62% on the value of each cash withdrawal from the bank, and 5.62% on each cash deposit.
2-Estimate based on the proportion of the public sector in GNP (34.7%).
3-Estimate based on the proportion of the health and education sectors in GNP (3.2%)

Total tax revenues to be replaced by the Single Tax collection amounted to 27% of GNP in 2007. Considering the CPMF tax base, federal taxes and contributions amounted to 17.9% of GNP, state revenues to 7.83%, and municipal taxes to another 1.27% of GNP, as can be seen in TABLE 9 below.

To replace all federal fiscal revenue the Single Tax rate would have to be 1.79% according to the CPMF base, and 1.37% according to the enlarged base. Including social security and economic contributions the rates would be respectively 4.87% and 3.72%. Adding the three state taxes and the three municipal taxes, the rate would have to be 7.34% according to the CPMF base, and 5.62% using the enlarged base.

In the Single Tax model, all corporate social contributions to the INSS, to the various quasi-governmental agencies (Sistema "S"), and to the educational fund (FNDE) would be discontinued. Of the approximately 35% of payrolls paid out by firms for social security contributions, only 8% for the Workers Unmotivated Dismissal Compensation Fund (FGTS) would remain.

It should be pointed out that the revenues of the "S"system would continue to be transferred to its administrators. The only change would be the way such revenue is raised. Instead of burdening firms' payrolls with rates varying from 0.3% to 2.5%, as happened in 2007, it would be raised by the specific rate of 0.05% on bank transactions, which compose the estimated total Single Tax rate of 5.62%. The same would happen to the Education Fund (salário-educação), which instead of being financed by a 2.5% levy on payrolls, would be maintained by a specific rate of 0.06% on bank transactions.

The Single Tax system would imply a significant decrease in the tax load of the productive sector as a result of abolishing taxes on corporate income, on gross revenues, on sales and on profits. Furthermore, administrative costs would be significantly reduced as the costly declaratory taxes would no longer be collected.

Individuals would benefit from an increase in purchasing power as a result of lower indirect taxes on prices, and from a dramatic reduction in individual taxes on

wages and on property.

TABLE 9
Taxes and Contributions to be replaced by the Single Tax Levy
Estimates of Necessary Rates

Taxes	Revenue 2007 (R$ 000,000)	Revenue 2007/ GNP (%)	Rate (CPMF base) (%)	Rate (Enlarged base) (%)
Federal Fiscal Revenue				
Personal Income Tax (IRPF ajuste)	4,981	0.19	0.05	0.04
Corporate Income Tax (IRPJ)	70,034	2.70	0.73	0.56
Real Profist System	50,364	1.94	0.53	0.40
Imputed Profits System	10,677	0.41	0.11	0.09
Others	8,993	0.35	0.09	0.07
Income TaxWage Withdrawal (IRRF-Folha)	42,347	1.63	0.44	0.34
Income Tax Foreign Resident Withdrawal (IRRF residente no exterior)	7,801	0.30	0.08	0.06
Income Tax Other Withdrawals (IRRF - outros rendimentos)	5,057	0.19	0.05	0.04
Income Tax Total	130,220	5.01	1.36	1.04
Tax on Industrial Goods (IPI)	32,867	1.27	0.34	0.26
Tax on Credit and Loans (IOF)	7,795	0.30	0.08	0.06
Total Federal Tax Revenue	**170,882**	**6.58**	**1.79**	**1.37**
Social Security				
Corporate Social Security Contributions (INSS – empresas)	42,759	1.65	0.45	0.34
Insurance for Urban Work Accidents	6,447	0.25	0.07	0.05
Rural Social Security Contributions (INSS produção rural)	2,403	0.09	0.03	0.02
Small Firms Simplified System (Simples)	8,997	0.35	0.09	0.07
Philanthropic Social Security Contributions (INSS filantrópicas)	1,198	0.05	0.01	0.01
Sports Events Social Security Contributions (INSS espetáculos esportivos)	36	0.00	0.00	0.00
Social Security Contribution Withdrawals (INSS retenção de 11% sobre nota fiscal)	10,510	0.40	0.11	0.08
Federal Govt. Social Security Contributions (Parcela governo)	8,264	0.32	0.09	0.07
State Govt. Social Security Contributions (Parcela governo)	12,291	0.47	0.13	0.10
Municipal Govt. Social Security Contributions (Parcela governo)	2,504	0.10	0.03	0.02
Social Security Contribution on Firms Revenue (Cofins)	99,164	3.82	1.04	0.79

TABLE 9 (CONTINUATION)
Taxes and Contributions to be replaced by the Single Tax Levy
Estimates of Necessary Rates

Taxes	Revenue 2007 (R$ 000,000)	Revenue 2007/ GNP (%)	Rate (CPMF base) (%)	Rate (Enlarged base) (%)
Contribution on Financial Transactions (CPMF)	36,320	1.40	0.38	0.29
Social Contribution on Net Profits (CSLL)	32,880	1.27	0.34	0.26
Social Integration Fund (PIS sobre folha de pagamentos)	373	0.01	0.00	0.00
Social Fund for Govt. Employees (Pasep)	4,037	0.16	0.04	0.03
Lotteries and other social contributions	1,938	0.07	0.02	0.02
Total Social Security Revenue	**270,121**	**10.40**	**2.83**	**2.16**
Economic Contributions				
Funds for Workers Social Activities and Training (Sistema "S") (1)	6,674	0.26	0.07	0.05
Funds for Education (INSS e FNDE)	7,156	0.28	0.07	0.06
Economic Contribution (Fuels) (Cide – combustíveis)	7,950	0.31	0.08	0.06
Economic Contribution (Foreign Remittances) (Cide – remessas)	793	0.03	0.01	0.01
Other Economic Contributions (AFRMM e Condecine)	1,143	0.04	0.01	0.01
Economic Contributions for Tax Auditing Fund (Fundaf)	307	0.01	0.00	0.00
Total Economic Contributions	**24,023**	**0.92**	**0.25**	**0.19**
Total Federal Revenue	**465,026**	**17.90**	**4.87**	**3.72**
State Fiscal Revenue				
State Value-added Tax (ICMS)	187,625	7.22	1.96	1.50
State Tax on Vehicles (IPVA)	14,690	0.57	0.15	0.12
State Tax on Inheritance and Donations (ITCD)	1,207	0.05	0.01	0.01
Total State Revenue	**203,522**	**7.83**	**2.13**	**1.63**
Municipal Fiscal Revenue				
Municipal Tax on Gross Revenue of Service Firms (ISS)	18,746	0.72	0.20	0.15
Municipal Estate Property Tax (IPTU)	11,388	0.44	0.12	0.09
Municipal Tax on Estate Transactions (ITBI)	2,795	0.11	0.03	0.02
Total Municipal Revenue	**32,929**	**1.27**	**0.34**	**0.26**
Grand Total	**701,477**	**27.00**	**7.34**	**5.62**

Sources: Federal Revenue Agency and Social Security Institute (INSS)
(1).Includes revenues from Senar, Senai, Sesi, Senac, Sesc, Incra, SDR/MAARA, Sest, Senat, SEFA/Fundo Aeroviário, DPC/FDEP – Marítimo, Sebrae and others.

When the IPMF was introduced in 1993, following the polemical proposal in 1990 for the creation of a Single Tax on Financial Transactions, certain technical requirements for the proper use of a bank transactions tax were ignored by the government. Among them is the inadequacy of its application on transactions in the financial and capital markets. Taxation should not occur as the value of the principal in a capital or financial transaction is registered as credit or debit in a bank account. Taxation should occur only as the flow of real returns of such financial transactions goes through the banking system. Such characteristic of the bank transaction tax was thoroughly discussed elsewhere in this text.

In October 2004 the "investment current account", linked to its respective bank "current account"counterpart, was created by the Brazilian Central Bank to redress this technical imperfection. The intention was to avoid taxing the value of the stock of financial capital as it flows within the banking system. Taxation of bank debits and deposits would occur only once as the value of the financial investment was transferred to the "investment account", from where it could circulate, free of taxation, to and from other "investment accounts" to carry out typical financial dealings, such as purchasing and selling of bills, stocks, or any other financial asset.

It was a significant improvement, although in the pure Single Tax model the first transfer of investment funds, as well as all the other subsequent transfers, would be free of taxation as long as it remained within the realm of "investment accounts". In fact, taxation of transactions in the financial and capital markets would remain very similar to the current income tax on financial returns.

TABLE 10 below shows the income tax revenue on financial profits in 2007, amounting to 1.15% of GNP.

TABLE 10
Income Tax on Financial and Capital markets in Brazil

Income Tax withholdings on financial returns in 2007		
	R$ 000,000	**% GNP**
"Fixed Income" Investment Funds (Fundos de Renda Fixa)	8,364	0.32
Swaps	736	0.03
Interest on Capital Equity (Juros s/capital próprio)	2,714	0.10
"Fixed income" investments (Aplicação de renda fixa)	7,487	0.29
Other	2,121	0.08
Total	21,422	0.82
Income Tax due when filing returns		
	R$ 000,000	**% GNP**
Capital Gains (Alienação bens / Dep. Judiciais)	4,141	0.16
Stock Market Profits	1,389	0.05
Other	3,143	0.12
Total	8,673	0.33

Source: Federal Revenue Agency.

In the Single Tax model various existing taxes would remain in place, as they are considered to have preponderantly non-fiscal characteristics and are used mainly as instruments in public policy. Such is the case, for instance with the international trade taxes, which are instruments of industrial policy; the rural land tax (ITR), an instrument of land reform policy; and service fees, which are retributions to services rendered to individuals, devoid of the essential characteristics of public goods.

Other levies which would continue to be charged are those that may be considered as negotiated gains for workers, such as compulsory savings or compensatory payments in their favor, such as the Social Integration Fund (PIS), the Compensatory Fund for Unmotivated Dismissals (FGTS), and the own social security contributions of employees.

TABLE 11 below lists taxes, contributions, tax debt payments, fines and compulsory savings collected in 2007 and that would continue to exist even if the Single Tax Model were fully applied.

TABLE 11

Current taxes, contributions and other compulsory charges that would remain in place within the Single Tax Structure (2007)

Federal Government (Fiscal Charges)	**Revenue R$ 000,000**	**% GNP**
International Trade (Imports and Exports)	12,186	0.47
Rural Land Tax (ITR)	331	0.01
Federal Service Fees	383	0.01
Total	**12,900**	**0.50**
Social Security	**Revenue R$ 000,000**	**% GNP**
Turnover Contribution for Workers' Social Integration Fund (PIS cumulativo)	6,024	0.23
Value-added Contribution for Workers' Social Integration Fund (PIS não cumulativo)	14,901	0.57
Federal Govt. Workers Social Security Contribution (Parcela do servidor)	6,953	0.27
Workers Social Security Contributions (INSS segurados)	27,791	1.07
Individual Social Security Contributions (INSS individual)	3,422	0.13
Optional Social Security Contributions (INSS facultativo)	646	0.02
Domestic Help Social Sec. Contributions .(INSS domésticos)	1,626	0.06
Special Social Security Contributions (INSS especial)	5	0.00
Negotiated Tax Debt Payments (Regime parcelamento débito)	2,775	0.11
Government Bills (FIES e FNS)	690	0.03
Judiciary Deposits (Depósito Judicial)	1,486	0.06
Fiscal Recuperation Program (Programa Recuperação Fiscal)	2,550	0.10
Labour demands (Reclamatória trabalhista)	1,555	0.06
Contributions for Military Pensions (Pensões Militares)	1,304	0.05
Other Contributions	12,643	0.49
Total	**84,371**	**3.25**

TABLE 11 (CONTINUATION)
Current taxes, contributions and other compulsory charges that would remain in place within the Single Tax Structure (2007)

Economic Contributions	Revenue R$ 000,000	% GNP
Workers Unmotivated Dismissal Compensation Fund (FGTS)	41,630	1.60
Total	**41,630**	**1.60**
Fiscal and Social Security Revenues for States and Municipalities	**Revenue R$ 000,000**	**% GNP**
State Service Fees (Taxas estaduais)	4,436	0.17
Other (States)	4,110	0.16
Municipal Service Fees (Taxas municipais)	2,925	0.11
Fiscal and Social Security Revenues for States and Municipalities	**Revenue R$ 000,000**	**% GNP**
Other (Municipalities)	133	0.01
State Social Security (Parcela servidor)	6,760	0.26
Municipal Social Security (Parcela servidor)	1,377	0.05
Total	**19,741**	**0.76**
Grand Total	**158,642**	**6.11**

Source: Federal Revenue Agency and Social Security Institute (INSS).

SIMULATION RESULTS

The effect of types of different types of taxes on relative-prices can be evaluated using inter-industrial relations (input-output) models described above. We intend to compare the price effects of the Bank Transactions Single-Tax model to those of a VAT using Brazil's inter-industrial structure drawn from technical coefficients of production contained in a 110 sector input-output table for 2006, constructed from data published by the *IBGE* [Brazilian Institute of Geography and Statistics].

Model SIM(1), described above, simulates sector prices by applying a single-rate turnover transactions tax, as estimated in the section above. In this model, all sectors have an infinite number of links in their production chains (which contradicts the general belief in the existence of "shorter" or "longer" production chains). The effect of a turnover tax on prices is inversely related to the proportion of value-added relative to the value of inputs from other sectors in each link of the production process. Clearly, the tax effect on final prices resulting from the use of such taxes is as smaller as the greater is the distance that separates a certain production process from the final step where it reaches the final consumer. In the simulations, we use a "mark-up model" to determine profit margins, as found by *IBGE*'s input-output matrix.

In the simulations, Model SIM(1) was used to evaluate the effect on final prices of the bank transaction tax as the single tax [Single Transaction Tax].

Model SIM(2) was used to evaluate the effect of the pure VAT. To define profit margins, we chose a variation of the "mark-up model" which seems more realistic in the sense of applying the mark-up multiplier to circulating capital as well as to cost of inputs. It is worth stating that no financial costs were imputed to the time spent "waiting" for the use of the tax credits, thus reducing the impact of a VAT on final prices.

It is important to note that we chose not to use Model SIM(2') as the basis for our simulations, although it is the model that incorporates the conventional assumptions incorporated in the orthodox framework of value-added tax doctrine. The reason, as stated above, is the absurdly unrealistic assumptions that they assume, particularly with respect to developing countries such as Brazil.

Finally, in order to incorporate into the simulation models the other taxes composing the Brazilian tax structure (INSS, IPI, and the ISS) the SIM(2)EXT model was used, as shown above.

In the earliest papers on the Single Tax[111] we sought to evaluate the impact of cumulative taxes on price formation in the economy. Simulations using the IBGE input-output matrices of inter-industrial flows and their updates led to the conclusion that because bank transaction taxes require nominal tax rates that are significantly lower than VAT rates for a given revenue target, and since they, consequently, discourage tax evasion, the bank transaction tax would have less of an impact on relative prices taking an ideal tax-free market equilibrium as a benchmark.

The statistical data and the assumptions implied in the construction of the input-output model used in the simulations are summarized in ANNEX I.

Cumulativeness, or the cascading effect, has caused critics to erroneously believe that more roundabout methods of production could drive tax costs upward. Simulations proved that those assertions were mistaken. For example, studies on the Alternative Proposal[112] demonstrated that the effect of a 2.7% rate bank transaction tax on sector prices ranged from 4.1% to 11.1% price hikes. Greater impact on production costs would be caused by a VAT, such as the ICMS, with 17% rate, bringing the tax burden to between 18.4% and 31.4% of the final price of products.[113] Other studies that have been mentioned earlier used the same methodology and arrived at similar conclusions.

But, despite the absolute impact of a bank transaction tax on prices being weaker than those caused by VATs (assuming a given a revenue target), there remains doubt about the impact on relative prices, as Delfim Netto suspects.

Before trying to measure the impacts of different tax systems on relative prices,

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[111] See [CINTRA, 1994(b)].

[112] See [CINTRA, 1999]

[113] See APPENDIX to ANNEX III.

it is worth noticing that there are theoretical reasons to believe that bank transaction taxes will be less distortionary than value-added taxes.

Yitzhaki has suggested that "*in the extreme case where all commodities are taxed, they can all be taxed at the same rate, so that relative prices do not change and we end up with a zero deadweight loss.*"[114] Thus, a tax system with lower rates, and more widespread universal incidence across all commodities should imply a smaller impact on relative prices, and therefore, have smaller substitution effects and cause less allocative distortions on the economy.

There are two reasons for expecting that bank transaction taxes conform more closely to these requirements of absolute generality stated by Yitzhaki. First, bank transaction taxes have a single uniform rate, universally applied to all commodities. VATs, on the other hand, usually have multiple rates. Second, rates of bank transaction taxes are lower than those required from VATs to achieve a given revenue target: the tax base is broader, and evasion potential is more limited. Thus, it is expected that bank transaction taxes imply lower and more homogeneous tax burdens on commodity prices than VATs, thus being closer to a situation of relative price neutrality, as stated by Yitzhaki.

The simulations results described below confirm these effects.

No doubt, all taxes distort relative prices. However, it is believed that the cumulative effect of a bank transactions tax would cause even more intense distortions. It is believed that the VATs would be less distortionary because the tax burden on final prices could theoretically be determined entirely by economic policymakers and tax legislators as they set nominal tax rates.

The conclusion about the superiority of VATs in commodity production, as against cumulative taxes, would be partially true if two conditions were met: first, absence of tax evasion, and second, the existence of uniform rates for all sectors and products. Given that neither of these conditions is satisfied in real life, the conclusion that VATs necessarily introduce fewer distortions than a bank transactions tax cannot be reached *a priori*.

The efficiency advantages of VAT´s are highly questionable. The use of multiple rates, proliferation of exemptions, administrative and operational costs, sub national competence to apply value-added taxation and many other empirical shortcomings in the application of the VAT make its practical results fall significantly short of what is expected from its theoretical conclusions. [115] Such problems are especially serious when the VAT is under sub national administration

[114] [YITZHAKI, 1979], pp-475-480.

[115] For a comprehensive analysis of the operational difficulties found in practical use of VAT´s across the world see [ITD, 2005].

in federative countries[116]

Furthermore, impacts on relative prices are not a result of the *type* of tax alone, but also of the *intensity* of the tax's use, or of the value of its respective rates. Given that, for a specific amount of revenue, the bank transactions tax require rates that are significantly lower than what VATs require, we can immediately notice the fragility of assertions that cumulative taxes must *necessarily* introduce stronger distortions in relative prices.

The use of multiple rates and the existence of significantly more tax evasion in VATs make its impacts on relative prices be just as uncontrollable, random, and unintentional as they can be for bank transactions taxes.

It is possible that VAT-driven distortions could be even stronger than those generated by a bank transactions tax, given that tax evasion is a highly volatile, mutable, unpredictable, and camouflaged practice. In bank transactions taxes the variability of impacts on sector production costs over time are the result of changes in the production functions, which only occur over the medium and long terms. This means that bank transactions taxes, even with unintentional and uncontrollable patterns of incidence due to its cumulative effect, seem to be more stable than VATs. Tax evasion is generally most unstable even in the very short run, making the allocative effects of VATs a random event, with effects on relative prices even more unpredictable than those caused by a bank transactions tax.

The simulations below will attempt to show that:

1. Even assuming away the existing differences in potential tax evasion, a bank transactions tax introduces less allocative distortions than VATs because it requires lower nominal tax rates for a given revenue target;
2. With the possibility of tax evasion being greater for VATs, the effect of these taxes on price becomes strongly distortionary, far exceeding the distortions in relative prices caused by bank transactions taxes.

This is an exercise in comparative statics, in which the tax models of the cumulative bank transaction tax and the non-cumulative VAT will both be compared to a heuristic situation of absence of taxation, which supposedly would be the optimal competitive equilibrium. Therefore, the farther the sector prices *cum* taxes distance themselves from prices that are free of taxes (which in the model below were set to equal to one, to unit), the greater the distortionary effect that they may have caused on prices, and therefore on tax burden.

The assumptions implied in each of the simulations are detailed in ANNEX I-A.

Next, for each simulated situation, a matrix of relative prices shall be constructed (each element being a relative price for a pair of sectors), and the distance of each relative price from the unit value will measure the distortion caused

[116] For the inconveniences of VATs when applied by sub national entities, see [PIFFANO, 2003]. The author points out to the fact that few federal countries allow for sub national VATs, noticeably Brazil and Canada, and the only case of success seems to occur in the Province of Quebec in Canada.

by the respective tax model on the relative prices of that specific pair of sectors. The extent of overall distortion is given by the standard deviation of relative prices of the matrix, relative to the unit relative prices.

Simulation 1 in TABLE 12 compares the impact a bank transaction tax as a Single Tax would have on relative prices, compared to a conventional tax model. The simulation only includes indirect taxes, and does not include the foregone revenue raised by taxes on property (IPTU, IPVA, ITR, etc.), on personal and corporate income (IRPJ, IRPF), on foreign trade, and on other taxes that have extra-fiscal or regulatory characteristics. Therefore, the simulation is strongly biased against cumulative taxes, because the tax rate applied to the bank transaction tax, of 2.81%, will raise more revenue (27% of GDP) than the conventional indirect taxes (ICMS, IPI, INSS, ISS) included in the simulation (10.9% of GDP).[117]

One can see that relative price deviation for the bank transaction tax (Single Tax) was 2.38%, whereas, in the conventional model, it was 5.67%. This proves false the statement that cumulative taxes necessarily create greater distortions in relative prices. It should be noted that although in this particular case the result shows that a turnover tax was less distortionary than conventional taxes (mostly VATs), one cannot assert *a priori* that this always occurs, or that it never occurs. However, we can assert that under the circumstances of Brazil's economy, this criticism to cumulative taxation did not prove true, as far as its effect on relative prices is concerned.[118]

Simulation 2, in TABLE 13, introduces corrections to make the comparison more rigorous. The bank transaction tax rate was reduced to 1.13%, in order to force the revenue raised to be equal to that raised by the conventional taxes included in the simulation (10.9% of GDP). The conventional taxes, as in the previous simulation, are the ICMS, IPI, and ISS, and the employer contributions to social security (INSS). The effect of reducing the bank transaction tax rate from 2.81% to 1.13% caused the relative price deviations to drop from 2.38% to 1.13%, whereas the conventional model's deviation remained at 5.67%. Deviations in relative prices caused by application of a cumulative tax were less than half the deviations observed in the conventional model, thus proving that the assertions to the contrary, made *a priori*, are erroneous.

Another interesting variation in the simulations addresses the oft-remembered alternative of eliminating the cumulative social contributions (the CPMF, a bank transactions tax, the Cofins, the PIS and the ISS, which are both corporate gross sales contributions), while maintaining intact all other components of the current Brazilian

[117] Ideally in this type of simulation one would use general equilibrium models, since the dynamic effects of tax changes would be better captured. About the use of computable general equilibrium models, see [DOMINGUES and HADDAD, 2003] where the model is used for regional simulations in the state of São Paulo. It is fertile ground for future research.

[118] For similar conclusions, see [LEVY, 2007].

tax model, including tax revenue.[119] The results can be seen in TABLE 14.

TABLE 12

Simulation 1: Impact on sector prices and on relative prices of the Single Tax and of a traditional tax system (unadjusted rates)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	2.81%	ICMS+IPI+INSS+ISS
1	Rice	16.26	31.20
2	Corn	15.21	32.46
3	Wheat and others cereals	16.59	33.89
4	Sugar Cane	16.97	34.51
5	Soybean	16.49	34.04
6	Other agricultural products	14.57	32.07
7	Manioc	15.07	32.66
8	Tobacco	16.86	52.01
9	Cotton	16.10	33.65
10	Citric fruits	16.65	34.20
11	Coffee	16.74	31.66
12	Forest products	14.87	32.01
13	Cattle and other live animals	17.68	34.04
14	Cow milk	17.76	28.69
15	Live pigs	17.98	34.33
16	Live poultry	17.86	34.12
17	Chicken eggs	15.05	29.22
18	Fish	17.63	28.53
19	Oil and natural gas	15.11	30.22
20	Iron ore	18.23	35.98
21	Coal	16.87	32.24
22	Non-ferrous metallic minerals	16.49	33.91
23	Non-metallic minerals	15.96	33.81
24	Meat processing	17.38	31.73
25	Fresh, refrigerated or frozen pork	17.98	32.91
26	Fresh, refrigerated or frozen poultry	17.07	31.51
27	Processed fish meat	18.11	32.36
28	Canned fruit, legumes and other vegetables	18.72	33.40
29	Non-refined soybean oil and by-products	19.61	33.94
30	Vegetables except corn and animal oils	18.61	32.86
31	Processed soybean oil	17.67	30.75
32	Refrigerated, sterilized and pasteurized milk	17.83	32.09
33	Dairy products and ice-cream	16.95	32.02
34	Processed rice and by-products	15.84	29.13
35	Wheat flour	19.16	33.47
36	Manioc flour	16.05	30.09
37	Corn oil and corn products	17.40	31.64

[119] [VARSANO et alii, 2001].

TABLE 12 (CONTINUATION)

Simulation 1: Impact on sector prices and on relative prices of the Single Tax and of a traditional tax system (unadjusted rates)

Inter-industrial Matrix – Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	2.81%	ICMS+IPI+INSS+ISS
38	Sugar products	18.95	33.33
39	Ground coffee	17.13	30.30
40	Instant coffee	18.62	32.91
41	Other food products	17.05	31.28
42	Beverages	18.38	54.82
43	Tobacco products	18.89	58.49
44	Processed cotton	16.13	35.20
45	Textiles	15.27	34.25
46	Other textiles products	15.66	34.75
47	Clothing	14.38	35.06
48	Leather products except shoes	16.17	40.37
49	Shoes	15.91	36.10
50	Wood products except furniture	16.60	39.44
51	Cellulose and other paper inputs	16.97	34.39
52	Paper cardboard and packaging	15.58	37.93
53	Newspapers, magazines and sound recordings	13.84	26.25
54	Liquefied oil gas	17.28	30.31
55	Gasoline	20.35	35.12
56	Gasalcohol	16.87	30.99
57	Heating oil	18.83	31.92
58	Diesel oil	17.49	29.23
59	Other oil products	17.10	29.71
60	Alcohol	18.07	33.27
61	Inorganic chemical products	14.95	30.36
62	Organic chemical products	14.13	27.75
63	Resin and elastomer	14.25	29.67
64	Pharmaceutical products	12.29	31.35
65	Pesticides	15.78	32.81
66	Perfumery, soaps and cleaning products	15.76	47.95
67	Paints, vanish, enamels and lacquers	15.71	34.35
68	Other chemical products	14.83	38.50
69	Rubber products	15.79	37.21
70	Plastic products	15.39	34.11
71	Cement	16.86	34.33
72	Other non-metallic mineral products	16.37	34.82
73	Pig iron	17.80	38.77
74	Semi-finished rolled steel and steel tubes	16.53	36.49
75	Non-ferrous metallic products	16.65	32.28
76	Cast steel	18.32	35.85
77	Metal products - except machinery and equipment	15.83	37.38
78	Machinery and equipment	15.59	31.96
79	Home appliances	16.13	38.15
80	Office and computer equipment	15.09	35.90

TABLE 12 (CONTINUATION)

Simulation 1: Impact on sector prices and on relative prices of the Single Tax and of a traditional tax system (unadjusted rates)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	2.81%	ICMS+IPI+INSS+ISS
81	Electric machines and equipment	15.36	35.92
82	Electronics and communication equipment	13.20	34.01
83	Medical and hospital equipment	12.93	40.94
84	Automobiles, vans and pick-ups	17.90	35.72
85	Buses and trucks	17.13	38.22
86	Auto industry parts and equipments	15.21	31.72
87	Other transport equipment	16.00	34.39
88	Furniture	13.70	36.08
89	Recycled scrap	17.65	39.11
90	Electricity, gas, water, sewer and urban sanitation	13.76	34.08
91	Construction	15.20	30.35
92	Trade	12.17	32.58
93	Freight	15.72	31.32
94	Passenger transportation	14.15	30.59
95	Mail	14.98	27.61
96	Information services	12.46	24.20
97	Insurance and finance	11.90	23.31
98	Real estate rental	9.87	21.07
99	Imputed rental values	18.42	27.97
100	Maintenance and repair	12.53	26.23
101	Lodge and food	14.53	37.73
102	Services to firms	11.57	22.21
103	Private education	11.87	23.53
104	Private health services	18.15	30.31
105	Services to families	12.70	26.94
106	Community services	14.15	26.19
107	Domestic services	18.62	30.89
108	Public education	18.42	29.48
109	Public health care	17.49	28.01
110	Government and social security	17.53	26.24
Maximum		20.35	58.49
Minimum		9.87	21.07
Deviation		2.38%	5.67%

TABLE 13

Simulation 2: Impact on sector prices and on relative prices of the Single Tax and of the traditional tax system (Single Tax rate adjusted to produce equivalent revenue)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	1.13%	ICMS+IPI+INSS+ISS
1	Rice	6.74	31.20
2	Corn	6.26	32.46
3	Wheat and others cereals	6.88	33.89
4	Sugar Cane	7.06	34.51
5	Soybean	6.84	34.04
6	Other agricultural products	5.99	32.07
7	Manioc	6.21	32.66
8	Tobacco	7.01	52.01
9	Cotton	6.67	33.65
10	Citric fruits	6.91	34.20
11	Coffee	6.95	31.66
12	Forest products	6.12	32.01
13	Cattle and other live animals	7.36	34.04
14	Cow milk	7.40	28.69
15	Live pigs	7.50	34.33
16	Live poultry	7.44	34.12
17	Chicken eggs	6.19	29.22
18	Fish	7.34	28.53
19	Oil and natural gas	6.25	30.22
20	Iron ore	7.64	35.98
21	Coal	7.02	32.24
22	Non-ferrous metallic minerals	6.84	33.91
23	Non-metallic minerals	6.61	33.81
24	Meat processing	7.22	31.73
25	Fresh, refrigerated or frozen pork	7.49	32.91
26	Fresh, refrigerated or frozen poultry	7.08	31.51
27	Processed fish meat	7.55	32.36
28	Canned fruit, legumes and other vegetables	7.83	33.40
29	Non-refined soybean oil and by-products	8.25	33.94
30	Vegetables except corn and animal oils	7.78	32.86
31	Processed soybean oil	7.35	30.75
32	Refrigerated, sterilized and pasteurized milk	7.42	32.09
33	Dairy products and ice-cream	7.03	32.02
34	Processed rice and by-products	6.53	29.13
35	Wheat flour	8.03	33.47
36	Manioc flour	6.63	30.09
37	Corn oil and corn products	7.23	31.64
38	Sugar products	7.94	33.33
39	Ground coffee	7.11	30.30
40	Instant coffee	7.78	32.91
41	Other food products	7.07	31.28
42	Beverages	7.68	54.82
43	Tobacco products	7.93	58.49

TABLE 13 (CONTINUATION)

Simulation 2: Impact on sector prices and on relative prices of the Single Tax and of the traditional tax system (Single Tax rate adjusted to produce equivalent revenue)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	1.13%	ICMS+IPI+INSS+ISS
44	Processed cotton	6.69	35.20
45	Textiles	6.31	34.25
46	Other textiles products	6.48	34.75
47	Clothing	5.91	35.06
48	Leather products except shoes	6.69	40.37
49	Shoes	6.58	36.10
50	Wood products except furniture	6.89	39.44
51	Cellulose and other paper inputs	7.06	34.39
52	Paper cardboard and packaging	6.44	37.93
53	Newspapers, magazines and sound recordings	5.69	26.25
54	Liquefied oil gas	7.20	30.31
55	Gasoline	8.62	35.12
56	Gasalcohol	7.01	30.99
57	Heating oil	7.91	31.92
58	Diesel oil	7.29	29.23
59	Other oil products	7.12	29.71
60	Alcohol	7.54	33.27
61	Inorganic chemical products	6.16	30.36
62	Organic chemical products	5.80	27.75
63	Resin and elastomer	5.87	29.67
64	Pharmaceutical products	5.03	31.35
65	Pesticides	6.53	32.81
66	Perfumery, soaps and cleaning products	6.52	47.95
67	Paints, vanish, enamels and lacquers	6.50	34.35
68	Other chemical products	6.12	38.50
69	Rubber products	6.54	37.21
70	Plastic products	6.37	34.11
71	Cement	7.01	34.33
72	Other non-metallic mineral products	6.79	34.82
73	Pig iron	7.43	38.77
74	Semi-finished rolled steel and steel tubes	6.86	36.49
75	Non-ferrous metallic products	6.92	32.28
76	Cast steel	7.68	35.85
77	Metal products - except machinery and equipment	6.55	37.38
78	Machinery and equipment	6.44	31.96
79	Home appliances	6.69	38.15
80	Office and computer equipment	6.25	35.90
81	Electric machines and equipment	6.34	35.92
82	Electronics and communication equipment	5.41	34.01
83	Medical and hospital equipment	5.29	40.94
84	Automobiles, vans and pick-ups	7.49	35.72
85	Buses and trucks	7.14	38.22
86	Auto industry parts and equipments	6.27	31.72

TABLE 13 (CONTINUATION)

Simulation 2: Impact on sector prices and on relative prices of the Single Tax and of the traditional tax system (Single Tax rate adjusted to produce equivalent revenue)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	1.13%	ICMS+IPI+INSS+ISS
87	Other transport equipment	6.62	34.39
88	Furniture	5.61	36.08
89	Recycled scrap	7.37	39.11
90	Electricity, gas, water, sewer and urban sanitation	5.66	34.08
91	Construction	6.27	30.35
92	Trade	4.98	32.58
93	Freight	6.50	31.32
94	Passenger transportation	5.81	30.59
95	Mail	6.17	27.61
96	Information services	5.12	24.20
97	Insurance and finance	4.88	23.31
98	Real estate rental	4.01	21.07
99	Imputed rental values	7.75	27.97
100	Maintenance and repair	5.12	26.23
101	Lodge and food	5.95	37.73
102	Services to firms	4.73	22.21
103	Private education	4.85	23.53
104	Private health services	7.63	30.31
105	Services to families	5.20	26.94
106	Community services	5.82	26.19
107	Domestic services	7.84	30.89
108	Public education	7.75	29.48
109	Public health care	7.34	28.01
110	Government and social security	7.37	26.24
Maximum		8.62	58.49
Minimum		4.01	21.07
Deviation		1.13%	5.67%

TABLE 14

Simulation 3: Impact on sector prices and on relative prices of the Single Tax and of traditional taxes (traditional taxes with rates adjusted to raise equivalent revenue after elimination of social contributions)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	2.81%	ICMS+IPI+INSS
1	Rice	16.26	39.32
2	Corn	15.21	40.93
3	Wheat and others cereals	16.59	42.62
4	Sugar Cane	16.97	43.33
5	Soybean	16.49	42.77
6	Other agricultural products	14.57	40.43
7	Manioc	15.07	41.13
8	Tobacco	16.86	65.62
9	Cotton	16.10	42.31
10	Citric fruits	16.65	42.95
11	Coffee	16.74	39.87
12	Forest products	14.87	40.40
13	Cattle and other live animals	17.68	42.89
14	Cow milk	17.76	36.46
15	Live pigs	17.98	43.23
16	Live poultry	17.86	42.99
17	Chicken eggs	15.05	37.03
18	Fish	17.63	36.28
19	Oil and natural gas	15.11	37.69
20	Iron ore	18.23	45.01
21	Coal	16.87	40.71
22	Non-ferrous metallic minerals	16.49	42.83
23	Non-metallic minerals	15.96	42.72
24	Meat processing	17.38	40.44
25	Fresh, refrigerated or frozen pork	17.98	41.86
26	Fresh, refrigerated or frozen poultry	17.07	40.17
27	Processed fish meat	18.11	41.25
28	Canned fruit, legumes and other vegetables	18.72	42.49
29	Non-refined soybean oil and by-products	19.61	43.19
30	Vegetables except corn and animal oils	18.61	41.88
31	Processed soybean oil	17.67	39.31
32	Refrigerated, sterilized and pasteurized milk	17.83	40.91
33	Dairy products and ice-cream	16.95	40.78
34	Processed rice and by-products	15.84	37.25
35	Wheat flour	19.16	42.61
36	Manioc flour	16.05	38.32
37	Corn oil and corn products	17.40	40.35
38	Sugar products	18.95	42.43
39	Ground coffee	17.13	38.74
40	Instant coffee	18.62	41.93
41	Other food products	17.05	39.90
42	Beverages	18.38	78.64

TABLE 14 (CONTINUATION)

Simulation 3: Impact on sector prices and on relative prices of the Single Tax and of traditional taxes (traditional taxes with rates adjusted to raise equivalent revenue after elimination of social contributions)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	2.81%	ICMS+IPI+INSS
43	Tobacco products	18.89	75.44
44	Processed cotton	16.13	44.22
45	Textiles	15.27	43.09
46	Other textiles products	15.66	43.68
47	Clothing	14.38	44.09
48	Leather products except shoes	16.17	51.15
49	Shoes	15.91	45.71
50	Wood products except furniture	16.60	49.65
51	Cellulose and other paper inputs	16.97	43.34
52	Paper cardboard and packaging	15.58	48.03
53	Newspapers, magazines and sound recordings	13.84	33.17
54	Liquefied oil gas	17.28	37.88
55	Gasoline	20.35	44.08
56	Gasalcohol	16.87	38.85
57	Heating oil	18.83	39.98
58	Diesel oil	17.49	36.69
59	Other oil products	17.10	37.38
60	Alcohol	18.07	41.92
61	Inorganic chemical products	14.95	38.43
62	Organic chemical products	14.13	35.37
63	Resin and elastomer	14.25	37.83
64	Pharmaceutical products	12.29	39.29
65	Pesticides	15.78	41.32
66	Perfumery, soaps and cleaning products	15.76	63.25
67	Paints, vanish, enamels and lacquers	15.71	43.30
68	Other chemical products	14.83	49.26
69	Rubber products	15.79	47.24
70	Plastic products	15.39	43.20
71	Cement	16.86	43.04
72	Other non-metallic mineral products	16.37	43.76
73	Pig iron	17.80	48.57
74	Semi-finished rolled steel and steel tubes	16.53	45.97
75	Non-ferrous metallic products	16.65	40.91
76	Cast steel	18.32	45.20
77	Metal products - except machinery and equipment	15.83	47.21
78	Machinery and equipment	15.59	40.49
79	Home appliances	16.13	48.09
80	Office and computer equipment	15.09	45.65
81	Electric machines and equipment	15.36	45.63
82	Electronics and communication equipment	13.20	43.78
83	Medical and hospital equipment	12.93	51.90
84	Automobiles, vans and pick-ups	17.90	45.11
85	Buses and trucks	17.13	48.23

TABLE 14 (CONTINUATION)

Simulation 3: Impact on sector prices and on relative prices of the Single Tax and of traditional taxes (traditional taxes with rates adjusted to raise equivalent revenue after elimination of social contributions)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	2.81%	ICMS+IPI+INSS
86	Auto industry parts and equipments	15.21	40.28
87	Other transport equipment	16.00	43.47
88	Furniture	13.70	45.59
89	Recycled scrap	17.65	49.12
90	Electricity, gas, water, sewer and urban sanitation	13.76	42.63
91	Construction	15.20	35.89
92	Trade	12.17	40.62
93	Freight	15.72	39.09
94	Passenger transportation	14.15	37.01
95	Mail	14.98	31.67
96	Information services	12.46	25.15
97	Insurance and finance	11.90	24.21
98	Real estate rental	9.87	24.20
99	Imputed rental values	18.42	33.08
100	Maintenance and repair	12.53	31.11
101	Lodge and food	14.53	57.19
102	Services to firms	11.57	23.24
103	Private education	11.87	27.62
104	Private health services	18.15	37.32
105	Services to families	12.70	31.61
106	Community services	14.15	33.59
107	Domestic services	18.62	39.32
108	Public education	18.42	35.73
109	Public health care	17.49	34.73
110	Government and social security	17.53	30.78
Maximum		20.35	78.64
Minimum		9.87	23.24
Deviation		2.38%	7.84%

Revenue from the cumulative taxes which are to be eliminated (including the municipal ISS turnover tax on services) amounted to R$ 88,337 bi. The total revenue of the conventional taxes added to R$ 263,251 bi. Thus, for the simulation in TABLE 14 the rates applicable to the conventional taxes were increased by 33.56% in order to maintain total tax revenue constant, thus avoiding that public revenue suffers from a drastic decline caused by the elimination of the cumulative taxes.

This, by itself, makes this raise unreasonable since the intensity of this tax hike would be a strong stimulus for greater tax avoidance. But, supposing this increase in tax avoidance were not to happen, which is highly unlikely, deviations in relative prices would rise from the 5.67%, estimated in Simulation 1, to 7.84%, further aggravating strong distortions in relative prices. The deviation in relative prices caused by the bank transaction tax would remain the same, 2.38%; that is, 69% lower

than if social contributions were eliminated. This shows that, unless significant budget cuts are possible, the proposal to eliminate the cumulative social contributions needs to be analyzed with greater care before being fully adopted.

TABLE 15

Simulation 4: Impact on sector prices and on relative prices of the Single Tax and of the traditional tax system (with rates of traditional tax system adjusted to compensate for loss of revenue due to estimated evasion rates)

Inter-industrial Matrix – Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	2.81%	ICMS+IPI+INSS+ISS
1	Rice	16.26	38.08
2	Corn	15.21	41.72
3	Wheat and others cereals	16.59	43.23
4	Sugar Cane	16.97	43.88
5	Soybean	16.49	43.37
6	Other agricultural products	14.57	44.21
7	Manioc	15.07	41.85
8	Tobacco	16.86	82.70
9	Cotton	16.10	42.95
10	Citric fruits	16.65	43.54
11	Coffee	16.74	38.60
12	Forest products	14.87	41.19
13	Cattle and other live animals	17.68	43.76
14	Cow milk	17.76	33.60
15	Live pigs	17.98	44.09
16	Live poultry	17.86	43.88
17	Chicken eggs	15.05	36.23
18	Fish	17.63	33.56
19	Oil and natural gas	15.11	32.43
20	Iron ore	18.23	39.01
21	Coal	16.87	34.80
22	Non-ferrous metallic minerals	16.49	36.51
23	Non-metallic minerals	15.96	36.41
24	Meat processing	17.38	37.35
25	Fresh, refrigerated or frozen pork	17.98	38.57
26	Fresh, refrigerated or frozen poultry	17.07	37.02
27	Processed fish meat	18.11	38.22
28	Canned fruit, legumes and other vegetables	18.72	39.32
29	Non-refined soybean oil and by-products	19.61	40.21
30	Vegetables except corn and animal oils	18.61	38.89
31	Processed soybean oil	17.67	36.54
32	Refrigerated, sterilized and pasteurized milk	17.83	37.80
33	Dairy products and ice-cream	16.95	37.37
34	Processed rice and by-products	15.84	34.33
35	Wheat flour	19.16	39.62
36	Manioc flour	16.05	34.99
37	Corn oil and corn products	17.40	37.29
38	Sugar products	18.95	39.31

TABLE 15 (CONTINUATION)

Simulation 4: Impact on sector prices and on relative prices of the Single Tax and of the traditional tax system (with rates of traditional tax system adjusted to compensate for loss of revenue due to estimated evasion rates)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	2.81%	ICMS+IPI+INSS+ISS
39	Ground coffee	17.13	35.94
40	Instant coffee	18.62	38.91
41	Other food products	17.05	36.86
42	Beverages	18.38	60.81
43	Tobacco products	18.89	80.70
44	Processed cotton	16.13	38.15
45	Textiles	15.27	37.09
46	Other textiles products	15.66	37.64
47	Clothing	14.38	40.76
48	Leather products except shoes	16.17	43.60
49	Shoes	15.91	39.35
50	Wood products except furniture	16.60	43.76
51	Cellulose and other paper inputs	16.97	38.77
52	Paper cardboard and packaging	15.58	42.28
53	Newspapers, magazines and sound recordings	13.84	29.00
54	Liquefied oil gas	17.28	32.62
55	Gasoline	20.35	37.46
56	Gasalcohol	16.87	33.11
57	Heating oil	18.83	34.23
58	Diesel oil	17.49	31.48
59	Other oil products	17.10	31.81
60	Alcohol	18.07	40.02
61	Inorganic chemical products	14.95	32.12
62	Organic chemical products	14.13	29.37
63	Resin and elastomer	14.25	31.11
64	Pharmaceutical products	12.29	33.47
65	Pesticides	15.78	35.31
66	Perfumery, soaps and cleaning products	15.76	50.49
67	Paints, vanish, enamels and lacquers	15.71	36.51
68	Other chemical products	14.83	40.53
69	Rubber products	15.79	38.88
70	Plastic products	15.39	35.90
71	Cement	16.86	37.02
72	Other non-metallic mineral products	16.37	37.37
73	Pig iron	17.80	41.02
74	Semi-finished rolled steel and steel tubes	16.53	39.59
75	Non-ferrous metallic products	16.65	34.30
76	Cast steel	18.32	38.61
77	Metal products - except machinery and equipment	15.83	40.51
78	Machinery and equipment	15.59	34.06
79	Home appliances	16.13	40.18
80	Office and computer equipment	15.09	37.46
81	Electric machines and equipment	15.36	37.63

TABLE 15 (CONTINUATION)

Simulation 4: Impact on sector prices and on relative prices of the Single Tax and of the traditional tax system (with rates of traditional tax system adjusted to compensate for loss of revenue due to estimated evasion rates)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		Single tax	Traditional system
nº	Products	2.81%	ICMS+IPI+INSS+ISS
82	Electronics and communication equipment	13.20	35.36
83	Medical and hospital equipment	12.93	42.50
84	Automobiles, vans and pick-ups	17.90	37.74
85	Buses and trucks	17.13	40.01
86	Auto industry parts and equipments	15.21	33.66
87	Other transport equipment	16.00	36.27
88	Furniture	13.70	40.27
89	Recycled scrap	17.65	42.27
90	Electricity, gas, water, sewer and urban sanitation	13.76	35.72
91	Construction	15.20	33.27
92	Trade	12.17	37.20
93	Freight	15.72	35.27
94	Passenger transportation	14.15	34.67
95	Mail	14.98	29.92
96	Information services	12.46	26.21
97	Insurance and finance	11.90	25.42
98	Real estate rental	9.87	24.47
99	Imputed rental values	18.42	30.96
100	Maintenance and repair	12.53	29.00
101	Lodge and food	14.53	44.50
102	Services to firms	11.57	25.35
103	Private education	11.87	25.87
104	Private health services	18.15	33.33
105	Services to families	12.70	30.96
106	Community services	14.15	29.05
107	Domestic services	18.62	34.26
108	Public education	18.42	32.53
109	Public health care	17.49	31.17
110	Government and social security	17.53	29.09
Maximum		20.35	82.70
Minimum		9.87	24.47
Deviation		2.38%	7.72%

The explicit introduction of tax evasion into the simulation model, and its impact on distortions in relative prices, is another interesting topic for future research. The hypothesis assumed in this text is that tax evasion introduces strong elements of instability, volatility, and randomness in relative prices. Simulation 4, in TABLE 15, applies the same parameters as in Simulation 1, but introduces tax evasion into the model.

To this end, the same tax rates used in Simulation 1 were used again, but adjusted for estimates of the weight of the formal sector on the total Value of

Production for each sector, as calculated by the BNDES.[120] In other words, we estimate effective tax rates on the formal economy by adjusting the statutory rates to the proportion of informality in each respective sector.

For example, whereas in the sugar industry 100% of the sector is formal, in agriculture 93.1% is not a part of the formal economy. Applying corresponding information for the 110 products used in the simulations, we made equivalent adjustments to each sector's tax rates, except for the rate of the bank transaction tax (Single Tax) because it is evasion-free even for those economic agents operating in the informal economy. The expectation is that the deviation of relative prices in the Single Tax model will remain constant, because the rate had not changed. But we expect, for the reasons mentioned above, that deviations in relative prices in the conventional model would be higher than the 5.67% found in Simulation 1.

The tax adjustment was done as follows. To the extent that we admit that evasion exists, stimulated by the high rates of conventional taxes, the drop in effective rates will imply a loss of revenue. To correct this, nominal rates of conventional taxes are raised by a proportion derived from the ratio of the sum of nominal rates to the sum of effective rates. The expectation is that in making this correction the higher nominal rates will offset the effects of evasion on tax revenue.

This is, in fact, what happens. The more tax evasion increases, the more the government increases nominal tax rates to offset the loss of revenue. This means that although rates and tax incidence patterns are altered, revenue is kept constant by raising statutory tax rates. In other words, this mechanism makes good taxpayers pay for bad ones.

After such adjustments were made, our hypothesis was confirmed by the simulation. Tax evasion had a strong distortionary effect on relative prices. The dispersion index jumped from 5.67% in simulation 1 (which assumed no tax evasion) to 7.72% in simulation 4, which incorporated tax evasion in the model.

These results strongly suggest the inadequacy of the peremptory and unconditional assertions, made by several scholars and critics of cumulativeness, concerning the distortionary effects of turnover taxes on relative prices, as compared to value-added taxes.

With these observations we hope to be marching ahead in understanding the last pending issue in the Single Tax controversy: that one cannot state *a priori* whether cumulative or value-added taxes introduce greater distortions in relative prices in the economy. But we can state unequivocally that in the empirical case of the Brazilian economy, bank transaction taxes such as the CPMF are less distortionary than the conventional tax structure made up mostly of value-added taxes.

[120] Mentioned in [PEREIRA and IKEDA, 2001].

3

TAXATION IN BRAZIL

INTRODUCTION

A first-time analyst of the literature on tax reform in Brazil would come to a curious conclusion: that the bulk of the controversy surrounding the subject, which dates back to the mid-1990s, focuses almost exclusively on doing away with cascading, or turnover taxes.[121]

In fact, in August 2001, representatives of Brazil's major business associations published a manifesto demanding an urgent tax reform.[122] A close look at the document, however, shows that the true goal of business leaders was neither to discuss the tax issue as a whole – its malfunction and dysfunction – nor to seek comprehensive and definitive solutions to the problem. Rather, it was a severe criticism of cumulativeness present in some of the taxes in use in the country. Those entrepreneurial groups convinced important public opinion leaders that the top priority in tax reform should be nothing more that the elimination of turnover, cascading taxes.

One indicator of their mistake can be gauged in the results of a survey taken by

[121] A tax is considered cumulative if applied on a same tax base in two or more stages during the production and exchange process, as when the amount collected in the earlier stages of production, or exchange, are not allowed to be deducted from the tax due on the next stage. Examples of such taxes in Brazil are the ISS (a municipal tax on services), the CPMF [Provisional Contribution on Bank Transactions], and partially the Cofins [Contribution for Funding Social Security], and the PIS [Social Integration Program]. A tax is not cumulative whenever the tax amount paid in one stage of circulation is deducted from the amount due on the following stage. Examples of non-cumulative taxes in Brazil are the IPI [Tax on Industrialized Products] and the ICMS [Tax on the Circulation of Goods, Transportation, and Communication Services]. Everardo Maciel (a former head of the Federal Revenue Service in Brazil) defines cumulativeness as typical of *"tax systems the incidence of which have no repercussions either forward or backward... The value-added tax system...considers backward and forward data; it has a system of debits and credits. Which of these is best? Both have virtues and shortcomings. In cumulative systems, rates are lower. In value-added systems, rates are higher. Cumulative systems are simple. Value-added systems are more complex and lend themselves to tax avoidance and fraud... Value-added systems provide better accounting practices than cumulative systems. The mistake is to be partisan to one or the other. Each situation has an appropriate solution. Generalization is a huge mistake. Therefore, the cumulativeness of a system does not constitute an error in principle."* [MACIEL, 2001]

[122] Available in Portuguese at www.marcoscintra.org/singletax

the National Confederation of Industry, in which 88% of business leaders surveyed pointed to Brazil's excessive tax burden as the least desirable feature of the current tax system, and not to the presence of turnover taxes. Thus, it is surprising that business leaders have aimed their anger at cumulativeness, instead of arguing for a reduced tax burden and for lower tax rates.

The manifesto contained no demands for fighting tax evasion and corruption. Nor did it call for actions to decrease the high compliance costs related to accessory tax obligations imposed on taxpayers. It did not even complain about bureaucracy or about the inequities of Brazil's current tax system.[123] The manifesto complained almost exclusively of cumulativeness, despite the fact that what truly suffocates competitiveness in Brazil is not the manner in which taxes are collected (cumulatively or on value-added), but rather the disproportionate weight of Brazil's tax burden, in excess of 34.8% of GDP in 2007. They were discussing form, and forgot the essence of their problem.[124]

No heed was given to basic problems, such those raised by Everardo Maciel, former Secretary of Federal Revenue who foresaw that "*without a doubt, the speed and depth of changes facing the world will affect (or even exhaust) the tax models in use today. Which taxes, then, will continue to exist, or which new ones will be created, are still questions that have no answer.*"[125]

Tax evasion, not the CPMF, is the tumor that must be rooted out from the national tax system, and no other system, apart from the bank transaction tax, can do just that. As a matter of fact, the CPMF and bank transaction taxes are not problems in Brazil's tax system; rather, as assumed by the Federal Revenue Service," *Brazil can prove that the use of bank transaction taxes…can be the solution for taxation in an increasingly globalized and electronically dependent world".*[126]

This text discusses Brazil's tax system, including its cumulativeness. We demonstrate that *a priori* rejection of cumulative taxes is the result of prejudice and of poorly digested theoretical concepts. We will also show that it is important to overcome this erroneous and incomplete interpretation of Brazilian tax problems. This is the first step to begin building a more efficient tax model, capable of being

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[123] According to research by SEBRAE/SP (Brazilian System for the Development of Small Enterprises) bureaucracy bears down heavily on micro business owners who spend 40% of their time complying to the bureaucratic demands of federal revenue agencies. According to estimates, small businesses in Brazil spend approximately 3% of GDP (US$ 15 billion) in bureaucratic red tape related to taxes

[124] Discussion of tax reform is ambiguous in Brazil. When we speak of simplification through the unification of ICMS state legislation, for example, "*people oppose it because, in fact, this that is supposedly desired, which modernizes, which furthers progress, in truth is not desired. That is, we are discussing a false agenda, a hidden agenda… All of the discussions are not truthfully those that are being discussed."* [MACIEL, 2001].

[125] [SECRETARIA DA RECEITA FEDERAL, 2001(b)]

[126] [SECRETARIA DA RECEITA FEDERAL, 2002(c)] p.38.

more equitable, less costly, and more consentaneous with Brazilian economic and social structures. Such tax model, as will be demonstrated, is the Single Tax system.[127]

BRAZIL NEEDS A NEW TAX SYSTEM

Brazilian society shows signs of deep dissatisfaction with its tax system[128]. It is one of the most complexes in the world, having reached an advanced stage of deterioration, irrationality, inefficiency, and inequity.[129]

In mid-2001, Brazil's tax legislation consisted of 55,767 articles, 33,374 paragraphs, 23,497 sub-paragraphs, and 9,956 headings. This tax law miscellany is housed in 18,589 pages of texts, decrees, codes, and notices.[130] These figures, however, need to be updated each day. Every year nearly 300 new laws are drafted on the subject – roughly 1.23 alterations per business day.

In less than three years, between May 1995 and December 1998, legislation related to two federal taxes (the Income Tax (IR) and the Industrialized Products Tax (IPI)), one state tax (Circulation Tax on Goods and Services (ICMS)), and two Social Contributions (Social Integration Program (PIS) and Social Security Contribution (Cofins)) increased in the following manner:

- On the IR: 24 laws, 76 provisional measures, 14 decrees, 46 notices, and 149 rulings;
- On the IPI: 8 laws, 41 provisional measures, 20 decrees, 67 notices, and 87 rulings;
- On the ICMS: 24 laws, 165 notices, 314 resolutions and conventions;
- On the PIS: 1 Constitutional Amendment, 7 laws, 122 provisional measures, 1 decree, 3 resolutions, 8 rulings, 3 notices, 1 court order, and 1 legal opinion;
- On the Cofins: 2 supplemental laws, 3 laws, 30 provisional measures, 1

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[127] On the Single Tax and on the controversy that surrounds it, with arguments for and against that proposal, see [CINTRA, 1994(a)]. For an explanation of the proposal, see, especially [CINTRA, 1994 (c)] pp.85-89 and [CINTRA, 1994(b)] pp.203-245.

[128] For a concise description of the main institutional characteristics of the Brazilian tax system see [SECRETARIA DA RECEITA FEDERAL, 2002(b)].

[129] Instead of the famous maxim: "*a good tax is an old tax*", Everardo Maciel suggests that "*a good tax is a simple tax*". [MACIEL, 2001] .

[130] The Congressional Investigative Commission on Tax Evasion stated that in Brazil "there is an excessive number of taxes, which are imposed through legislation that is extremely complex, unconstitutional, inconsistent, inadequate, of dubious interpretation and application, subject to constant modifications… to the extent that in 1990 1,062 fiscal rulings were issued, an average of 4.6 per business day. This legislation requires 33 accounting books, 24 tax forms, in addition to 25 basic labor and social security obligations." See [CONGRESSO NACIONAL, 1994].

decree, 1 notice, 1 court order, and 1 ruling.[131]

A recent study done by the Instituto Brasileiro de Planejamento Tributário (Brazilian Institute for Tax Planning) estimated that between October 1988, when the new Brazilian Constitution was promulgated, and October 2008, over 240,000 pieces of tax regulation and legislative acts were issued, which amounts to 34 pieces of legislation issued each day since 1988, including week ends and holidays.[132]

Such complexity, typical of declaratory taxes is not unique to Brazil. In the United States heated debate has been waging over changes in that country's main source of revenue, the income tax. Current US federal tax law is contained in no less than 45,662 pages, a number which has grown by 74% since 1984. Between 1990 and 2000, the number of tax forms increased by 23%%. The eight largest tax-consulting firms experienced sales increases of 112% between 1996 and 2001. The American "tax industry" currently employs over 1 million people, more than the entire automotive industry. US taxpayers spend US$ 183 billion annually in compliance costs alone (filling out forms and returns).[133]

In Brazil, the excessive number of taxes has directly contributed to record increases in revenue, year after year. TABLE 16 shows the growth of the tax burden in Brazil.

Some argue that the tax burden, as a percentage of Brazil's GDP, could increase, considering that in several developed countries they are still higher. However, such an opinion is nonsensical if taken as an isolated statement. A country's tax burden can only be appraised considering, comparatively, its *per capita* income levels and its stage of development.

[131] [REZENDE].

[132] [AMARAL et alii].

[133] [EDWARDS, 2001].

TABLE 16
Total and *per capita* tax burdens
Brazil (1993–2008)

Year	GDP *per capita* (R$)	*Per capita* tax burden (R$)	Tax burden (% GDP)
1993	91.55	23.16	25.3
1994	2,232.32	622.82	27.9
1995	4,441.49	1,261.38	28.4
1996	5,231.52	1,496.22	28.6
1997	5,734.20	1,639.98	28.6
1998	5,890.31	1,725.86	29.3
1999	6,310.98	1,962.71	31.1
2000	6,886.28	2,093.43	30.4
2001	7,491.21	2,389.69	31.9
2002	8,378.10	2,706.13	32.3
2003	9,497.70	3,029.76	31.9
2004	10,691.89	3,506.94	32.8
2005	11,658.10	3,882.15	33.3
2006	12,688.28	4,250.57	33.5
2007	13,719.65	4,772.70	34.8
2008	15,155.15	5,446.17	35.9

Sources: Institute of Applied Economic Research (IPEA) and Federal Revenue Agency.

TABLE 17 shows the tax burden in selected countries. Brazil carries a tax burden that is incompatible with the *per capita* income level of the population. All countries bearing a tax burden near or higher than 30% of GDP have *per capita* annual income of US$ 40,000 or more. It is worth noting that countries with per capita income of less than US$ 10,000 per year have tax burdens of less than 25% of GDP. Brazil (and Uruguay in this sample of countries) is a clear example of extravagant over taxation.

Brazilian consumers bear high indirect taxes built into prices of products and services. According to ABIA [Brazilian Food Industry Association], taxes account for up to 34.7% of the final price of food. Internationally, the average is 7%. TABLE 18 illustrates the abusive taxation of consumer goods in Brazil, which results in low purchasing power of wages and in loss of competitiveness of Brazilian products in foreign markets. Most taxes on domestic production are not exonerated at the time of export, making exported goods and services carry heavy tax loads built into their prices (tax export).

In order to defend themselves from such an abusive tax burden, taxpayers practice evasion as a dodge necessary for survival. Tax avoidance has become a behavioral rule for Brazilian taxpayers, to the point of being called a “national

religion".[134]

TABLE 17
Tax burden and *per capita* income in selected countries

Countries	Income *per capita* (US$/year) 2007 (1)	Tax burden (% GDP)
Norway	76,450	43.7
Denmark	54,110	50.3
Sweden	46,060	50.7
United States	46,040	27.3
United Kingdom	42,740	36.5
Germany	38,860	34.8
France	38,500	44.1
Japan	37,670	27.4
Italy	33,540	41.0
South Korea	19,960	25.5
Chile	8,350	19.2
Mexico	8,340	19.9
Russia	*7,560*	*16.9*
Venezuela	7,320	15.9
Uruguay	6,380	30.3
Argentina	6,050	24.0
Brazil	*5,910*	*34.8*
Peru	3,450	14.3
China	*2,360*	*16.7*
India	*950*	*16.0*

Source: (1) World Bank

In 1999, the Secretary of the Federal Revenue, Everardo Maciel, testified before the CPI [Parliamentary Investigative Commission] on the Financial System. His statement caused a strong impact on public opinion. The country was officially informed that large-scale tax evasion, tax avoidance, and other forms of tax hiding were common practices. According to his testimony, R$ 825 billion, almost one year of Brazil's GDP, slipped through the fingers of the Federal Revenue without a cent

[134] [MONTORO FILHO, 1994]. Even countries that have strong tax traditions, such as the USA, are suffering from corrosion of their ethical principles. Lester Thurrow, of MIT, stated, "*tens of billions of dollars in interest and dividends are not reported on US tax forms... the corruption is now spreading to payroll employees... these people eventually begin to see themselves as "suckers" paying what others should be paying... It is only a matter of time until the tax system collapses. (…) In fact, the recently revealed cases of WordCom and Enron testify to the fragility of the US tax system. The consequence of this is that the inevitable taxation ends up falling to those least capable of resisting, such as wage earners."* (Quoted in [MILLS, 1990] pp. 43-44).

of it being collected, except for a small amount of revenue collected by the CPMF (a turnover bank transactions contribution). He stated, furthermore, that half of Brazil's 530 largest corporations had not been paying income tax, and 42% of the 66 largest banks had accomplished the same feat.

Tax evasion is a deadly tumor to be extirpated from the nation's tax system. The prevalence of this anomaly is responsible for deep tax injustices. According to the proceedings of the CPI [Parliamentary Investigative Commission] on Tax Evasion, "tax evasion is entrenched in the population, in taxpayers, due to an educational and moral problem."[135]

The Federal Revenue has been cross-referencing bank transaction data with filed income tax returns. The data reveal that billions of *reais* circulate free from the reach of the income tax.

TABLE 18
Percent of taxes on consumer prices

Product	**Current tax as a percentage of consumer price (%)**
Kilogram of meat	47
Dozen eggs	29
Bread	43
Soft drink	37
Tea	50
Automobile	46
Tennis shoes	47
Pair of shoes	47
Television	49
Gasoline	53
Soybean oil	25
Tires	37
Men's pants	25
Refrigerator	49

Source: Trevisan e Associados, Sindicom and ACSP.

In 1999, cross-referenced data uncovered taxpayers who claimed to be exempt

[135] [CONGRESSO NACIONAL, 1994]

or economically inactive, and firms registered under the Simple [simplified tax procedures for micro and small firms], but whose bank transactions, surprisingly, amounted to approximately half of Brazil's GDP, as shown in TABLE 19. It is worth noting that 559,161 individuals and firms transacted a total amount of R$ 116.9 billion, a monthly average of R$ 9.74 billion, while "claiming" to be exempt from income tax (of those, 424,435 individuals and firms that transacted R$ 77,736 billion were suspected of evasion, as seen in TABLE 19).

The data also revealed that 254 individuals and firms transacted the overwhelming amount of R$ 164.1 billion without paying income tax. On average, each one transacted R$ 54 million per month, but claimed to be exempt, inactive, registered under the Simple [simplified method of tax calculation used for small and micro firms], or were outright omissive. The analysis concluded that in 1999, 512,117 individuals and companies transacted R$ 465.5 billion, or R$ 38.8 billion per month, without reporting such payments to tax authorities. Implicitly, such transactions represented evaded earnings estimated at R$ 339.2 billion, or R$ 28.3 billion per month. In other words, transactions equivalent to approximately 32% of GDP evaded Brazil's income tax.

Tax avoidance makes the current pattern of tax incidence on production so chaotic, unpredictable, and devastating that it can bankrupt an efficient taxpaying company. On the other hand, it can enable an inefficient tax-evading producer to survive, by looting its competitors in the marketplace.

TABLE 19
Taxpayers that are exempt, inactive, non-registered, and micro or small firms: Value of bank transactions cross-referenced with income tax returns

Annual Bank Transactions (R$ 000)	Number of individuals and firms audited by the Internal Revenue	Estimate tax evasion		
		Number of individuals and firms suspected of tax evasion*	Non reported annual bank transactions (R$ 000,000,000)	Annual non-reported taxable income (R$ 000,000,000)**
Up to 100	29,402,435	-	-	-
> 100 to 500	559,161	424,435	44.7	30.7
> 500 to 1,000	51,065	51,065	34.7	13.9
> 1,000 to 10,000	33,991	33,991	100.9	50.4
> 10,000 to 100,000	2,372	2,372	88.1	80.1
> 100,000	254	254	164.1	164.1
Total	**30,049,385**	**512,117**	**465.5**	**339.2**

Source: Data from the Federal Revenue Agency (1999).
(*) Annual bank transactions greater than R$ 100,000 for individuals and firms, and greater than R$ 1 million for micro and small firms.
(**) Calculated as the average bank transaction figures for each category divided by the ratio of bank transactions/income, as indicated below:
Up to 10,000 = 10; from 10,000 to 100,000 = 5; from 100,000 to 500,000 = 3; from 500,000 to 1 million = 2.5; from 1 million to 10 million = 2; from 10 million to 100 million = 1.5; and + than 100 million = 1.

According to surveys, 40% of Brazil's income are not reported to tax authorities due to evasion or to escaping into the underground economy. This figure implies that the current tax burden of 38% of GDP is borne by 60% of potential taxpayers; in other words, those that pay bear a tax burden of almost 65% of their taxable income, while evaders contribute little to society, or much less than they should.[136]

Furthermore, tax evasion has an inevitable consequence: corruption. In Brazil, tax avoidance and evasion are accepted as normal facts of life, and are often praised as signs of courage and boldness in market behavior. Collusion between tax evaders and corrupt tax officials has been a cause of severe deterioration of ethical and moral standards of Brazilian society.

But it is on labor income that Brazilian tax burden sets a dreary record.

The combination of widespread tax evasion and the need for increased public revenue has turned payroll employees into one of the most heavily burdened subjects of taxation. Because of greater difficulties in practicing evasion or avoidance, regularly hired payroll employees are easy prey to escalating taxation. Additionally, the government has overburdened employers with extremely high fiscal and social security obligations.

Labor income in Brazil, which accounts for only 26.8% of domestic income, bears the burden – directly and indirectly – of approximately 53.5% of the country's tax revenue. This provides clear indication that, in order to compensate for revenue lost to evasion, the government transfers the tax burden to those for whom tax evasion is all but impossible, namely, payroll employees. Data from both the US Internal Revenue Service and the Federal Revenue show that in the United States the individual income tax rate increases from 15% to 19% as taxable wage income reaches R$ 119,200 annually. In Brazil, the same rate increase is triggered when taxable income reaches R$ 15,200 per year.

This fact contributes significantly to current high unemployment rates. Furthermore, the high cost of hiring and maintaining payroll employees is one of the key causes of the growth of the informal economy. Half of Brazil's workers are not formal payroll employees.

Another characteristic of the Brazilian tax system is its regressiveness. In fact, *ex post* the system taxes more heavily those with lower income, although statutory taxes are usually progressive in their formal mechanisms of tax collection. For example, the income tax is progressive *ex ante*, but becomes regressive *ex post* after evasion and all deductions and allowances are duly accounted for. On the whole, the Brazilian tax system is regressive, as found in a recent study that showed that the tax burden for families earning up to two monthly minimum salaries is 48.8%, while it falls consistently across higher income brackets until it reaches a tax burden of

[136] It is implicit in this argument that taxpayers can be separated into two groups: those who pay taxes and those who pay nothing, or less than they should. See [ZOCKUN, 1999].

26.3% for families earning more than thirty monthly minimum salaries.[137]

These facts demonstrate the urgent need for tax reform in Brazil. This is a debt contracted by government and by politicians with regard to Brazilian society during the last decade of the 20th century, and still left unpaid. Despite various attempts, tax reform never happened. The debate was intense; at times, even passionate. But it was never carried out.

It is no simple task to accommodate the specific interests of the vast number of social groups involved in a tax reform. These groups include workers, business men, and government agents, which are further divided by sectors and geographical areas, often with conflicting interests. Each group envisions in tax reform an opportunity to broaden its own economic space. Such conflicting interests cannot be resolved by conventional tax reform, as past experience has shown.

The Single Tax proposal for a tax reform, as will be shown ahead, by allowing gains to all parties involved – the public sector, payroll employees, and business owners – creates favorable conditions for a productive discussion. For the public sector, the Single Tax allows for reduced costs, for dismantling of unnecessary bureaucracy, for administrative modernization, for recovering evaded revenue, and for a lower public deficit; for workers, it allows for wage increases through the transfer to personal earnings of part of the social security contributions and payroll withholdings. For business owners, it allows for reduced costs, for larger markets, and for higher profits and investments.

Antonio Ermírio de Moraes, head of the largest industrial group in Brazil, stated in a published interview that he had engaged his entire legal and tax departments to analyze the Single Tax and the bank transaction tax, concluding that it is evasion-proof.[138] With a Single Tax, only tax evaders and the underground economy stand to lose, but this would be a welcome act of Justice, long overdue.

ROBERTO CAMPOS: THE CHOICE BETWEEN "INNOVATIVE INSOLENCE" AND "PERFECTING THE OBSOLETE"

Roberto Campos was an enthusiastic supporter of new ideas, of innovative insolence, and of the Single Tax. Such posture surprised those who claimed that "Bob Fields" was a starch conservative ("Bob Fields" is the literal translation of his name, as he was jokingly known because of his support for economic liberalism, and for his fierce defense of free market ideals). They were wrong. He was always original, an iconoclast, a creator of new paradigms.

Between 1964 and 1967 he was responsible for implementing the last tax reform in Brazil. He introduced changes that cleared the way for what was called the "Brazilian miracle" of the 1970s, a period of outstandingly high economic growth.

[137] [ZOCKUN et alii, 2007(a)]

[138] Quoted by [CINTRA, 1994(d)].

During the 1980s he became a respected politician and a critic of the government. He claimed that the state apparatus had become deformed, grossly deviating from its original objectives. He pointed to several problems that required urgent solution if the country were to build a modern and prosperous economy. On one occasion he said, "We remain too far removed from achievable wealth, and too close to correctable poverty."

During the last ten years of his life, one of his major criticisms was directed at taxation in Brazil.

He showed that value-added taxes, VATs, which are widely acclaimed as fair and efficient, actually hid another far less attractive reality. The deformities hidden in that invisible reality are amplified in countries with federative systems of government: bureaucratic exacerbation, rampant corruption, exasperating complexity, prohibitive operational costs, irresistible tax avoidance, and ever-seductive evasion. He claimed that a VAT tax is a monster of the declaratory genus, of the bureaucracy-bribery species, beloved only by busybody private and governmental bureaucrats.

In "Reform or Revolution"[139] Roberto Campos stated that Brazil's fiscal ethics had been destroyed. He insisted that to pay taxes was to purchase harassment and irritation, and that only firms in the formal economy and registered payroll employees actually pay direct taxes. The remaining taxpayers, estimated by him to account for two thirds of the total, were tax evaders, which he referred to as delinquents.

In tax matters, between reformist simplifications and revolutionary innovations Roberto Campos preferred the latter. He supported the proposal of a Single Tax, which he considered a seminal idea. He wrote that "*On fiscal matters the country has the chance to introduce a pioneering experience with the Single Tax. This is so because of the coincidence of circumstances inexistent elsewhere: a) both fiscal ethics and the tax structure have begun to collapse; b) the economy became non-monetized (free of paper currency) – paper currency in the hands of the public amounts to less than 1% of GDP; c) the banking system is surprisingly modern and electronically equipped for a third world country."* Campos concluded by stating: "*As I see it, the (desired) features of a fiscal revolution would be: 1) a tax base sufficiently broad and simple to turn innocuous the frontiers between taxpayers and criminals; 2) rates sufficiently low to make unprofitable tax-engineering attempts at finding evasion schemes; 3) automated tax collection that would make dispensable the three levels of federal revenue bureaucracies (municipal, state and federal); and 4) instantaneous transfer of tax proceeds to their beneficiaries, avoiding the complications of tax indexing. All of these conditions are met by Professor Marcos Cintra's proposal (the Single Tax), and by none of the reformist proposals.*"

Roberto Campos became a Single Tax warrior. He emphasized the need to

[139] [CAMPOS, 1991].

implement this system exactly as it had been idealized; in other words, as a tax that would replace all fiscal taxes (those primarily purposed to raise revenue). Meanwhile, in 1992, the government, seized by a tax collecting fury, made an opportunistic use of the basic pillar of the Single Tax, the bank transaction tax, and created the IPMF (Provisional Bank Transaction Tax), which later became the CPMF (Provisional Bank Transaction Contribution). But they were used as additional taxes, in a regrettable violation of the original intent to have a single hegemonic tax.

The creation of the IPMF/CPMF provided Single Tax critics with a valuable opportunity to demonize the bank transaction tax. A myth was painstakingly constructed, which stated that, because of its cumulativeness, the tax was necessarily inefficient, of low quality, and therefore should be fiercely rejected.

Tax evasion – the foremost anomaly of the Brazilian tax system and which the Single Tax proposal emphatically addressed – was relegated to a secondary level of interest in the subsequent debates on tax reform, thus allowing the sprouting of a perverse competitive advantage: continuing and unabated tax evasion allows inefficient firms to survive, as long as they continue practicing it, while more efficient, but evasion-shy firms, succumb to tax fraud and to unfair competition.

Sarcastically, Roberto Campos made a distinction between two kinds of cascade in taxation: one, malign and the other, benign. Malign cascading taxes are those such as PIS and Cofins (taxes on gross income of firms), which are notoriously less prone to evasion. Benign cascading taxes, on the other hand, are those that reduce fiscal obligations to taxpayers, such as the Simple (simplified tax system also called the Single Tax for micro and small businesses), or the corporate income tax option for assessment based on "presumed profits", a fixed proportion of gross income of firms.[140]

Not surprisingly, criticism is always directed at the first group of taxes. Whenever the cascade involves obstacles and restrictions on evasion, and therefore a higher tax burden, it is swiftly seen as diabolical, and therefore as malignant. But whenever a tax model, even if grossly cumulative, reduces the tax bill, the cascade is considered benign, even by hard line critics of cumulativeness. Such bias can be clearly seen in the crusade against the CPMF, the only tax in Brazil that has been proven impossible to evade.

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[140] Even these cascades that today are considered benign faced strong opposition from public bureaucracy. For example, on Jul.11, 1996, the newspaper *Folha de São Paulo* reported that the Coordinator of the Tax Administration of the Finance Secretariat of São Paulo, Clovis Panzarini, showed indignation at the recently approved tax simplification program for micro and small businesses, the Simple [method of tax calculation], saying that this program "would disorganize the economy of the state of São Paulo", because it would be impossible for two different tax systems to coexist within the same economy. Curiously, despite its cumulativeness, the Simple method was highly praised, as for example, in an editorial in the newspaper *O Estado de S.Paulo*, dated Sep.12, 1996, which characterized it as "pure good sense."

Roberto Campos argued in favor of "reformatting the State", and gave special emphasis to the Single Tax proposal. Throughout his brilliant career, his privileged mind was always capable of seeing far beyond. He demonstrated clearly and unequivocally that tax reform is a fundamental demand for approximating "achievable wealth" and for combating "correctable poverty". But unfortunately, discussions about tax reform in 1999 resulted in a report issued by the Special Commission on Tax Reform of the lower house of Brazilian Parliament that Roberto Campos qualified as a futile attempt "to perfect the obsolete".[141]

Among his many memorable articles there are some that deserve extensive reproduction.

In "The Funeral of the Invoice"[142] and in "How to Get Out of the Madhouse"[143] Campos describes, in his usual masterful style, the dichotomy of current tax debate, as reflected in the bloody duels between those who support conventional tax models and those who seek new bases on which to build a modern tax system.

In the first article, Robert Campos says, *"two concerns afflict analysts of 'Brazil's sovereign risk' in both the medium and long terms. The first is our "fiscal madhouse" (costly tax collection and multiple forms of evasion), which creates a sinister dilemma: whether to increase tax rates, thereby weakening taxpayers, or to sacrifice essential investments. Fiscal disorder is acutely seen in the Executive branch, moderately in the Legislative, lightly in the state and municipal governments, whereas the Judiciary continues to be fertile at granting injunctions to protect 'acquired rights, or abuses'. The second concern is the insolvency of the 'pay-as-you-go' social security system, which is structurally deficit-ridden.…In fiscal matters, we are achieving a primary budget surplus thanks to emergency (once and for all) revenue that only further complicates the tax structure. Any effective reform must take into consideration three facts: 1) hired labor is taxed excessively, leading to informal jobs or unemployment. Furthermore, taxes and union dues are shrinking worker's 'take-home pay' (net wages); 2) declaratory taxes that require abundant paper work – IR [Income Tax], ICMS [Circulating Sales Tax on Goods and Services], IPI [Industrial Sales Tax], ISS [Tax on Services], etc. – and involve three levels of bureaucracy: tax compliance, auditing by the Federal Revenue, and often the litigation process; 3) Brazilian cultural tradition is prone to fiscal rebellion, due to the anemic supply of government services, the system's complexity, and corruption among tax officials. This makes unproductive those taxes that rely on declaratory paper returns from taxpayers.*

"Taxes must be automatic, collected electronically at the root of the economic process. There are bills in Congress, such as those sponsored by Congressmen Marcos Cintra and Luís Roberto Ponte, in which the bank transaction tax, and

[141] [CAMPOS, 1999(b)].

[142] [CAMPOS, 1999(a)].

[143] [CAMPOS, 1999(b)].

special excises (called selective taxes) on essential inputs – electricity, fuel, vehicles, and telecommunications (in addition to cigarettes and alcoholic beverages) – would replace all other declaratory taxes based on paper tax returns. Collection would be done electronically, dramatically reducing costs and the gymnastics of tax avoidance.

"The Government's proposal to replace current taxes with a federal VAT has obvious merits, such as simplification, but it merely improves the obsolete, since taxes would continue to be paper-driven and to be assessed by a highly bureaucratic procedure.

"Classical tax structure, to which we hold so firmly, is a curious handicraft relic in the electronic age. An alternative is the bank transaction tax embedded in a Single Tax model, which nevertheless, faces some spurious objections. One of the objections is its alleged 'cascade' effect, which in reality is a benign form of 'progressiveness', because it affects more than proportionally the rich, who make comparatively more bank transactions and purchase more products with long productive chains. The other objection has to do with the tax federalism and the autonomy of states and municipalities. But this autonomy is more adequately preserved when state and local government are granted guarantees of automated collection of revenue and availability of funds for spending, than the illusory power to create evasion-ridden taxes that require costly fiscal bureaucracy to raise revenue. States and municipalities would be given their revenue shares without any bureaucratic or political intermediation.[144]

"Partisans of electronic taxation now have a powerful ally in the search for new fiscal technology: internet e-commerce, which is growing at an annual rate of 70% in the United States. This explosive growth, which weakens the effectiveness of the sales taxes, will have as an inevitable consequence at least: 1) a unification of state and local tax rates and classifications; and 2) a mechanism to centralize tax collection. Last February, the United States Governors Association issued a manifesto that favors the creation of a '21st Century sales tax applicable to the Net'. Everything points to the Internet as the funeral for tax invoices, in the same way the fax was the tomb of the telex and airplane, the exterminator of air-balloons."

In the second article, Roberto Campos says that *"for some time now I have considered the deconstruction of our fiscal madhouse to be extremely urgent, in order to correct two major evils: tax evasion, which divides the country into 'taxpayers' and 'free riders', and the high cost of labor, which causes informal work relations or unemployment."*

"Today, there is a third reason, because globalization and digitalization represent a 'paradigm shift'. The productivity of classical taxes on production, circulation, and services has been greatly diminished; these are homespun relics in

[144] According to [McLURE, 1999] "tax viability" is an economic matter of having adequate revenues, while "tax autonomy" is a political matter of having control over revenues. available in www.marcoscintra.org/singletax

the electronic society. There are many reform proposals, all affiliated with one of two lines of thought: that of the 'papyrophiles" who limit themselves to simplifying the paper and document-driven system, and that of the 'eletronicphiles' who wish to abolish classical paper-driven declaratory taxes that presuppose that taxpayers will correctly and dutifully fill out tax returns for income, sales, and services…(which) on one hand increases compliance costs, and on the other, facilitates tax evasion.

"The major proposal now in Congress is the preliminary report written by Congressman Mussa Demes, of the Special Commission on Tax Reform. It is an effort to 'perfect the obsolete', because it would replace the ICMS, the IPI, and the ISS with a new ICMS (a value-added tax) under federal legislation and shared with the states. Being a tax under responsibility of both federal and state governments, it would have double auditing and collecting operational jurisdiction. Furthermore, if the new ICMS were to incorporate the social contributions – PIS, Cofins, and CSLL [Social Contribution on Profits] – the current 17% rate would have to be increased in order to substitute for their lost revenues, further stimulating evasion.

"The other approach to tax reform adopted by the 'electronicphiles', was the object of a bill presented by Congressman Luís Roberto Ponte, already approved by the Special Commission on Tax Reform . However, it was never brought up for a vote on the floor of the House due to the opposition from the Government, which prefers topical micro-adjustments in the tax system to radical changes. Fortunately, Congressman Marcos Cintra has just introduced in the lower chamber an 'alternative proposal' which smoothes out the original idea of a 'Single Tax' on bank transactions, and attempts to reconcile the two opposing lines of fiscal thought.

"There would be few taxes; almost all non-declaratory. Current property taxes (IPVA [Motor Vehicle Tax], IPTU [Urban Land and Property Tax], and ITR [Rural Land Tax]) would be preserved, as would regulatory taxes on foreign trade and on credit (IOF [Tax on Financial Transactions]). Due to the insistence of state capital cities, which extract approximately 25% of their revenue from the service tax (ISS), it would remain in force, as opposed to the Demes proposal of a new retail sales tax for municipalities, which is costly to collect and easy to evade.. One significant advance is to replace the panoply of social contributions – Cofins, PIS/Pasep, CSLL, and the employers' payroll contribution – with a global tax on bank transactions, purged of the imperfections of the CPMF. The income tax, which at its heart is a socialist rascality because it punishes those who are most diligent and creative, would be compacted. Individuals earning up to 20 monthly minimum salaries would be exempt. The corporate income tax would be abolished.

"It is a tenacious illusion to think that firms are the ultimate taxpayers. Taxes always fall upon individuals, whether stockholders, through losses in earnings, workers, through paycheck withholdings, or consumers, through higher prices of goods. To stimulate reinvestment, in the Cintra bill, profits would only be taxed if distributed to individuals.

"Abolition of the employer's contribution to the INSS [National Social Security Tax] would encourage employability in the formal sector. If we want deep and lasting fiscal reform, we must take into consideration the effects of globalization and digitalization. Today, a transnational corporation can choose to account its profits or purchase its components in whatever country has the most benign and least bureaucratic fiscal system. Then again, how should labor regulations treat a "telecommuter" who works for companies located in another country?

"The fairest tax is not the one that best redistributes income (because social justice is best handled on the spending side of the budget), but rather the one that is most evasion-proof and inexpensive to collect.

"The bank transaction tax, replacing the CPMF, would be the most appropriate system in a digital economy such as Brazil, but unfortunately it has been demoralized by its 'cascade effect'. Nevertheless, it should be seen as one of those benign cascades since revenue collection is free of bureaucracy and almost evasion-proof, as opposed to the malignant cascades implicit in the Cofins and PIS/Pasep (declaratory gross revenue taxes totally dependent on reported sales). The bank transaction tax will seem much friendlier if acknowledged as a 'progressive tax', since it is levied mostly on the wealthy, who conduct larger transactions and purchase sophisticated products that have extensive production processes. Only two of the objections to the cascade are relevant.

"The first is the negative effect on high-speed transactions in the stock market. This has led Congressman Marcos Cintra to propose that taxation only be applied to realized earnings, and not to transactions within the capital markets.

"The other has to do with the alleged impossibility of allowing tax credits on exports. The solution lies not in tax credits but on 'rebate' procedures allowed by the WTO. That is, restitution to exporters of amounts equivalent to the average tax burden extracted from embarked products, calculated according to Leontief's input-product tables which are now routinely available from the IBGE (Brazilian Institute of Geography and Statistics). This is preferable to the current and highly conflicting procedure of compensating the exporting States for the hypothetical loss of revenue due to exemption of ICMS in foreign trade. Replacing the ICMS with an excise tax on electricity, fuel, telecommunications, vehicles, alcoholic beverages and tobacco, collected electronically as they leave their production loci *usually concentrated in a few large plants, would have several advantages: no evasion, less bureaucracy, automatic partition and delivery of revenue, electronic tax collection, and full compatibility with the digital age."*

Roberto Campos concludes by saying, *"It surprises me that Congressman Cintra's 'alternative proposal', which is more modernizing and simplifying than the Government proposals found in the Demes report, has been discussed so little in Congress and by the press. It would be melancholic if, in the electronic age, we were to remain subject to the papyrophilia of classical taxes'*."

In the article "The Fiscal Madhouse"[145], Roberto Campos illustrates with great precision the tax atmosphere in Brazil during the 1990s. He says that *"one of the myths that have hindered tax reform has been the belief that an essential requirement of federative autonomy is to preserve the three separate tax revenue machines at the three levels of government. Some federations, such as Germany, have centralized tax collection. The true autonomy and independence of states and municipalities rest in their freedom to spend according to their own priorities. The method of tax collection should be the simplest and cheapest possible, and funds should be partitioned and delivered automatically and instantaneously.*

"Among conventional declaratory taxes – income, consumption, and services taxes – the progressive income tax, considered to be the most equitable by neoconservative leftists, is precisely the most inadvisable in developing countries. There are three possible principles of equity: a) the benefit principle, taxing individuals according to the benefits they draw from public services; b) the liberal principle, according to which individuals should be taxed proportionally to their consumption, that is, to the use they make of society's production; c) the socialist principle, according to which individuals should be taxed progressively, according to their ability to pay, which reflects the contribution they make to society through their productive efforts.

"The socialist principle is anti-development. It creates disincentive to savings and investment – precisely the opposite of what is advisable for a developing country. In the extreme case, defended by foolish leftists, in addition to the tax on current income, accumulated income should be taxed again (wealth tax on large fortunes), with the resulting effect that capital accumulation would take place elsewhere, and not within our Tropic of Capricorn.

The insufficiency of internal savings is driving even industrialized and rich countries such as the United States to consider replacing progressive income taxes with a Flat Tax, that is, a single rate applicable both to businesses and individuals, levied only on consumed income and not on produced income (of course, with generous exemption for the poor)."

Roberto Campos continues, in "Jatene's Revenge"[146] : *"my position on the subject has always been clear. I consider, in theory, that the Bank Transaction Tax is the most modern and efficient tax collection instrument. Its use only became viable on a large scale with the advent of electronic banking payment systems. Essentially, it is a creature of the electronic age. Instead of taxing subsets – such as income, services, and merchandise circulation – we would tax a synthesis of them all – the bank transaction – which in modern economies is a faithful reflection of all economic transactions and payments. I opposed the IPMF (a temporary bank debit*

[145][CAMPOS, 1999(b)]

[146] [CAMPOS, 1997].

tax introduced in 1992-3) because it was just one more tax, in addition to the existing ones. It simplified nothing. It adopted the 'methodology' of a single tax, eliminating fiscal bureaucracy, but it violated the philosophy of the single tax, which is the ultimate simplification of the system as a whole. In 1996, I accepted the CPMF (the former bank debit tax was turned into a contribution), albeit with discomfort, surrendering to Jatene's argument [Dr. Adib Jatene, former Health Minister] *that the public health network was facing imminent collapse, with no available fiscal alternatives. Spending cuts and reformulation of the corrupt health system would only produce results over the medium and long term.*

"I do not have the least respect for the conventional wisdom that enthrones classical taxes as indispensable, such as income tax and value-added taxes on sales of goods and services. Both are intolerably obsolete. They lead to the creation of parasites, social classes such as tax officials and tax professionals, who do not profit from productive activities, but rather from 'exploiting complexity'. All declaratory taxes, which require paper returns (income, consumption, or services taxes), involve two bureaucracies: the taxpayers' and the auditors'. The more complicated the tax is, the greater the profits of the parasites. In Brazil we achieve the maximum waste with five tax collecting machines: municipal, state, federal, labor, and social security.

"A good tax is neither an 'old tax' nor a 'classical tax'. A good tax is one that is evasion-proof and is automatically collected. Any tax that can be evaded is socially unfair. And if collection depends on tax reporting paperwork, it becomes a waste. The features of a tax that is automatic and evasion-proof are precisely the features of the Single Tax on bank transactions, which have not found support from the Government or even from Congress.

Roberto Campos concludes: *"unfortunately, the simplifying methodology of the bank transaction tax has been demoralized by the fact that the Government has twice – with the IPMF (1993) and with the CPMF (1996) – used the tax's automatic 'methodology' without paying heed to its simplifying 'ideology'. An otherwise sophisticated instrument has been ruined through misuse, like a fencing foil being used for cutting sugar cane…"*[147]

The most curious element of this debate, the flavor of which Roberto Campos captured so charmingly in his newspaper articles, is that representatives of the entrepreneurial classes do not understand their own reality and do not tend to their own interests when they oppose the bank transaction tax solely on the basis of its cumulativeness. Over 90% of Brazilian firms voluntarily subject to cumulative taxes through tax methods and systems that are widely accepted and openly praised by the business community, although only applicable to micro and small firms. These

[147] Concerning the government's use of the Single Tax bill in 1993 with the IPMF, and later in 1996 with the CPMF, see [CINTRA, 1994(g), 1994(f), 1994(d)]; see also [ROCHA, 1994]. Concerning the CPMF, see [CINTRA, 1996, 1997, 2001(a)].

methods are widely adopted not by imposition of tax agencies, but by free choice of those same people who, exhibiting a contradictory stand, advocate the immediate elimination of turnover cascading taxes in exchange for declaratory value-added taxes (VATs).

THE CONTROVERSY BETWEEN THE CENTRAL BANK AND THE FEDERAL REVENUE ON THE CPMF

The Brazilian Central Bank issued two reports analyzing the economic impact of the CPMF.[148] It took a clear position against levying the CPMF on transactions performed in the financial and capital markets.

It should be remembered that just before the announcement of the timid tax reform of 2001 the president of the Central Bank, Armínio Fraga, stated that the government had at last decided to exempt such transactions from the incidence of the CPMF. The exemption was not immediately granted, as the Central Bank had expected, and this may have motivated publication of the two papers as a means of putting pressure on economic authorities to allow the planned exemption,[149] which was finally enacted only in 2004.

In general, the allegations of the Central Bank pointed in two directions. First, the drop in transactions performed in the Brazilian stock market was attributed to the effects of the CPMF. Secondly, it was stressed that the turnover tax was having strong effects on interest rates, thus explaining their high levels.

Actually, since the very beginning of the debate over the Single Tax on Bank Transactions, attention had been drawn to the inadequacy of applying such tax on the financial and capital markets. A financial investment is strictly an operation that involves renting money, or capital. Thus for the same reason that the CPMF is not imposed on the value of real property each time a lease contract is renewed (it is imposed only on the flow of rents, and not on the stock of real estate capital), it must also not be levied on the value of the principal in a financial transaction each time a contract is due, or an investment is reissued, or rolled over.[150]

When the Government introduced the Provisional Tax on Bank Transactions (IPMF) in 1993-1994, which was followed by the CPMF in 1997, it did not exempt transactions in the financial and capital markets, although it was full aware that the cumulativeness of the IPMF/CPMF impacted these markets, especially the structure

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[148] [ALBUQUERQUE, 2001]; see also, [KOYAMA and NAKANE, 2001].

[149] Actually, the stock market exemption was effectively implemented only as a by-product of the publication of the conclusions of the Special Committee on Extending the CPMF, in October 2001.

[150] José Alexandre Scheinkman, unlike those who see cumulative taxes as the cause of stagnation in financial and capital markets, shows that the major tax cause of capital market atrophy was found in "*tax structures with high marginal tax rates and little enforcement, which encourages illegal practices and accounts, and introduces disadvantages to publicly-held companies, which naturally have greater difficulty in maintaining parallel accounting*." [SCHEINKMAN].

of interest rates.

Albuquerque, the author of one of the Central Bank's papers, lists various reasons for criticizing the bank debit tax. He addresses the CPMF as a bad tax, which shows "*significant deficiencies as a revenue instrument*", among them its impact on interest rates "*in a manner disproportional to other taxes*" and which, as a consequence, increased government expenditures in servicing the public debt. In addition, he mentions other criticisms to the bank transaction tax, like the disincentive to using banking services, the illiquidity in the financial markets, which diminishes the incentives for increased use of credit, and its high dead-weight losses.

Notwithstanding the imprecision of some of these claims, the paper presents an incomplete and biased analysis of the problem, in addition to having methodological weaknesses, as pointed out in a paper by the Federal Revenue.[151]

According to it, the validity of the conclusions of the Central Bank's paper depends on some unlikely and unrealistic assumptions, such as the existence of perfect competition and of a completely specified production function. Furthermore, there are flaws in the specifications of the econometric model (such as not including relevant variables) and the possibility of a strong correlation in the residues of the selected variables, which might indicate a problem of spurious relations.

Technicalities aside, the Central Bank paper attempts to demonstrate that imposing the CPMF on financial markets leads to serious problems, whereas the Federal Revenue's rebuttal has largely minimized the impact of such alleged effects. Arguments such as the inducement to excessive verticalization in the production process,[152] the risk of bank disintermediation, and the lack of progressiveness and selectiveness of the CPMF, are issues which have already been thoroughly discussed during the 1990s, and which could be safely discarded as being devoid of practical interest. None of these risks has been empirically observed during the life of the CPMF.

Therefore, we shall concentrate on evaluating the validity of two more relevant criticisms, which are: the impact of the CPMF on interest rates, and the possible erosion of its base of incidence as nominal rate increases.

The claim that the CPMF has caused a significant increase in real interest rates can be rebutted quite easily, even though, *coeteris paribus* the CPMF does effectively lead to a higher cost of money. In other words, the criticism may be qualitatively true, but a quantitative evaluation demonstrates that this is a problem of minor importance.

The Central Bank model presupposes, without plausible justification, a totally inelastic demand for credit, which obviously magnifies the CPMF's impact on interest rates. Based on that, the Central Bank paper asserts that the CPMF

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[151] [SECRETARIA DA RECEITA FEDERAL, 2001(a)]

[152] On this, see [CINTRA and ZOTTMAN, 2002].

"*contributes to the increase in the public deficit*". In other words, what it implies is that revenue from the CPMF is less than the increase in the public debt service that it may have caused. With CPMF revenue estimated at approximately R$ 19 billion in 2001, and accepting the exaggerated assumption that 40% of net public debt (approximately R$ 240 billion) is indexed to the Selic rate (rate of interest paid on government bills), the paper leads to the conclusion that the CPMF must have caused an increase of at least eight percentage points in nominal interest rates.

This is a gross exaggeration, as the Central Bank itself claims that the CPMF has had a 2.7% impact on Selic rates, 3.3% on consumer credit, and 5.9% on the interest rate charged on overdrawn bank account balances. Actually, the greatest impact on interest rates in Brazil does not stem from the CPMF, but rather from the banking spreads.

Several of the Central Bank's papers claim that the influence of taxes on banking spreads is very modest, and that more important than taxes are the rates of interest demanded by savers, the operational costs of banks, and their profit margins. Even if we grant that interest rates demanded by savers are influenced by the CPMF, it cannot be denied that high interest rates in Brazil are more likely explained by the microeconomics of the Brazilian banking system, with its notorious concentration, its cartel-style organized trade associations, its high operational costs, and its high profit rates.

According to the Federal Revenue paper, to claim that the CPMF is responsible for Brazil's high interest rates "*is to jump to conclusions. The CPMF impacts interest rates in the same way as other taxes long imposed on bank transactions (such as the IOF, a tax on credit), countless fees charged on transactions and many other cost and profit items related to financial intermediation activities. Before reaching a conclusion... one must determine the true components of the banking spread (30.4 percentage points in January 2009), of which more than half is accounted for as banks' gross profits, net of indirect taxes). However, it is well known that these factors are not the most relevant in determining Brazil's interest rates. Interest rates represent, in synthesis, the market's overall assessment of Brazil's creditworthiness...*" Thus, it can be seen that blaming the CPMF for the high costs of capital in Brazil is more likely a good excuse for justifying the banking sector's high profitability.

Furthermore, an impartial analysis of an eventual increase in interest rates caused by the CPMF should consider the countervailing effect the CPMF may have had in reducing banking costs by replacing traditional paper-driven declaratory taxes, which are known to have much higher compliance and administrative costs.

In spite of the fact that the author of the Central Bank paper has not based his conclusions on reliable empirical data, and that he may be reaching conclusions that are highly speculative in their quantitative results, the fact is that a bank transaction tax does indeed tend to raise interest rates. And though this effect may not be very significant, and therefore should not be held responsible for the budgetary problems

faced by Brazil's public sector, the CPMF should not be imposed on the financial and capital markets, as I have been insistently pointing out since the earliest discussions about the Single Tax proposal, in the beginning of the 1990s.

This recommendation is not based on the CPMF's quantitative impact on interest rates, but rather on a conceptual necessity. In this regard, the Central Bank paper's arguments are well-founded, although for the wrong reasons. Nevertheless, it lays solid ground for not imposing the CPMF on the financial and capital markets.

It must be noticed, however, that the Single Tax proposal,[153] which provides for the non-incidence of the CPMF on financial and capital markets, does not create any privilege whatsoever for them. Such transactions are taxed, albeit with a special procedure. In other words, we advocate the non-incidence of the turnover tax on such transactions, but, in exchange, we call for a non-cumulative procedure that taxes net earnings of financial investment portfolios, regardless of the number of intermediary transactions carried out, at rates equal to the average rate of the current tax system. Thus, if a Single Tax with a turnover rate of 3% raises revenue equal to 25% of GDP, the rate applicable to financial portfolio earnings should be the same 25%.

It is important to underscore this characteristic of the Single Tax, because the Federal Revenue, in its paper on the CPMF, strongly criticizes those who support exempting the financial markets, believing the exemption would be granted unaccompanied by specific taxation of that sector. This is obvious disinformation by the paper's author, who states that such an exemption would "*privilege a class of individuals, precisely the most fortunate, to the detriment of the remainder of the population subject to the CPMF*."

As for the fear of the Federal Revenue that the taxation method for financial investments proposed by Single Tax supporters "*would demand extremely complex and costly operational control*", it is a surprising statement in view of the conclusions drawn by the critics themselves who, in another section of the paper, demonstrate convincingly that the electronic age and the progress in digital technology are capable of supporting a tax system that is based on electronic impulses, simply, cheaply, and efficiently. In other words, it would not be recommendable to give in on a correct conceptual principle merely because of presumed operational difficulties.[154]

The second aspect of the CPMF strongly criticized by the Central Bank has to do with the allegation that as its nominal rate increases, its base of incidence is gradually eroded.

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[153] See [CINTRA, 1994(b)].

[154] We should state that the criticism pointing to a likely loss of revenue caused by exempting the financial markets from the CPMF is based on the absence of compensatory tax mechanisms in PEC No. 378/2001, which was presented by the author, and which called for exemption in the financial markets. The reason is that a countervailing tax, being a special tax on financial income, would require separate legislation and, therefore, was not included in such PEC.

Initially, it is important to admit that any tax suffers from this effect. The higher the tax's nominal rate, the greater is the stimulus to evade it. It is also expected that the strength of this effect tends to accelerate as the nominal tax rate increases.

Concerning this aspect, cumulative taxes such as the CPMF have some clear advantages. Tax base erosion occurs mainly as a function of marginal tax rates. In the case of value-added taxes, which are imposed on a smaller tax base (value-added at each production phase), the rates required to reach a given level of revenue are higher than those required by a cumulative tax, which is imposed on a broader base (gross value of sales). Furthermore, VATs have equal average and marginal rates, whereas in cumulative taxes the average rate is always higher than the marginal rate. Having said this, it is easy to conclude that the impact of self-erosion on the tax base may be stronger in VATs than in turnover taxes.

In the case of the CPMF, a measure of the tax base erosion that the Central Bank claims to have taken place in Brazil must be searched in the growth of bank disintermediation, in the drop in bank deposits, and in the concomitant expansion of the use of paper currency, to the detriment of fiduciary and other forms of currency such as checks, credit cards, electronic transfers etc. In other words, for the Central Bank's allegation to be true, the public must have reduced its use of banking institutions, making increasing use of paper currency.

The data, however, do not support this statement. TABLE 20 shows that, following the fast drop in inflation after the Real Plan in 1994, and with the introduction of bank transaction taxes (which supposedly would have strongly increased preference for paper currency), indicators of preference for paper currency showed significant differences compared to earlier levels, albeit remaining at levels significantly lower than seen in other countries. Cash deposits in the banking system have been increasing in proportion to GDP, and the public's preference for paper currency has remained practically constant vis-à-vis bank deposits.

Lastly, the evidence used by the Central Bank to argue against the CPMF, based on international experience, is not theoretically comparable to Brazil's experience. The conditions for a well-functioning bank transaction tax do not exist in any other economy. Only Brazil satisfies the basic prerequisites conducive to the correct application of a bank transaction tax, as shown in other sections of this text. Thus, other countries' experience with bank transaction tax are weak indicators of what could happen in Brazil, and which, from a conceptual point of view, turns any comparison into a totally speculative exercise. In other words, the *coeteris paribus* conditions for a correct comparison of operational efficiency across countries are not present. [155]

[155] The author of the Central Bank's paper also estimated the CPMF's dead-weight loss, but failed to compare it to the corresponding loss associated with a VAT raising the same revenue.

TABLE 20
Paper currency in circulation, cash deposits and public preference
Brazil (1992-2008)

Year	Paper currency in circulation (% GDP)	Cash deposits (% GDP)	Public preference for paper currency	Public preference for cash deposits
1994	2.2	3.7	0.37	0.63
1995	1.6	2.2	0.43	0.57
1996	1.7	1.7	0.50	0.50
1997	1.9	3.0	0.38	0.62
1998	2.1	2.9	0.42	0.58
1999	2.2	3.3	0.40	0.60
2000	2.3	3.7	0.38	0.62
2001	2.4	3.7	0.39	0.61
2002	2.7	4.2	0.39	0.61
2003	2.4	3.7	0.40	0.60
2004	2.6	3.9	0.40	0.60
2005	2.7	4.0	0.40	0.60
2006	2.8	4.2	0.40	0.60
2007	3.1	5.1	0.38	0.62
2008	3.1	5.0	0.41	0.59

Source: Central Bank
(*) Based on average daily balances

Concerning the alleged ill-effects the CPMF might have caused in Brazil's stock markets, the Federal Revenue paper satisfactorily demonstrated the lack of a causal nexus between the CPMF and the drop in domestic trade volume. In fact, the creation of ADRs (American Depositary Receipts), which are surrogates for Brazilian stocks used in American stock trading, bears primary responsibility for the migration of such transactions to the U.S. market. The same occurred, as that paper demonstrated, in Argentina, Chile, and Mexico, whose domestic stock trade virtually disappeared (in Mexico, it dropped from US$ 300 million per day to less than US$ 30 million per day), even though there was no cumulative tax on stock market transactions in any of those countries. Actually, capital seeks greater liquidity such as found in US markets. For foreign investors, the use of ADRs reduces the risk associated with fluctuations in the rate of exchange. Thus, in Brazil, there is a clear causal relationship between stock trade migration abroad and the creation of ADRs, but not between migration and the CPMF. However, the Central Bank's model of analysis ignores this causal nexus.

Summing up, the Central Bank's paper is superficial, it mistakenly specifies the econometric models, and it omits variables and causal relationships that could significantly change its findings. Furthermore, it points solely to the costs and disadvantages of the CPMF, such as raising interest rates and its negative impact on the financial markets, but completely ignores its virtues, such as the elimination of tax evasion, the lowering of administrative costs to the public sector, and the reduction in corruption that goes hand in hand with non-declaratory, electronic taxes.

The other paper by the Central Bank[156] also shows surprising conceptual and statistical weaknesses. It reveals the clear intention to demonstrate, by means of an illusorily methodological sophistication, something which cannot be easily proven, namely that the CPMF has caused significant financial disintermediation in Brazil.

The previously mentioned paper authored by the Federal Revenue states that, "*the criticism linked to financial disintermediation can easily be refuted, since agents did not stop performing financial transactions as a result of the CPMF and the Brazilian banking system continues to operate normally*."

The Central Bank paper intends to demonstrate the undesirable impacts of the CPMF on financial markets. Thus, it claims that the CPMF erodes its own tax base and that it has been responsible for the reduction in the number of checks used in the economy (remonetarizing the economy); that the CPMF displaced savings deposits in favor of investment funds, and that it increased the banking spread.

The CPMF should not, indeed, be levied on the financial, credit, and capital markets. If the Government had correctly implemented the original Single Tax proposal, it would not have imposed the CPMF on such markets. Nevertheless, it is imperative that we point out the imprecision and technical weaknesses contained in the Central Bank studies, as they attempt to impute faults and distortions to the CPMF without solid empirical foundation. Rather than being scientific, the paper reflects misconceptions and prejudices.

To impute to the CPMF the decline in the number of checks issued is, at best, a gross mistake. Rather, such decline is part of an ongoing trend that occurred even during periods when the CPMF rates remained constant.

According to the Federal Revenue, the paper is misleading "*because the model fails to consider the true variables that cause the reduction in the use of checks*." It states that "*even the Brazilian System of Payments* (an innovative and path breaking real-time and on-line system of transfers of bank reserves) *will further stimulate real-time digital transactions, which means that the Central Bank's policy will also seek to discourage the use of checks as a means of payment, since they are obviously not adapted to the digital economy*." Likewise, banks discourage the use of paper checks, either through charging high service fees, such as for use of checks, or through emphasizing the greater safety and reduced operational costs of electronic transactions. Therefore, the assertion that the CPMF is responsible for the drop in the use of checks is totally unfounded.

Furthermore, the Central Bank's argument states that the CPMF, by taxing bank transactions, could stimulate the use of paper currency and the re-monetization of the economy. In addition to the fact that this hypothesis has not been confirmed, as we have seen above, this phenomenon is not accurately measured by the *number* of checks issued, as done in the Central Bank paper, but rather by the *value* of the checks issued. Because the use of checks carries an increasing per unit service

[156] [KOYAMA and NAKANE, 2001].

charge, a more rational use of this payment instrument would imply that the average value of cleared checks would have increased. Even with a smaller *number* of checks, the *value* of transactions may have increased. In fact, as seen in TABLE 21, the value of checks cleared has only begun to drop significantly since 2003, with the development of internet banking and the growth of debit cards, showing no relation with the introduction of the CPMF in 1997.

TABLE 21
Number and value of checks cleared
Brazil (1997-2007)

Year	Number of checks cleared (000,000)	Value of checks cleared (R$ 000,000,000)	Value of checks cleared/GDP (%)
1997	2,943.9	1,860.4	198
1998	2,751.5	1,797.4	184
1999	2,612.1	1,741.0	163
2000	2,637.5	1,805.8	153
2001	2,600.4	1,884.9	145
2002	2,397.3	1,675.2	113
2003	2,246.4	1,092.4	64
2004	2,106.5	1,085.9	56
2005	1,940.3	1,024.2	48
2006	1,709.4	984.4	42
2007	1,533.4	989.8	39

Source: Central Bank

But the Central Bank's attempts to criticize the CPMF are mistaken not only on conceptual grounds, but also on the econometric models and premises adopted. In addition to the misleading specification of the models (using the number rather than value of checks as the dependent variable in the regressions), the results are not strongly significant. Most of the estimated coefficients are not significantly different from zero. The same problems are found in the remainder of the paper in question: coefficients with no statistical significance and questionable conceptual models. Not to mention a contradiction found in one paper relative to the results reported in the other.

The Central Bank's Discussion Paper No. 21[157] states that the base of the CPMF shows high elasticity with respect to the tax rate applied. This would explain, according to its author, the high dead-weight losses associated with it. On the other hand, in Discussion Paper No. 23[158] the claim is made that "*the revenue base of the CPMF is inelastic relative to variations in its rate…*" Surprisingly however, and though contradictory in the causal relationships claimed to be found, both studies

[157] [ALBUQUERQUE, 2001]

[158] [KOYAMA and NAKANE, 2001]

were unanimous in criticizing the CPMF!

The inconsistencies found in these papers go so far as to claim that the growth of money supply as measured by M1, which in Brazil is basically the balance of cash deposits, increased because "*checking account withdrawals and deposits for investment in extremely short-term funds are penalized by the introduction of this tax*". The truth lies elsewhere. It is the newly conquered monetary stability that makes unnecessary the high turnover of funds that marked Brazil's hyperinflationary period. Furthermore, the paper calls irrational the behavior of an investor that accumulates cash deposits in order to avoid the 0.38% of the CPMF, but accepts the loss of monthly yield of more than 1% by leaving his funds idle in bank accounts. The Central Bank ignores the opportunity cost of cash deposit balances.

The same analytic superficiality and statistical weakness can be found in other correlations presented by the Central Bank. To say that "*the CPMF might be inducing migration of savings account deposits to short term investment funds*" is a claim completely devoid of causal nexus. The migration of funds that follows a transition from hyperinflation to stability is an obvious truism, and has little to do with the CPMF.

As the Federal Revenue states "*the fact that two variables tend to show opposing tendencies does not necessarily mean that a direct or indirect relationship exists between them. Both can be influenced by other variables that explain the strong mathematical relationship indicated by the correlation coefficient.*" The paper also states that "*the main advantage of financial investment funds in relation to savings deposits is due to the following factors: greater individual access to the capital market; greater yield; better alternative for the small saver; and a reduction in risk exposure*." Thus, contrary to the Central Bank results, the inverse relationship between the use of the CPMF and diminishing balances in savings accounts is clearly a spurious correlation.

Finally, the Central Bank's Discussion Paper No. 23[159] states that the CPMF significantly affects banking spreads. "*It worsens the situation of borrowers, savers, and banks, because it increases the cost of loans to borrowers, reduces gains for savers, and decreases bank spreads*". The surprising aspect of this assertion is that it suggests the existence of a better tax alternative to the CPMF, which does not burden taxpayers, directly or indirectly. If such a tax does exist, the Central Bank should immediately make it public, as supporters of the Single Tax would certainly adopt this new and miraculous type of tax.

The authors demonstrate lack of knowledge of banking microeconomics. It is an oligopsony, with few credit suppliers and a large number of borrowers. Under these conditions it is fanciful to believe in the veracity of their conclusions as when they claim that "*the borrower tends to demand a lower rate of interest in view of the need to pay not only the interest charged, but also the tax burden. On the other hand, the*

[159] [KOYAMA and NAKANE, 2001].

saver will demand, in addition to the usual return, an additional amount necessary to pay the tax." Analysis of the elasticity of supply and demand in oligopsonic markets quickly shows how fanciful these assertions can be, since they imply an environment in which banks would be sandwiched between ambitious savers and powerful borrowers!

The Federal Revenue concludes its analysis of the Central Bank papers with a strong, though not surprising, statement. "*Opposition to the CPMF in the financial markets is due to, in our opinion, the possibility that, through data generated by withholding the tax, the privacy of banking investors may be violated… the Federal Revenue agency will gain knowledge of all monetary transactions related to tax evasion schemes (unreported sales, drug dealing, bribes, corruption, etc.)*."

Before concluding, it is important to address another controversial issue having to do with a bank transaction tax: its revenue productivity.

The studies published by the Central Bank mention the concept of the Laffer Curve, according to which tax rate increases lead to declining marginal tax revenue. They even suggest the possibility that tax revenue reaches a peak, after which, raising nominal tax rates imply negative marginal tax revenue, causing a decline in total revenue.

Within the limits in which the CPMF has been applied in Brazil, no evidence has yet turned up concerning the alleged drop in its marginal revenue. To the contrary, according to the International Monetary Fund,[160] bank transaction taxes are recommended in situations of institutional weakness or erosion of the conventional tax systems, as can be seen in the following statement: "*these new bank debit taxes have been imposed because the transactions on which they fall were viewed as a convenient and effective tax handle, against a background of weak tax administration and, typically, in the face of a difficult fiscal/revenue situation*." Thus, even if marginal revenue declines with higher rates, the CPMF is appropriate. Its notorious revenue raising potential is clearly above that obtained through worn down conventional self-assessed declaratory taxes.

According to the Federal Revenue, "*the presence of a tax on bank debits in a stable tax system implies the existence of a highly productive tax, the minimization of total administrative costs* (and, therefore, a higher net revenue [author's insertion])*, the guarantee that the underground economy is being taxed, and the adaptation of the tax system to the new reality of trade and electronic transactions*."

The Federal Revenue goes on to say that the CPMF is a "*highly productive tax, with a high ratio of revenue per unit rate*". It quotes the IMF paper that says, "*in the case of Brazil, in particular, a high revenue yield has been sustained over several years*". According to the IMF paper, Brazil's CPMF productivity, measured by the proportional relationship of revenue/GDP relative to unit rates, remained practically stable during the period it was applied, having reached values of 4.14 in 1998. From

[160] [COELHO, EBRILL, and, SUMMERS, 2001].

then until 2007 the ration varied within narrow limits of 3.39 in 1999 and 3.68 in 2007. It has maintained high and sustained productivity over the years it has been in force.

This explains the growing interest other countries have shown in Brazil's experience with a bank transaction tax, where it has been used in large scale over an extended period of time. In October 1999 the Parliamentarians for Global Action (PGA), with support and sponsorship of the United Nations, held a debate in New York at the UN headquarters, to discuss Brazil's experience with bank transaction taxes. The meeting was attended by representatives of more than 40 countries. At that time I presented the paper transcribed in ANNEX III, which attempts to demonstrate the viability of this new type of tax, especially in economies that are still attempting to develop strong tax institutions and an ethical approach to taxation, as is the case in Brazil.

SETTING RATES FOR BANK TRANSACTION TAXES

Although the productivity of Brazil's CPMF has remained robust and stable as its rate grew from its initial level of 0.20% to its final level of 0.38%, its adversaries insist on saying that it has reached its maximum tolerable level, warning that any increase will inevitably lead to stronger tax avoidance and evasion (even if difficult), and that, therefore, its base would shrink significantly.[161]

The above-mentioned paper written by the Federal Revenue admits that, "*the Laffer curve effect exists not only for the CPMF, but for any tax: it is natural to expect that, for each percentage point of increase in the tax rate, marginal tax revenue will fall. Therein lies the art of fine tuning in tax policy, and from what we can see, the Brazilian experience has been successful…*"

Actually, the rate capable of maximizing CPMF revenue is still far above 0.38%. This fact, if proven, would imply a significant support for the idea of imposing a tax such as the Single Tax on bank transactions.

Determining the point beyond which a rate increase would cause declining (or even negative) marginal revenue depends critically on the advantages and benefits that the modern banking system offers its clients. The only way to avoid tax incidence on bank transactions would be to cease using banks for clearing financial transactions. In other words, the incidence base of the CPMF will only suffer a decline if people stop using the banking system to make payments, and begin to

[161] Concerning the rate and the potential revenue of the Single Tax, see [CINTRA, 1994(i)]. In this paper, the author points to the strong revenue potential of a bank transactions tax if it is used as a single tax as opposed to its use as one tax among others; he also shows the operational differences between the IPMF (and more recently, the CPMF) and the Single Tax, with emphasis on the effect of the constitutional immunities given by these taxes, and the issue of a drop in revenue due to the "whistleblower effect". By using the bank transaction tax as a control mechanism for the compliance of other taxes, the tax evader is led to also defraud the tax on transactions, even when the implicit costs of evasion are higher than the tax savings obtained.

replace bank fiduciary currency for outmoded paper currency. This would mean a remonetization of the economy.

The occurrence of this phenomenon will depend critically on the cost-benefit relationship between the tax savings derived from using paper currency (which is the same as the tax's nominal rate) and the added transactional cost of doing away with bank services.

It is easy to verify that in integrated and globalized societies, remonetization of the economy is only a theoretical possibility. It would be inconceivable that in contemporary economies, where purchases and sales are made globally and with ever-increasing frequency, electronically, there would be even a remote possibility of receding to a system of person-to-person payments in paper currency. The costs would be astronomical and would mean the virtual destruction of the modern economy.

Likewise, how can anyone imagine that payments for all purchases and sales made in all the markets of the world could ever be made in cash? Would it make financial sense to anyone to make payments to suppliers and services at the cashier's windows of the various commercial establishments, just to save a CPMF of 0.38% charged on the transaction? What would be the additional transaction cost of choosing to pay in cash?

Security, physical displacement, transportation, opportunity cost for time spent in manual payment, and many other reasons would imply a significantly higher marginal transactions cost compared to the tax saving. Such a choice would mean the rejection of all present-day progress and a return to economic pre-history. Therefore, it is difficult to imagine that this scenario would occur because of a reasonable CPMF rate increase.

But there still remains the matter of knowing what the tolerable rate ceiling would be for a bank transaction tax.

The theoretical answer would dictate that the ceiling rate would be the difference between the transactional cost of using paper currency and the corresponding costs of making payments through the banking system. That is, the rate would have to be equal to or greater than the maximum amount bank clients would be willing to pay in order to reduce the transactional costs if they use the banking system to make payments. As a mere theoretical exercise, one could assert that in a perfectly competitive economy, in which the price of a service equals its marginal benefit, the ceiling for the CPMF rate would be equal to the banking system's participation in National Income.

In Brazil, during the inflationary period, the banking system reached 13% of GDP. More recently, it has decreased to about 6% of GDP. Thus, one can say that the rate at which the CPMF's marginal revenue becomes zero, and then negative, is

around 6%.[162]

As evidence that the current CPMF rate is far removed from critical values for maintaining its current level of productivity, two important facts should be stressed.

First, is the growing importance of digital money and of electronic payments.

According to an article published in *Information Week* "in the United States, e-mail payment systems now send money not only to friends and family, but also to online merchants, purchasers, and sellers, in a global environment." In this system, clients send e-mails, as if they were checks from their electronic checkbooks.[163] Most surprising, is the cost of these services. As can be verified on the website of one of these companies, PayPal (http://www.paypal.com), the service is free for remitters. For recipients, there is a fixed fee of 30 cents, plus 2.2% of the amount received. In the case of corporate market payments, the cost can be as high as 2.9% of the transaction amount. In some cases, the cost can be as much as 3.5%.[164] Even with current fees "PayPal adds 50,000 new users to its customer base, every two days". This is unequivocal evidence of the high value customers place on computerized banking services in the modern economies. It also shows convincingly the wide space for increasing CPMF rates and its enormous potential to become the basis of a tax model in the framework of the Single Tax.

Further evidence of the same phenomenon can be found in Brazil's banking system. Fees charged by banks provide an assessment of the marginal utility of the services they supply.

A paper by ANEFAC (Associação Nacional dos Executivos de Finanças, Administração e Contabilidade [National Association of Finance, Management, and Accounting Executives] evaluates banking service costs in Brazil between March and May 2000. They are several times higher than the CPMF, in terms of an equivalent tax on bank transactions. TABLE 22 demonstrates that, in the case of corporations, banking services can cost as much as 1.43% of monthly invoiced sales. Because this concept can be considered equivalent to bank transactions (we are assuming that the velocity of bank circulation of corporate invoiced sales is equal to one; that is, corporation's invoiced sales are deposited and withdrawn from the banking system only once), it is clear that no bank flight occurs, even if bank

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[162] It is worth repeating that this is a theoretical analysis which requires, to be supported, strong assumptions about the competitive conditions under which modern economies function. In this regard, the Federal Revenue Service quotes, as a warning, economics Nobel prize-winner George Stiglitz, who says: *"there is the assumption implicit in our earlier discussion that a competitive equilibrium is attained...this may be problematical, and much of macroeconomic policy is directed at disequilibrium in factor markets, in the balance of payments etc."*.

[163] Many companies are dedicating time and effort to this fast expanding field in the USA; it is a market niche for which major US banks are hotly competing. Citibank is developing a new product in this market, through its partnerships with MSN and AOL, and Bank of America plans to offer a similar system by email, based on WebPay, by CheckFree.

[164] [THE ECONOMIST, 2004(a)]

transactions are charged up to 1.43% merely to cover bank service fees.

For individuals, the evidence is equally convincing. TABLE 23 shows the equivalent monthly income needed to bring customer banking fees into equivalence with the CPMF, charged at 0.38%. As can be seen, the lower limit for monthly income must be R$ 17,116.00 and the upper limit, R$ 40,706.00. Because these income levels are higher than the 97th percentile of income distribution in Brazil, it is evident that wide space exists for raising CPMF rates before these would result in declining marginal revenue.

TABLE 22
Cost of banking services in Brazil, as a percentage of companies' gross revenues

Banks	Corporations – monthly gross revenues (R$)			
	100,000	500,000	1,000,000	5,000,000
Public	0.91%	0.46%	0.33%	0.16%
Foreign	1.23%	0.59%	0.42%	0.19%
Domestic	1.43%	0.62%	0.45%	0.20%

Source: National Association of Finance, Management and Accounting Executives (Anefac). March/May 2000.

It is clear, therefore, that there is compelling evidence that CPMF rates can be raised significantly without causing bank disintermediation or a remonetization of the economy. The evidence supports the belief that the Single Tax, based on a bank transaction tax, is totally viable, especially considering that rate increases in the transaction tax will occur concomitantly with the elimination of conventional taxes. Therefore, the tax burden would not increase. To this end, we should note that taxpayers see this as an acceptable option. Everardo Maciel said, "*If we ask any Brazilian taxpayer whether he prefers a 30% value-added tax regime, or a 2% cascading regime, I have no doubt what the answer would be*."[165]

TABLE 23
Annual income needed to generate CPMF revenue equivalent to bank service fees

Bank service fees (R$)	Number of banks	Annual income equivalent to CPMF payment	% of economically active population
65.04 to 69.14	5	17,116.00 to 18,195.00	3,0
74.35 to 98.48	5	19,566.00 to 25,915.00	2.8
100.47 to 128.30	6	26,440.00 to 33,763.00	2,0
130.30 to 154.68	4	34,290.00 to 40,706.00	1,0

Source: National Association of Finance, Management and Accounting Executives (Anefac). March/May 2000.

[165] [MACIEL, 2001].

On the other hand, considering, as the Federal Revenue does, that this tax would not require fiscal bureaucracy (such as invoices, papers return forms, and other information usually required by traditional declaratory taxes), the cost-benefit relationship of this new tax model would be very favorable. "*Collection of this tax occurs practically without any operational cost to the tax administration and to the taxpayer*," and would thus permit us to forecast the downsizing of the public bureaucracy as a result of reducing the tax burden to be extracted from the private sector.

THE IMPURITY OF VALUE-ADDED TAXES IN BRAZIL

Roberto Campos made extensive reference to the intriguing distinction drawn by Brazil's business community between two types of cascade, as seen before. One, considered malignant, includes the hated CPMF, PIS, and Cofins. All criticism, whether fair or not, is leveled against them. The other, applauded unanimously by the business community, includes taxes that are considered laudable contributions made by Brazil to world tax practice: these are the Simple [simplified tax system for micro and small firms] and the presumed profits option for calculating corporate income tax. It is worth noting that the adoption of these two systems is entirely voluntary, and that, by making this choice, firms reduce their tax obligations and the bureaucracy involved in tax assessment. As such, these two modalities deserve extensive praise from business leaders, even though from a strictly technical standpoint the Simple and the presumed profits modalities are no less cumulative than are the CPMF or the Cofins.

It is worth noting that 93% of Brazilian companies have opted to use either the presumed profits or Simple modalities for calculating income tax.[166] Companies that adopt these simplified tax collection procedures do not necessarily do so aiming exclusively at reducing their tax liabilities. Many prefer to pay more taxes, but to reduce compliance costs.

The presumed profits modality implies the acceptance of taxable margins that vary from 8% of sales to as much as 32%. Implicit taxable profit margins for the Simple modality can reach as much as 8.21 % of sales for micro businesses, and up to 17.42 % for small businesses. The implied profit margins are very high, compared to those reported by companies taxed under the real profit modality. What makes them choose an assessment procedure that implies cascading incidence, and often higher tax liabilities, is the much lower compliance costs implicit in these simplified systems.

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[166] See [SECRETARIA DA RECEITA FEDERAL, 2001(b)]. In 1999, 1,988,733 of the 2,826,733 companies that paid the IRPJ tax opted for the Simple corporate tax structure, whereas 626,226 opted for the presumed profits structure, and only 208,729 were taxed on real profits. However, this latter category was responsible for 83.5% of all tax revenue. Most surprising is that only 228 companies are responsible for 50% of all IRPJ revenue in Brazil.

Furthermore, the case for non-cumulativeness is weakened by the fact that even non-cumulative taxes have several forms of cumulative incidence.

A tax comes closer to being totally non-cumulative if legislation allows for generalized clearing of tax credits. In this case, the tax amount levied on all inputs (including permanent assets and usable/consumable inputs) can be claimed to compensate for tax liabilities. However, the ICMS, for instance, allows for tax credits on permanent assets, but does not allow tax credits on 'consumed' inputs, such as stationery or office telephone bills.

Furthermore, there are cases in which a firm's administrative staff is not adequately trained, or equipped, to claim tax credits, thus turning a value-added tax into an effective turnover tax. This happens, for example, when small farmers purchase equipment, seeds, fertilizers, and insecticides, all taxed by the ICMS. Because they usually do not keep records of their sales and purchases, they are unable to claim credit for those transactions. Some States allow farmers to claim presumed credits based on their sales volume, but usually these compensations fall short of the their true value.

There are instances in which taxes are only partially non-cumulative because they only allow for physical credits. In this case, claims are limited to the amount of tax levied on acquisitions of inputs for production and sale, or alternatively, only for sale. In other words, tax credit is allowed only for inputs that enter and exit the production process, but not for permanent assets, such as machines and equipment. This is the case with the IPI (tax on industrial products).

Even the ICMS, considered to be a modern tax because of its value-added and therefore non-cumulative characteristics, can be heavily cumulative in its day-to-day operation. Every time the debit-credit chain is broken, it becomes cumulative. Nevertheless, in Brazil this seems to pass unnoticed. For example, the agricultural sector usually does not claim tax credits for the ICMS for lack of accounting procedures. Service sectors, not registered as contributors of the ICMS, are also liable for cumulative taxation since they cannot claim credits accumulated in purchases of taxed industrial inputs. The ISS (a municipal tax on services) is cumulative, as also would be the new IVV [Retail Sales Tax] on lodging and food which business community representatives want to include in the tax reform bill.

Even more amazing is that, in order to improve compliance, ICMS legislation has been undergoing changes that are totally cumulative. One example is the authorization for the food and restaurant sector in São Paulo to collect the value-added tax as a percentage of gross sales, with no credits allowed. This turns it into a turnover tax. Due to high evasion and in the name of simplification, the government is adopting the same procedures in other sectors and for other value-added taxes, such as the non-cumulative PIS/Cofins; estimates of average value-added in each sector are imputed as bases for charging such taxes, which are collected as final

payments with no credit being allowed in the other links of the production chain.[167] Thus, Brazilian value-added taxes for operational reasons are becoming increasingly cumulative.

It is easy to see the ambiguity surrounding the debate on cascading taxes, if even the largest value-added tax in Brazil, the ICMS, is becoming ever more cumulative.[168] In these cases, even hard line critics of cumulativeness ignore its cascading effect, provided it reduces the tax burden. However, anytime the cascade prevents evasion and implies a higher tax burden it is seen as highly distortionary.

The obvious conclusion is that criticism of cumulativeness is, in truth, an outcry of revolt against the high tax burden. It is a shame that this is not expressed clearly, which would bring greater transparency and rationality to the debate on tax reform.

Due to the regrettable involution of Brazilian tax system, the creation of a bank transaction tax was an innovation in which rests high hopes for greater tax efficiency. The CPMF/IPMF has become a very productive tax that is highly effective in preventing evasion. Nevertheless, the Brazilian tax system remains predominantly dependent on classical tax bases: income, circulation, property, payroll, and foreign trade. Thus, it remains dependent on declaratory taxes, which require extensive paper work. Taxpayers continue to self-assess and self-collect taxes using their own respective fiscal accounting procedures. Tax evasion lives on. The quality of the tax collection system remains poor. All a delinquent taxpayer must do to enjoy generous financial returns is not to comply with tax legislation, or else, to fiddle with his accounting procedures, knowing that his crimes have a low probability of being uncovered. Thus, corruption and growth of the underground economy continue to thrive in Brazil.

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[167] As of 2008 such procedures became applicable for the ICMS in São Paulo for the personal hygiene, cosmetics, medicines and imported beverages sectors; in the state of Rio de Janeiro various important sectors such as beverages, pharmaceuticals, textiles, electronics and many others follow the same rules for the ICMS. Similar procedures are used by the federal government in collecting PIS/Cofins of alcohol production, and in some cases such "value-added" tax is charged on a *ad rem* basis, or in other words, as lump sum value excise per unit of physical production.

[168] Critics of cumulativeness are quick to point out the damage caused by the cascade effect of the PIS/Cofins and CPMF taxes, calling them disastrous to the efficiency and competitiveness of domestic production. However, they do not levy charges against the effects of cumulativeness implicit in the Simple and IRPJ-presumed profits tax systems (which together encompass 93% of Brazilian companies), in the ISS, the partial cumulativeness of the IPVA and IPTU, nor even in the increasing cumulativeness of the ICMS and IPI. When they admit that this cumulativeness is present in the Brazilian economy, they say it occurs only in "miniscule doses that do not impose significant losses on production", as in [VARSANO et alii, 2001]. These authors should explain, for example, how they can call the cumulative effects of important taxes such as the ICMS and IPI "miniscule", which, when collected from sectors that do not pay those taxes, such as the primary and tertiary sectors (which account for more than 50% of Brazil's GDP) create totally cascade incidence proportional to their purchases of industrial inputs. For an eloquent newspaper article written by a former deputy and author of a polemical tax reform proposal, showing that the concept of cumulativeness is nothing but a stereotyped cliché, see [PONTE, 2000]. See also [CINTRA, 2004]; [MARTINS, 2002]; and [MACIEL, 2007].

All in all, rejection of the bank transactions tax remains significant, even if it is capable of eliminating many of these distortions.

I recently received an e-mail from a friend who, indignant with the CPMF (the bank debit tax), said, “I pay taxes when I send money to my daughter who studies in another city, and she pays taxes again whenever she withdraws the money from the bank in order to use it. That makes no sense.”

The CPMF is a tax on the circulation of money. The existence of such a tax could be conceptually justified as being the payment for the supply of public services and for the public cost of making possible the circulation of money without physical handling. It is a tax on a social service that creates value, reduces transaction costs, and which society makes available through the banking services. Such a service would not be possible without institutions that guarantee its safety and reliability. Taxing the circulation of money is a cumulative process, but must not be confused with double taxation, which means multiple tax incidences on a single tax base.

But let us return to my friend’s line of questioning: he asks whether the CPMF – and, consequently, the Single Tax – are fair taxes.

An adequate response requires a meticulous cost-benefit analysis. At issue is not the fairness of a 0.38% tax on each bank transaction, but rather the possibility of its alternative being even more unfair to current tax payers, namely the resulting necessity of, for instance, increasing the current 27.5% income tax rate. Certainly, greater unfairness results from evasion made possible by declaratory taxes such as the income tax or the ICMS. Greater inequity lies in allowing multinational corporations to use transfer prices to remit their profits to foreign tax havens, thus avoiding collecting them in Brazil even though Brazilian public services are required in order to generate the very same profits that are sent abroad. It is not fair that tax rates have to be increased every passing year to compensate for tax revenue lost to increasingly sophisticated evasion mechanisms. For these reasons, in a proper cost-benefit analysis, my friend should prefer to pay 0.38% – or even 3% if necessary – on his money orders to his daughter, to the alternative of collecting 27.5% out of his total wages or of paying 30% indirect tax on his grocery cart at the supermarket.

If there were a single tax, a single CPMF of, say, 3% or 4% on all bank transactions, almost all other taxes could be eliminated. There would be no tax avoidance, and this would certainly be fairer than the current system.

Unfortunately, political pressure coming from powerful lobbies commanded by the tax bureaucracy and by major tax evaders have managed to portray the CPMF as unfair, and the Single Tax as utopian and inefficient. But the truth lies elsewhere. Those who reject the Single Tax are those who will lose by not being able to practice tax evasion, or by not keeping control of the bureaucratic power with which the current declaratory system endows them.

If an oft-repeated lie eventually becomes the truth, then it is high time to question some of the allegations that have been made about the CPMF before they become universally accepted as true.

TAX COMPLIANCE COSTS: A NEW FIELD FOR RESEARCH

Conventional tax analysis has ignored an important criterion for evaluating the quality of tax collection models used around the world. Taxation studies begin with theoretical assumptions which are usually unsupported by economic reality, such as the presence of perfect competition, economic rationality, the absence of evasion, and negligible tax compliance costs. At the same time, analysts largely ignore the economic, cultural, ethical, moral, and operational environments in which tax collection takes place. An inevitable consequence is a conflict between intentions and results.[169] Theoretical models are essential components in the construction of sound tax models. However, a disturbing fact is the failure of economists to realize that there is an abyss between their logical constructs and the reality of applied economics. Economists become prisoners to pure science, and the more innocent believe they can extend their "monoparadigmatic" prescriptions to reality[170].

"*The broadly based neutral VAT found in textbooks is quite different from the VAT prevailing in most developing countries, and this difference results largely from administrative constraints: in developing countries tax administration is tax policy. Multiple VAT rates, zero-rating with refunds and numerous exemptions of specified goods can be accommodated only at high administrative and compliance costs*".[171]

A recent study conducted in Brazil by Aldo V. Bertolucci[172] fills a significant gap in the study of taxation, and inaugurated in Brazil a new area of study and research– the analysis of tax compliance costs – which is also relatively new in the world. One of its most important mentors is Professor Cedric Sandford of the University of Bath, England. This field of tax study first appeared in 1988 at the International Fiscal Association Conference in Rio de Janeiro, followed by two congresses on the Cost of Compliance at Oxford (1994) and Sydney (2000).

According to Professor Cedric Sandford,[173] politicians, tax administrators, and

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[169] Vito Tanzi, a former Director of the IMF Fiscal Department once expressed his surprise at noticing that many tax experts study tax models and theory, but very few dedicate their efforts to tax administration, implicitly assuming it to be a trivial problem. Such mistake, according to him, may turn a good tax model into a harmful system if in practice its application produces different results than were originally intended. See [BIRD and JANTSCHER, 1992].

[170] A Brazilian economist, Antonio Maria da Silveira referred to this phenomenon as "Senior's indeterminacy". To construct theoretical models and try to apply them without due consideration to the complete environmental determinants of where they are to be applied is to incur in a "ricardian vice", a term, according to him, coined by Joseph Schumpeter to describe the "habit of piling up a heavy load of practical conclusions over a fragile foundation…seemingly simple, attractive and also convincing". See [COUTINHO, 2007] pp.169-184; [SILVEIRA, 1991, 1993].

[171] [SHOUP, 1990], p.xiv; [JANTSCHER, 1990] p.178; and [SANDFORD and GODWIN, 1990].

[172] [BERTOLUCCI, 2001, 2005].

[173] [SANDFORD et alii, 1989], quoted by [BERTOLUCCI, 2001], p.30. On page 54, Bertolucci refers to Vito Tanzi's opinion of the IMF, who *"manifests surprise concerning the imbalance between the economists' interest, on the one hand, for taxes and their repercussions on the economy, and on the other, their concern over the tax administration: many books have been written on the first subject,*

economists have neglected the administrative and operational costs of taxation. These costs should be taken into consideration in tax policy analysis, in addition to the usual considerations regarding equity, neutrality, and simplicity. In retrospect, Professor Sandford stated, "following Adam Smith, no one else referred to compliance costs (with the honored exception of McCulloch in his Treatise on Taxation, published in 1845), until 1935, when the first attempt was made to measure them. However, the author stated that it was not until the end of the 20th Century that the topic was given importance, at the Rio de Janeiro conference in 1988."[174]

At the Oxford Congress in 1994, Professor Cedric Sandford listed reasons for the growing interest in tax costs:[175]

1. Compliance and administrative costs are high and they reduce international competitiveness;
2. Compliance costs have undesirable redistributive effects, are highly regressive, and severely burden small businesses;
3. High compliance costs create resentment and stimulate tax avoidance;
4. The high costs generated by the creation of VATs in several countries have led to protests and dissatisfaction on the part of small business;
5. The importance of deregulation in order to unburden small business;
6. The need to begin considering the taxpayer as a client and treating taxpayers in a friendlier manner;
7. In the early 1980s, some governments reduced their administrative costs, shifting them onto the taxpayer and increasing compliance costs; they soon discovered that the social tax cost had increased in their economy as a whole.

Certainly, research in this area will open new horizons in tax studies, broadening the list of critical variants used in evaluating, reforming, and planning tax systems throughout the world. These fields of study and research will at once enrich the debate and partially divert the focus of economic policymakers' attention from where it is today, biased by the formalistic approach of economists, toward a position of greater equilibrium between theoretical-conceptual considerations and practical-operational experience. Economists must talk to tax administrators, and *vice-versa*.

Aldo Bertolucci has surveyed stock companies in Brazil, and gathered valuable information on their compliance costs.

Bertolucci says, that "*compliance costs of taxation correspond to the resources*

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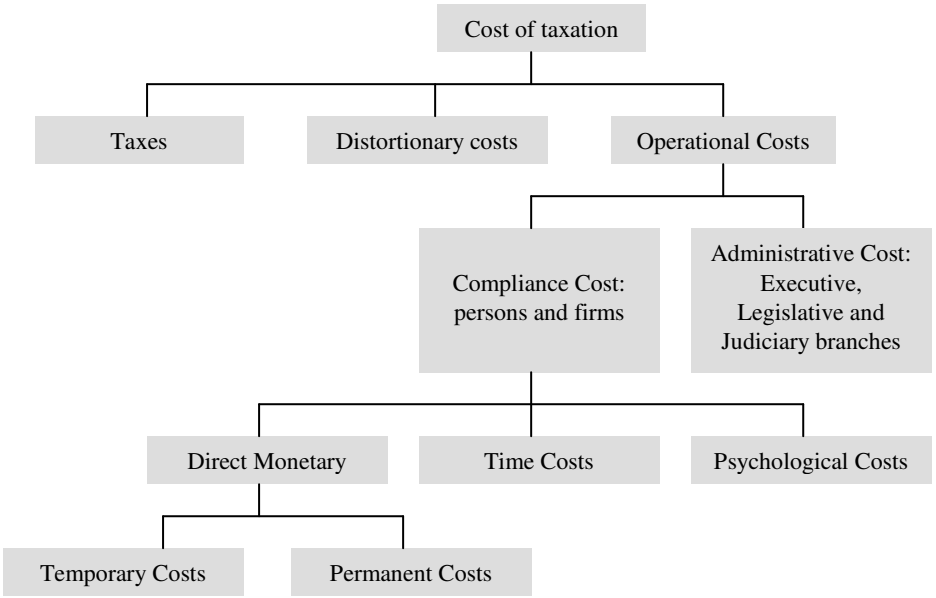
but almost nothing has been written about how to administer the receipt and control of revenue and of taxpayers".

[174] [BERTOLUCCI, 2001]

[175] [BERTOLUCCI, 2001]

spent by a taxpayer to comply with tax legislation. Tax statements and reports required by federal, state, and municipal governments, filling of forms for federal revenue agencies, inclusions and exclusions defined by tax law, meeting auditing requirements and changes in legislation, lawsuits, as well as administrative and judicial processes…" represent a small portion of the total costs of taxation, because these are merely the monetary costs borne by companies in meeting their tax obligations. Other costs must be added to these, such as public operational and administrative costs borne by the three levels of government (federal, state, and municipal) and by their three branches (executive, legislative, and judiciary). One must also add the opportunity cost of time as well as the psychological costs imposed on the taxpayer, in addition to the imputed costs implied by economic distortions and by the loss of allocative and distributive efficiency introduced by taxes, as ILLUSTRATION 6 indicates.

ILLUSTRATION 6
Costs of Taxation



Source: [BERTOLUCCI, 2001], p.18.

Bertolucci's findings are dramatic. The average total value of compliance costs to Brazilian stock companies accounts for 0.32 % of their gross income. In smaller companies, with annual sales of up to R$ 100 million, the cost is 1.66 % of their gross income. For all stock companies this cost reaches the equivalent of 0.75 % of GDP. Taking as reference the compliance costs of smaller stock companies alone, they represent 5.82 % of GDP, as can be seen in the TABLE 24.

This study was based on compliance costs for publicly held stock companies that are members of the Brazilian Association of Publicly Held Companies (Abrasca). The breakdown of their compliance costs, according to Bertolucci's research, is found in ANNEX II. Such publicly held companies are usually large firms and, therefore, Aldo Bertolucci's findings surely underestimate the overall compliance costs for all of Brazilian companies, given that tax costs are highly regressive in relation to sales volume.

TABLE 24
Compliance Costs for Publicly Held Companies in Brazil

Description	**Gross Income (R$ 000,000)**				
	Up to 100	**From 100 to 1.000**	**From 1,000 to 5.000**	**From 5,000 to 15.000**	**All companies**
Total gross income	154,194	3,736,199	19,631,366	24,610,181	48,131,840
Federal compliance costs	2,025	19,606	76,514	25,325	123,470
External compliance costs	533	5,669	18,349	8,337	32,888
Total compliance costs	2,558	25,275	94,863	33,662	156,358
Projected cost savings in case of stable Legislation	2.74%	9.27%	14.72%	27.28%	16.35%
Value-added (FIBGE)	14,240,294	54,215,096	70,918,307	80,764,772	147,362,174
Production Value (FIBGE)	49,964,749	150,951,175	183,381,330	141,571,928	341,787,174
Description	**Up to 100**	**From 100 to 1.000**	**From 1,000 to 5.000**	**From 5,000 to 15.000**	**All companies**
Ratio of production value/ Value-added	3.51	2.78	2.59	1.75	2.32
Compliance costs as percentage of gross income	1.66%	0.68%	0.48%	0.14%	0.32%
Compliance costs as Percentage of GDP	5.82%	1.88%	1.25%	0.24%	0.75%

Source: [BERTOLUCCI, 2001] p.157.

The size classification used in the survey considered as "small businesses" those companies with annual sales up to R$ 100 million. According to the Federal Revenue, 72% of firms that pay the PIS (a kind of social security contribution), are registered under the Simple method of tax calculation (requiring, therefore, maximum annual sales of R$ 1.2 million), and 21% chose to report profits under the "presumed profits" option (with maximum annual sales of R$ 24 million). These data indicate that the publicly held stock companies surveyed are large firms, at the

top of the pyramid, and they certainly represent less than 1% of Brazilian companies.[176]

It can thus be concluded that the overwhelming majority of Brazilian companies incur compliance costs that are higher than the corresponding 5.82 % borne by smaller Brazilian stock companies.

To calculate the overall cost of Brazil's tax system, the administrative costs of tax collection to the government must be added to compliance costs borne by private firms and families. In centralized countries, which usually have simpler administrative structures, the ratio between public administrative costs and private compliance costs ranges from 1:2 to 1:4. Brazil is a federative republic, and has, therefore, an administrative structure that is more complex, with more decentralized taxation. Thus, the ratio can be conservatively estimated to be 1:3. It is easy to conclude that overall operational tax costs in Brazil are at least 7% of GDP. Nevertheless, these estimates should be interpreted cautiously due to the lack of detailed empirical studies on the subject.

It is worth noting that international research indicates a strongly regressive relationship between corporate gross sales and operational tax costs. The Annals of the International Fiscal Association Congress held in Rio de Janeiro in 1988, point to this phenomenon as one of the most significant conclusions of research done in Canada and the United Kingdom. This is a source of great competitive disadvantage for smaller companies.[177]

Thus, despite that fact that operational tax costs in relation to average gross sales of domestic companies should be at levels between 1 and 2% of GDP, for most micro, small, and medium businesses – which account for 97% of Brazilian companies – operational tax costs and obligations take a hefty slice of production costs, over 7% of their value-added.

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[176] See testimony of Federal Revenue Service Secretary Everardo Maciel before the Special Committee on Cumulative Taxation on April 2, 2002. In that same public hearing, the secretary stated that the top five hundred Brazilian corporations account for 60% of all federal tax revenue, and that the top 2,500 corporations account for 80% of all federal tax revenue. Thus, it is clearly demonstrated that publicly held companies in Brazil represent a small portion at the highest percentile of gross revenue among Brazilian companies.

[177] See [BERTOLUCCI, 2001] p.29. In Canada, the costs borne by small employers in collecting withheld income tax and social security taxes are 3.36% of gross income, whereas the costs for large employers represent 0.064%. In the United Kingdom, VAT collection costs are 0.78% of taxable income for small companies, compared to 0.003% for large companies. [HALL and RABUSHKA, 1995] mention that in the US during the 1993 fiscal year, income tax revenue reached US$ 625 billion, while compliance and administrative costs to raise that revenue reached US$ 385 billion, or 61% of that value.

ARGENTINA'S USE OF THE BANK TRANSACTION TAX (1984-1992)

One often-heard criticism of bank transaction taxes has to do with its application in Argentina in 1984. The allegation is that the use of a bank debit tax in Argentina was an absolute failure. It is claimed that such experience left a mark in popular imagination with stories about intense banking disintermediation, which have become folklore in the diatribe against cumulativeness.

The truth is that Argentina's unsuccessful experience in the 1980s had nothing to do with banking disintermediation, but rather with misguided economic policies adopted during that period.[178]

Argentina's bank debit tax went through several phases. Initially, it was a low-revenue provisional tax. But it became an important component of the fiscal adjustment performed in that economy until its extinction in July 1992. Minister Cavallo, who raised the tax's rate to 1.2%, attributed to the tax a fundamentally important role in his economic stabilization policy. The bank transactions tax raised US$ 1.8 billion, or 1.27% of GDP. It exceeded all other taxes charged in Argentina, except for the value-added tax (US$ 7.2 billion) and the fuel tax (US$ 2.7 billion).

The bank transactions tax was extinguished exclusively because of its incompatibility with the traditional tax model that was later implemented in that country. In fact, the transaction tax does not fit in with traditional tax structures. As Robert Campos says, "*use of the bank transaction tax would only be revolutionary if it were the **only** tax and not an additional one*." [179] In the 1980's, the priority of the Argentine government was focused on implementing the value-added tax (VAT). Argentina made rapid advances towards it, albeit with immense bureaucratic costs and a repressive atmosphere that bordered on fiscal fascism.[180]

Critics of the transaction tax claim that Argentina's tax on bank debits was the cause of heavy bank disintermediation. The increase in its rates apparently motivated a significant fall in bank transactions and, consequently, increased cash transactions (in dollars or in local currency). It also allegedly motivated higher transaction costs and losses of competitiveness by banks and economic agents in general. Thus, the critics hold, eliminating that tax was an imposition of good sense, and Argentina's experience would recommend against implementing it in Brazil.

Such a chain of events, however, is spurious for the reasons that follow.

Brazil possesses structural conditions that are more favorable to the use of transaction taxes than Argentina's. Even in its initial phase, when the transactions tax

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[178] In 1993 a group made up of Deputies Roberto Campos, Luís Roberto Ponte, and Flávio Rocha, and the economists Daniel Dantas, Pedro Bodin, Luiz Zottman, and I, visited Argentina to meet with economists, bankers, business leaders, Minister Domingo Cavallo and with his federal revenue secretary. This group found out that the facts differ greatly from what is usually reported.

[179] [CAMPOS, 1991]

[180] See PEC nº 46/95, in discussion at the Chamber of Deputies.

rate was 0.1% or 0.2% and, therefore, no attempt was made to avoid the tax, the ratio bank transactions/GDP was around 2.5. In Brazil this ratio is much higher, approximately 4, according to CPMF revenue data.[181] In other words, banks in Brazil are used much more intensively than in Argentina. In fact, checks were little used there. They still are not used by individuals or by commerce. The banking system was minimally computerized and there was no national clearinghouse, as there is in Brazil. Transaction costs are high and checks carry little credibility as a form of payment.

Furthermore, imperfect regulation of Argentina's tax on bank debits allowed for the corrosion of its base of incidence. Only checks were taxed, while other types of bank payments were exempt, such as collection accounts (*cuentas de recaudación*), transfers among accounts, term deposits, and third-party checks. There were differentiated rates and a large number of exemptions and waivers. These deviations were gradually eliminated, but tax avoidance was heavy during most of the life of the tax, drawing bank transactions/GDP ratio down to about 1.2 in 1991.

It is worth mentioning that this drop was primarily due to factors other than those related to the tax itself. From 1988 through 1991, Argentina suffered enormous economic instability and two hyperinflationary surges. In this period, cash deposits yielded highly negative returns, especially since interest rates were fixed by the government, and caused savings deposits (not taxed) to migrate to informal and unregulated overnight markets.

These illegal markets were managed in ways similar to black-market lotteries, known in Brazil as "*jogo do bicho*", which function on strict confidence. Individuals also converted their earnings into dollars, with up to 4% discount, a clear demonstration of the loss of competitiveness of bank savings accounts relative to those informal deposits. Under these circumstances, there is no way to rightfully attribute bank avoidance to the tax on bank debits.

TABLE 25
Tax on bank debits in Argentina

Rate (%)	Period in force	Revenue (*)
0.1	Jan. 84 to Jun. 85	37.30
0.2	Jul. 85 to Dec. 87	67.73
0.7	Jan. 88 to Dec. 89	121.74
0.3	Jan. 90 to Jan. 91	50.44
1.2	Feb. 91 to Feb. 92	167.59
0.3	Mar. 92 to Jul. 92	65.77

* Monthly average in 000,000 of pesos (Feb. 93).

Argentina's experience teaches us a three-part lesson. First, a bank transactions

[181] CINTRA, 1994(b)] pp.203-245.

tax requires competent regulation to work properly. Secondly, Brazil has the structural conditions that allow us to predict that a bank transactions tax can be a successful experiment, as indeed it has turned out to be. Thirdly, it is a streamlined tax with low costs (as acknowledged by Argentina's bankers themselves) that did not cause a negative reaction among economic agents.[182]

[182] A proof of the fact that the bank transactions tax in Argentina was not a failure, as critics suggest, is that a similar tax, with rates of 1% on bank debits and 1% on bank credits has been in us since 2001, and is nowadays the most important provincial tax in the country, with a rate of 1.2% levied on the value of each bank transaction.

4

"FEDERAL SINGLE TAX": A PLAUSIBLE FORMULA FOR TAX REFORM: ADOPTING BANK TRANSACTIONS AS THE PREDOMINANT BASE FOR FEDERAL TAXES[183]

OBJECT AND METHOD

The issue of bank transaction taxes still rarely appears in specialized literature. Brazil currently enjoys primacy in this area, seasoned by the richest, most comprehensive, and most successful field experimentation ever undertaken in this unique taxation technique.

We cannot turn anywhere for help on this subject, in English, French, German, Japanese, or Italian. This time, the only reference we have is our own experience, which also serves as the fundamental benchmark for research by foreign scholars.[184]

The pioneering theoretical work of Professor Marcos Cintra, on the "Single Tax" on bank transactions, has resulted in fruitful political engagement that has ripened into a succession of specific propositions, the culmination of which is the legislative proposal that bears the name of Federal Single Tax. A Special Committee in the Chamber of Deputies was formed to analyze this constitutional amendment bill.

Alongside this proposal, a bank transaction tax became a reality, though it escaped the control of its sponsor. This tax took the form of the IPMF [Provisional Tax on Bank Transactions], which was later resurrected as the CPMF [Provisional Contribution on Bank Transactions].[185] This tax provides an excellent laboratory

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[183] This chapter was written by Paulo Euclides Rangel.

[184] Although Brazil is the country with the longest track record in the use of a bank transaction tax, a recent study [DELOITTE, 2006] states that what could be labeled as the "Brazilian tax model", whose main characteristics are strong income taxation, strong taxation on production and on consumption, complemented with gross revenue and bank transaction turnover taxation is now applied in approximately 35% of the countries researched, and that a bank transaction tax is no longer a Brazilian, or Latin American peculiarity, having been found in 15% of the countries studied.

[185] For a brief history of the IPMF/CPMF taxes see [CINTRA, 2008(a)] pp. 705-726. There, the author briefly discusses the question of cumulativeness, its economic and legal implications, and describes the results of statistical simulations that modeled its impact in the economy, including changes in relative prices and in sectoral tax burdens.

experience, repeatedly proving groundless most preconceived notions that oppose it. It also defined an administrative doctrine within Brazil's Federal Revenue that has been surprisingly favorable to the merits of this tax.[186]

This text presents some modest preliminary comments that might be useful to better understand the proposal. These comments are not a substitute for the benefits to be gained by reading the generous and seductive "justification" attached to the text of PEC No. 474/01 [Constitutional Amendment], nor to the writings of the eminent Professor and Deputy Marcos Cintra.

The specific legislative task is the redefinition of some of the constitutional guidelines on tax policy. The core issue is the adoption of non-financial bank transactions as the predominant federal tax base – as a solution to the impasse in tax reform.

This text is not a package of regulatory suggestions, which would require the cooperation of the executive branch. Neither is it a compendium of numerical simulations or a scholarly evaluation about presumed macro and microeconomic effects of a bank transactions tax, which a few university dissertations already address.

These are pragmatic considerations, qualitative and multi-focused reflections that seek to engage debate on the various and complex dimensions of the issue, which include reflections on the less common perspectives of social psychology, financial sociology, institutional administrative analysis and, of course, legislative technique.

TAX REFORM AT A DEADLOCK

Changes within Brazil's society and economy since the last celebrated tax reform, in 1965, have created an accumulation of distortions within our tax system. Several attempts at reform have ended in failure, including the "Sayad Commission" in 1986, followed by the "Ary Oswaldo Commission" (both were commissions of the executive branch), and the constitutional revision convention of 1993/1994 (a frustrated attempt by the legislative branch).

Official tax policy during the last presidential terms, pressed by the demands of economic stabilization and by the limitations imposed by external constraints, has emphasized revenue productivity and reliability, to the detriment of rationality within the tax system. Preference has been given to investing in easily collectable taxes, which overburden a given set of taxpayers and postpone the solution to ever-increasing distortions and inequities in the tax system.

The Union's cumulative contributions, because they are not shared with other

[186] [SECRETARIA DA RECEITA FEDERAL, 2002(c)].

entities of the federation [states and municipalities], have grown during this period. Income tax has shrunk in order to meet expectations of foreign investors and large taxpayers, resulting in overwhelming taxation, almost exclusively, of the upper strata of the working middle class.

During the last fifteen years, when several attempts at reforming the tax system were tried, it was tacitly agreed that demands for tax reform were to be centered on consumption taxes. The government invested in a unified value-added tax program without conviction. Even the Secretary of the Federal Revenue has admitted, years later, that he does not consider this tax to be practicable in the foreseeable future.

A perception that had been blurred in the past now became clear: that our peculiar federal system cannot handle a VAT. It also became clear that, although the VAT may satisfy large industry and trade, it harms the service sector and huge numbers of small entrepreneurs.

PEC No. 175/95 (one of the government's many tax reform proposals), after producing a lot of heat and little light, is now buried.[187] By 2001/2, the only thing it accomplished was to give birth to a modest by-product: a non-cumulative, restricted, experimental, and time-scaled bill for the PIS/PASEP, which was in the interest of large taxpayers and export business owners.

In the meantime, tax burden grew by 4 percentage points, between 1994 and 2001, and the tax revenue administered by the Federal Revenue showed a real growth of 54%. Most significantly, inequity in tax incidence increased, which should make tax reform a priority in terms of public discussion.

The most crucial challenges to Brazil's public administration are: a) the necessary reduction of the overall tax burden (which, however, as a precondition, must redistribute tax costs more equitably across a much broader taxpaying universe), and b) a more rational fiscal policy in order to exonerate labor and production costs, and to stimulate economic growth.

According to an academic study undertaken at the University of São Paulo (FIPE/USP) for the Industrial Federation of the State of São Paulo (Fiesp), the focus on consumption taxes as a priority in tax reform is misguided. In order to correct tax imbalances, the predominance of consumption taxes in Brazil should be inverted in favor of income and property taxes, bringing our system into harmony with models used throughout most of the developed world, that is, a model which taxes consumption lightly, with income tax providing the bulk of public revenue. It is likely that Brazilian industry and exporters would more easily accept taxing consumption if it were more lightly applied, and if income and property taxes were predominant, as it is in the United States, England, Japan, the Scandinavian countries, and others.

Other analysts, such as the staff of BNDES [National Economic and Social

[187] However, a similar project was presented by President Lula in 2008.

Development Bank] and IPEA [Institute for Applied Economics Research], understand that a developing country, with its significant income and wealth inequalities – as is the case in Brazil – can only rely on indirect taxation, while at the same time seeking to apply it in the least distortionary possible manner.

Concerning this last suggestion (but contrary to the IPEA's theoretical postulations that favor value-added taxation), the Federal Revenue has published a series of empirical studies on its website. These studies suggest that the effect of cumulative taxes, such as the CPMF and the PIS/Cofins, are not regressive, as had been thought, but rather seem uniformly proportional at all levels of purchasing power, closely approximating the effect expected by an ideal VAT, scoring better than the ICMS [Tax on the Circulation of Goods and Transportation and Communication Services] or IPI [Tax on Industrialized Products] with their selectivity and their value-added technique.

It is suggested that taxes that are apparently unsophisticated and insensitive to individual differences, such as taxes on gross income and bank transactions – which are simple, moderate, and less prone to evasion – ultimately engender economic effects that are less distortionary than those of sophisticated net income or value-added taxes with high rates, which are very complicated, heterogeneous, and easy to evade.[188]

Recent studies done by Federal Revenue on the experience with the CPMF (a bank transactions tax), confirm the theoretical simulations and observations on which Professor Marcos Cintra has been insisting for some time, claiming that regressiveness of such cumulative taxes is illusory.

So many years of failures and hugely disappointed efforts attest to the exhaustion of our traditional tax reform paradigms.

It does not seem that unifying consumption taxes into an all inclusive value-added tax would be practicable over the medium term, given the conflicts within our federal structure and the dependence of Brazilian states on the current ICMS. Nor can the federal government, risk losing part of the revenue it collects with its gross income taxes.

The challenges that remain are finding ways to ease tax pressure through more equitable tax incidence, preventing tax avoidance, and including the informal economy, without seeking an unrealistic solution that would result in significant growth of the tax collection and auditing apparatus.

In view of these difficulties, taxation of bank transactions appears to be a plausible pathway to tax reform. Bank transactions, as a tax base, would differ little from consumption and gross income, which are Brazil's current predominant tax bases. A bank transaction tax would offer advantages in that it costs little, is simple, light, has universal scope, and is difficult to evade.

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[188] This point will be further elaborated in this text.

TAX POLICY ISSUES

There is no perfect tax. The choice of a tax system, considering the clashing interests of groups and sectors that comprise a complex society, should seek to cause the least harm to the majority, given that it will be incapable of completely satisfying everyone.

The failure of tax reform is not due merely to a lack of government determination as many have claimed. The apparent indecision and disorientation of the government, which is wrongly interpreted as lack of effort, reflects disagreements within society, with no immediate prospect of solution.

The problem is that the tax systems we envy in more developed countries where, contrary to Brazil's situation, income is taxed more heavily and consumption and property, more moderately, rest on the sociological presupposition of solid democracies, of high per capita income, of vast middle classes that are educated, politically aware, and capable of exerting broad social control over the actions of well-equipped fiscal administrations.

Still valid today is the diagnosis put forth by Cambridge scholar Nicholas Kaldor (*Colloque International sur la Fiscalité et le Dévellopement*, Paris, 1982). He wrote that Latin American tax reforms would continue to be cosmetic arrangements condemned to failure, so long as the dominant elite in that part of the world remained unwilling to adopt a more patriotic posture, keeping their fortunes within their own countries and participating more substantively in the taxpaying effort, as has occurred in Western Europe in the past half-century.

But it is unrealistic to expect the dominant elite in societies that are profoundly unequal to renounce their power to manipulate the tax system to their own benefit, and to become spontaneously willing to make tax sacrifices. Patriotism of the sort Sir Kaldor alludes to is increasingly becoming a forgotten value within the context of today's globalized economy.

Mass society will no longer acquiesce to a tax, the payment of which was once a conscious act of ritual compliance with the Social Contract. Today, preference for "anesthetic taxes" prevails. Common sense, therefore, recommends construction of indirect and automatic formulae that tax everyone proportionally, without exception, preferably without appeal to values and to ethical conscience. Bank transactions are a tax base capable of facing this challenge.

Direct taxes, charged against income and personal wealth, are in theory both fairer and more sensitive to the diversity of individual circumstances. But this theoretical advantage becomes lost in practical problems. Brazil's experience with personal income tax highlights distortions that are both acute and nearly insurmountable. The late Professor Henry Tilbery, an exceptional tax attorney, expressed his opposition to implementation of a tax on wealth in Brazil, explaining that, though he favored the fair theoretical configuration of the tax, he believed execution would be inequitable; that, with preference given to ease, tax pressure

would increase on reliable taxpayers, but would still fail to reach habitual tax avoiders.

The tax base provided by bank transactions is more democratic than income and personal wealth tax bases. It has more effectiveness, and on a broader scale. Professor Maria da Conceição Tavares well understood this feature and did not mince words in acknowledging this fact.

During the first half of the 1990s, Professor Marcos Cintra's theoretical findings resulted in the Single Tax Bill, which became a plank in the platform of Flávio Rocha's presidential campaign. It gained support, in some constitutional revision proposals, to anchor the tax system on a bank transactions tax, particularly the proposals by Deputies Roberto Campos and Luis Roberto Ponte.

Since then, while the congressional forum has argued in vain for several years over the impracticable implementation of a unified VAT for our federated republic, Deputy Marcos Cintra has further developed several formulas for harnessing a bank transactions tax.

The first formula, amendment No. 47/99 to PEC No. 175/95, proposed a gradual elimination of federal taxes, which would be phased out over three years. These would be offset, during the phase-out period, with a bank transaction tax levied on bank accountholders. This formula would bring new taxpayers into the fiscal universe, making way for rates of other taxes to be reduced or, ultimately, eliminated altogether.

This was a prudent mechanism that would have permitted a risk-free evaluation of the new tax's effectiveness. This approach even allowed for the possibility of using the bank transaction tax as advances on behalf of the traditional system, which might ultimately remain in place. This would have been an inexpensive technique, able to close traditional tax loopholes, making the traditional taxes more efficient in reaching the informal economy, tax avoiders, and tax evaders.

The second formula, PEC No. 183/99, called the Alternative Proposal, provided for a multiple system, with special emphasis on the bank transaction tax, and which would carry an additional function, that of funding social security along with excise taxes on alcohol, cigarettes, automobiles, telecommunications, energy, and fuel, in addition to a marginal income tax on windfall profits and financial market gains. This plan would abolish corporate income tax.

The third formula, PEC No. 256/00 suggested that a tax on bank transactions be adopted as a "social tax" that would replace all corporate social contributions earmarked for funding social security. The aim of this proposal would have been to remove from businesses the burden of social security payments, thus stimulating job creation.

The fourth formula boldly calls for all federal taxes and almost all federal contributions to be replaced immediately by a tax that, though not exclusively, would predominantly be levied on bank transactions.

The operational simplicity of this tax, its legal and administrative lightness, its low cost, and its evasion-proof characteristics, would make it a fiscal instrument of exceptional ease and flexibility. It would offer tax policymakers a vast menu of alternative applications, such as those illustrated in the formulae above.

On one hand, these features make the bank transaction tax incomparably better – relatively to any other tax – as an instrument for the attainment of the essential fiscal function of taxes, that is, to be an effective mechanism for collecting revenue. On the other hand, these same features leave empty-handed those who have interventionist leanings, and who insist on exploring the non-fiscal functions of taxes.

It is clear that, if fiscal interventionism prevails, the bank transaction tax could be adopted as a tax revenue instrument that is ancillary to other traditional taxes, eventually being offset against them. This would be a choice for continuity of a tax system that is complicated, cumbersome, and chaotic, with the only gain being it's broader scope and a reduction in tax avoidance.

It is important to draw attention to something that has been overlooked by those who are well versed in the bank transaction tax as a tool for advance collection of other taxes. What they overlook is this: additional revenue entering from one side, coming mostly from the informal economy, can run out through the other side, via offsets and shrewd stratagems to be applied to the other taxes, as these would still provide loopholes that lend themselves to the same distortionary features decried in the current system.

If the bank transaction tax is selected just to be one additional tax, as happened with the IPMF/CPMF since 1992, this would be disappointing, because the distortions of traditional taxes remain, keeping a new scenario from flourishing, and preventing the qualities of the new tax from supplanting the shortcomings of traditional taxes.

Optimal use of the bank transaction tax, in the liberal vision of its formulator, Prof. Marcos Cintra, would effectively bolster the tax's financial function because of its pure instrumentality as a collection mechanism. This would free the fiscal system of its confusing and inefficient non-fiscal responsibilities (except in foreign trade). These responsibilities would be transferred – with increased effectiveness and transparency – to the public expenditure side of the budget.

Along with the disappearance of current taxes, fiscal waivers and their obscure schemes of privileges and exemptions would also disappear. This would redeem the function of taxes as revenue collectors for the public budget. Only through this approach can the bank transaction tax fulfill its pledge to entrepreneurs and the entire population, a pledge to decompress fiscal obligations and controls, to greatly reduce fiscal costs, worries, and risks, freeing up resources for better use.

THE MYTH OF A SINGLE TAX

The history of economic thought provides at least two approaches to single tax

theory. One, superseded by production modes themselves, was the Physiocratic idea of a single tax on land.

Another approach, which was never discussed seriously, was the single tax on capital. The brilliant French economist Maurice Allais, winner of the 1987 Nobel Prize in Economics, formulated this idea during the post-war period. Later, however, Monsieur Allais himself, without renouncing his tax on capital, expressly recommends that the European Union use a fiscal tripod that would also include moderate income and consumption taxes using value-added criteria, therefore abandoning the myth of the single tax.

Single tax utopias would perhaps contain a regressive psychological trait – the desire to escape the complexities of social life and return to the simplicity of pastoral living, a dream life without the entanglements of fiscal constraints. Opposing this utopian wish is the patriarchal, repressive dogma that demands complex tax systems, capable of dismembering all possible forms of economic wealth.

According to one perspective of tax psychology, the magnetic force of the single tax idea does not reside exclusively in its attractiveness as a single solution, which seduces a small number of intellectual speculators fascinated by unified theories, absolute systems, and closed architectures. Although this seduction takes root naturally in the human spirit, the truth is that the post-modern age has celebrated the triumph of the multiple, the diverse, the fragmentary, the open, and the relative. Complexity, diversification, and fragmentation of modern tax systems only mirror identical features within modern societies.

Rather, the magnetic force of the single tax idea stems primarily from libertarian pulsations deeply rooted in the hearts of mankind, a disposition toward anarchy, an aversion to oppression, all of which are consistent with the extreme individualism that typifies our times.

There is a heightened sense of discomfort over the State's power of fiscal intervention in the lives of private citizens. The growing complexity of fiscal systems only multiplies the instances of control. Information networks squeeze more tightly. The rituals of civic exercise proliferate, draining increasing amounts of time and energy from taxpaying citizens, suffocating them and fueling (beyond mere aversion to taxes) rancor against the bureaucratic enforcement apparatus. This fiscal malaise stems from the powerlessness individuals feel when facing the coercive power of the State. Fiscal stress is aggravated by fiscal obligations that keep multiplying and fiscal regimes that keep diversifying. This in turn leads to increasing competition among economic agents, who search for situations that offer the greatest fiscal advantage. The individual feels caught in a trap, forced to run a fiscal gauntlet of permits and prohibitions. From one side they are pressed by enforcement agents and, from the other, by the need to survive and not lose ground to competitors.

This loss of taxpayer's energy, which happens against their will as they tend to petty activities that only partly service the fiscal apparatus, is wasted on piles of paper, documents, proofs, checking and re-checking, deadlines, tricks, calculations,

planning, and meeting with advisers, accountants, lawyers, and consultants. This creates significant discomfort to the taxpayer, and keeps him or her on the brink of fiscal non-compliance, tax evasion, delinquency, disobedience, and fiscal revolt.

The idea of a single tax has always harkened from afar, with the promise of significant relief of this discomfort, because of its simplicity and homogeneity. The other side of the coin, however, is that those who have achieved positions of obscure privilege and advantage – working within chaotic tax systems – namely, those who are most savvy at fiscal competition, the unseen partners of fiscal chaos, tend to resist such transparency, which is at the very heart of the single tax.

The simplicity and transparency of a single tax are weapons in the hands of citizens, to be used against antisocial types who, forever on a quest for fiscal privileges, are parasites and looters of the community for selfish ends. Chaotic fiscal systems are incubators of parasitic behavior.

If it is true that mankind cannot coexist without abiding by a "Social Contract", then each of us should genuinely desire that any necessary contribution to the Common Good be as painless as possible, that it require of us little or no effort, that it not incite competition with our peers, and that it protect us from the anxieties associated with investigative and prosecutorial actions of the State. Thus, one can see clearly that the call for a light tax system that is simple, automatic, universal, paperless, non-declaratory, moderate, equitable, difficult to defraud, rests on solid foundations of tax psychology. These are the good foundations of the tax's legitimacy, which ensure consent, a subjective presupposition that is indispensable to effective fiscal institutions.

To complete the list of requirements, tax scholars often identify in a "good tax" two others characteristics that remain to be discussed: progressiveness and allocative neutrality. Both are worthy of closer examination.

"SINGLE" TAX IS NOT A SINGLE LEVY

The term "single tax" is merely a nickname; the legal term is "*tax on movement or transmission of values, of credits and rights of a financial nature*."

The legal term is complicated. It is for use by experts. For common use, of the terms "tax on checks", "*transaction tax*", "*tax on bank debits*", or "*tax on financial transactions*", the latter is the least imprecise. But it too is an abstract and uncommon concept, unlikely to become part of our everyday language. Even the term "*single federal tax*", despite its imprecision, is easily recognizable and has the advantage of denoting the turn of events occurring at this moment with the PEC No. 474/01. This PEC is one phase of the single tax movement, a movement that burst open during the 1990s – an idea that already enjoys name recognition among the people. Use of the term "*single federal tax*", instead of a less precise but perhaps less decipherable "*tax on financial movements*", has undeniable communicative power, marketing and electoral appeal, and there is no reason to ever stop using it.

Nevertheless, Professor Marcos Cintra never intended – not in his earliest writings, even less so in his more recent proposals – that what he has successively called a "*single tax*", "*single tax on transactions*", and "*single federal tax*" would ever become an absolutely exclusive tax, nor even effectively single.

There is no intention to implement a destructive policy against Brazil's tax system – far from it. PEC No. 474/01 acknowledges and respects the excellence of the current constitutional framework of Brazilian tax law. Rather, this constitutional amendment bill intends that the proposed tax revolution be molded – skillfully and with minimal alterations – in conformity with the current framework of tax law, which has been developed meticulously and has been highly celebrated by our tax scholars.

The bank transaction tax that is being proposed – which is both a tax and a contribution – is not a single tax. It seeks to become the predominant tax, responsible for the most substantial portion of State revenue, in healthy coexistence with other regulatory taxes.

It is also not a single tax, because it will coexist with service fees and police fees, contributions, user fees, and special contributions that can be sub-divided into social, corporate, and regulatory contributions. It will also coexist with compulsory loans and, ultimately, all other taxes contained in our Constitution. The section on general principles of the national tax system is preserved in its entirety, as set forth in articles 145 through 149, in which are merged the results of decades of taxation in Brazil.

It is not a single tax. It merely seeks to be quantitatively hegemonic, without damaging its qualitative solidarity with the variety of constructs found in current law, which cannot be renounced because they establish the boundaries for the taxpaying citizenry, within a democratic environment.

Without questioning the conquests in which Brazil's Tax Law takes pride, the proposed amendment merely seeks to find a single formula that is simple, automatic, transparent, universal, difficult to circumvent, and that fulfills the fundamental financial mission of taxes, which is the collection of revenue necessary for financing the current activities of the State.

The proposed amendment aims to accomplish this without damaging taxes assigned to non-fiscal functions (that have little monetary significance), such as foreign trade taxes, or to any other specific and defined purpose, such as corporate and regulatory fees and contributions.

This wealth of instruments is desirable and does not need to be demolished. This diversity of levies does not affect most taxpayers on a day-to-day basis, but sporadically affects those agents involved in mutual relationships that seek specific government services. These are levies that have little financial impact, that do not even cast a shadow on the "*single*" tax.

For example, it is perfectly reasonable that someone traveling abroad should

pay, once every five years, a nominal fee for the issuance and control of his or her passport. There is no excuse for someone who throws a fit because the supposedly single tax does not seek to abolish a passport tax, an obviously naïve illusion. Passports represent a specific activity of the State on behalf of a limited number of taxpayers. Therefore, it makes no sense to require that all taxpayers fund passports through the single tax. The single tax is a generic tax earmarked for funding the collective activities of the State, on everyone's behalf.

The generic activities of the federal State – which are significant in financial terms – and social security activities under an entitlement regime, which is also financially sizeable, would be funded by a single tax on bank transactions. PEC 474/01 is scrupulously concerned with introducing a new financial tax paradigm, a revolution in the basic financing of the State, a hegemonic tax collection formula – all without in any way damaging our good tax law architecture in those dimensions of the law that do not strictly address generic public funding.

Obviously, it would not be realistic to attempt to abolish, in the name of the single tax myth, the legal diversity and sophistication that are the result of much work and lengthy sedimentation through our history. Likewise, it would not make sense to discredit these proposed changes, under the unfair claim that it is timid because it does not destroy the elaborate and differentiated current legal apparatus. The simplicity we seek must not be mistaken for simplism. The great simplicity of this tax as the predominant mechanism for federal revenue collection is closely linked to highly sophisticated technology and law. The proposed tax simplification does not presuppose antagonism toward current tax law. Simplified tax collection does not imply a regression to an unrefined legal framework. In fact, this proposal does not address, neither should it, the naïve demand for extinction of all constitutional tax constructs other than the "single" tax.

It is remarkable to notice how this ambitious proposed tax revolution shines in its effort to avoid damaging current constitutional tax law, and how it accommodates constitutional tax paradigms without disturbing them.

This proposal calls for far fewer changes to constitutional rules than does PEC No. 175/95, the official "tax reform" proposal, despite the fact that this latter proposal's modest ambition is merely to merge the consumption taxes into a single value-added tax.

PEC 474/01 states its purpose as the search for a balanced source of public finance. It is cloaked in prudent legal procedure. It is impregnated with a rational concept that challenges deeply rooted preconceived notions. It is founded on empirical evidence gathered during almost two decades the IPMF/CPMF tax has been in effect, and it echoes a recognized social demand.

PRUDENCE, PRECONCEPTIONS, AND RATIONAL PURPOSE

The golden rule of tax reform theory is to prevent premature burnout of

promising ideas by imprudence in their implementation. But such fear should not lead to inertia, apathy, complacence, and capitulation to prejudice. The pathway to good tax reform is a delicate razor's edge, between defensive paralysis and careless impulsiveness; between rigid legal formalism and technocratic recklessness; between prejudicial distrust and unreflective compliance; between the general idealized interest and concrete articulated interests.

What ultimately drives reform is social demand. So long as that demand is not monolithic, it is incumbent on the reformer to pursue a balanced result that reflects its multifaceted composition.

At the beginning of the 1990s the proposal for the adoption of a *retail sales tax*, collected at the point of sale to the final consumer was well received by the industrial sector. It was a demand that would have done away with a value-added tax on consumption. Obviously unbalanced, this proposal would have relieved the industrial sector of its taxes, but would have overburdened the commercial and services sectors. Inspired by the United States' model, the demand omitted other features of that model, none of which exist in Brazil, namely, a powerful, feared, and omnipresent tax enforcement apparatus; a predominant individual income tax; a huge middle class; and a property tax that in the U.S., can be as high as 12 % of total tax revenue, whereas in Brazil it is only 3%.

Once that solution was discarded, years were spent pondering the demand for a VAT. It too is unbalanced. This means that, in addition to conflicting with our federal system, it favors the organized industrial sector, large business, and exporters. But it harms the services sector and the great number of entrepreneurs whose accounting practices are rudimentary.

Meanwhile, the CPMF experiment flourished far beyond expectations, disarming alarmist predictions of banking disintermediation, market disruption, etc. Its discontinuation in 2008 reflects the result of a vicious political battle between the government and the opposition, rather than a negative evaluation by the Brazilian people.

During these years of tax reform discussion, we have seen a procession of misleading flavor-of-the-week jingoisms, employed as seen fit by various interested parties, such as "*a good tax is an old tax*," "*single tax, inequitable tax*", "*a good tax is any tax you can collect*", and even this strangely passive expression that depicts low self-esteem: "*a new tax, if it were good, would already exist in more advanced countries*".[189]

Conditions are now ripe for a more audacious reform, which goes beyond imported models that, even in their own countries of origin, are criticized as being obsolete. What we need is a reform that is tailored to our situation, to our technological position, to our social profile, and to our administrative experience. It

[189] For a refutation of this latter fallacy, see other sections in this text, particularly as it relates to the bank transaction tax.

is fitting that we, at this point, question some paralyzing prejudices. We should examine with clear eyes some sample situations, and invite representatives of the various sectors of society, industry, commerce, services, agriculture, mining, banking, non-governmental organizations, public finance and social security administration, the scientific community, jurists, accountants, auditors, and professionals of information technology to spell out their perceptions on a tax system whose hegemonic base would come to rest on bank transactions.

GLOBALIZATION AND TAX HARMONIZATION

One of the more technically persuasive variants of the complacent fallacy that claims, "*a new tax, if it were viable, would already exist in more advanced countries*", is the mistaken supposition that a bank transactions tax is incompatible with tax harmonization.

It is alleged that globalization is engendering a trend toward increased harmonization of tax systems, particularly as it pertains to taxation of factors that have greater mobility, such as intangible capital and highly qualified labor. Double taxation agreements are multiplying, allowing for a reciprocal deduction of analogous taxes different countries levy against the same legally taxable event. The context of the allegation is that, because bank transaction taxes do not exist in most of our partner countries, except for five Latin American nations (Colombia, Ecuador, Peru, Venezuela, and Argentina), its existence in Brazil would constitute a roadblock to harmonization.

However, a logical impasse stands out at the core of this strange rationale, which its enunciators are not noticing and that should be explained.

This rationale unwittingly suggests that, finding themselves caught off-guard by globalization, national tax systems must become petrified and renounce all innovation; as if any tax measure to be adopted should be subjugated by the supposed priority status of international harmonization. A bank transaction tax, welcomed by many tax experts as the tax of the future, would be unable to gain that future, because implementation of such a tax would not become available immediately and simultaneously to all countries.

Such an argument calls for discrediting the historical, cultural, and endogenous roots of national tax systems. It suggests that transcendental paradigms should take precedence over local tax decisions that address each nation's particular social, economic, and political circumstances. This argument would have each country eventually eliminate dissonant taxes. This raises the sensitive political issue of deciding which hegemonic tax profile to apply, and which benchmark of uniformity to use in order to abolish diversity, and to decide what should be considered an undesirable divergence.

The fanciful exaggeration of this line of reasoning is obvious. Of course, vectors of globalization and tax harmonization exist. We acknowledge them. But these

vectors do not impose a veto nor do they make anathema those tax features that a sovereign nation deems appropriate for its own situation.

FOREIGN INVESTMENT

The objection discussed above takes on a more serious dimension than one might reasonably foresee. For example, the American Chamber of Commerce of São Paulo, though admitting that the simplifying perspectives of a bank transaction tax are exciting, decided to take a stand against adopting the single federal tax because, in its view (which appeared on its website), it would constitute a "disaster to foreign investment" in Brazil.

This judgment is based on the allegation that the OECD [Organization for Economic Cooperation and Development] and the United Nations do not acknowledge that the bank transaction tax is comparable to the traditional tax bases which allow reciprocal compensation under international double taxation agreements. To date, Brazil has not entered into a double taxation agreement with the United States. They, not we, are the ones who lack interest. Stemming from this, earnings, profits, and gains remitted to the United States are subject to Brazilian income tax. But U.S. law allows for compensations of the tax paid in Brazil with a similar tax payable in the United States, normally levied at a higher rate.

The argument is that US investors, accustomed to this treatment, would become upset if they could no longer enjoy this deduction from their U.S. taxes, and that they would have to pay the bank transaction tax, for which U.S. law allows no deduction, as it does not have a similar tax.

It is possible that this condemnation is the result of a hasty conclusion based on erroneous analysis. But it is a good example of how innovation, by abolishing deeply rooted habits, engenders resistance not always based on good reasoning.

Let us look at the example of distribution of profits and dividends. Since 1996, these have not been taxed in Brazil, the justification being that these would already have been taxed as corporate profits, through the IRPJ [Corporate Income Tax]. If remitted to the United States, these profits and dividends would be subject to full local taxation, with nothing to deduct.

If the Federal Single Tax were adopted, as proposed, the remittance would be taxed as a bank transaction at, say, a 2% rate. But, we must note that the remittance would be larger, because the tax and the contribution on profits, which are taxed at a 34% rate, would have been abolished! It makes absolutely no sense to turn down a 2% tax, following relief of a 34% tax! Where is the disaster in that?

Secondly, the burden is on the remitter. The accountholder in Brazil is the one who pays the bank transaction tax, not the beneficiary overseas. In other words, the foreign investor will benefit from a substantial increase, not a reduction, in his net return, making groundless the analysis that backs the claim above.

If remittances of other kinds of earnings are made (for example, payment for

technical assistance services), the income tax withheld in Brazil is a 15% tax. Often the remitter in Brazil agrees contractually to adjust the basis of the calculation so that the foreign payment received by the foreign beneficiary would remain the same. But the burden would be lifted off the remitter in Brazil. Again, we fail to see where lies the disaster. In these cases we again believe the analysis seems groundless.

Even if this were not the case, it is beneficiary receives full payment, net of taxes, subject to taxation in his own country. In this case, the abolition of income tax, and adoption of the Federal Single Tax would have no effect on the appropriate to point out that ultimately the intrinsic mission of the tax system, far from being one of granting deductions foreign investors can claim on their own country's tax returns is, first and foremost, the mission of collecting the resources necessary for basic operation of the home State. Any eventual stimulus for foreign investment is mostly a function of monetary policy, not only of tax policy.

ECONOMIC SUBSTANTIVENESS OF THE TAX BASE

More than one jurist has expressed the opinion that it would be impossible to tax bank transactions, because doing so does not correspond to any concrete economic fact and consequently, it could not constitute a legitimate tax base. This sophism spread during the early phases of implementation of the former IPMF [Provisional Bank Transactions Tax], but it did not prosper in the courts of law.

This argument impresses laymen, when in truth **this** is the argument that lacks concrete logical substance. This reasoning is more mythological than scientific, and disregards the historical foundations of tax theory.

The history of concrete tax practices shows that no country has ever exclusively taxed true economic substantiveness. The essence of taxation has always been, and still is, to tax indicators of taxpaying capacity, not to be confused with economic values. The old "rights of passage" were convenient methods, though unrefined, for capturing the presumed taxpaying capacity of a vehicle or load. The window tax, or façade tax, to which the architecture of Amsterdam owes its long houses with narrow fronts and tiny windows, was a practicable formula, albeit imprecise, for taxing wealth presumed to exist by the ostentatious use of spaces and windows on urban landscapes.

Some modern tax systems use complex assessment mechanisms in attempts to assess something approximating net income, net profits, or value-added, which are considered to represent substantial economic assets, or goods eminently susceptible to taxation. These would be the ideal tax bases because they would be the most faithful expression of purchasing power. But it is impracticable to build a tax system exclusively on these bases, because of the complexities of individualized assessment.

No country in the world taxes, exclusively, net profits, net income, and added value. Exact accounting of these values is only accessible to a small number of large taxpayers. Assessment of these values is always imperfect, and depends on a series

of accounting conventions and legislative simplifications that are, themselves, approximations. Complete verification of these values, without sampling, is impracticable for any federal revenue agency in the world, no matter how well equipped it might be.

Thus, all tax systems in the world seek, to a greater or lesser degree, techniques for estimation, presumption, and forfeit, based on indicators. The result is that the correlation between taxes and true taxpaying capacity is always unsatisfactory.

In Brazil, only 15% of companies assess real profits, and only 3% of the population assesses its net taxable income using the full income tax form. Assessment based on presumed profits, the Simple [simplified method for taxing small firms], sales, or gross income, which are the predominant tax bases, also contains little economic substance. These are only approximations of taxpaying capacity that can be as misleading, if not more so, as bank transactions.

Many of the criticisms to the bank transaction tax simply disregard this fact. We should make it clear that such criticisms are groundless because they are impregnated with a mythological vision of taxation of net income and value-added, which does not exist in pure form anywhere.

CONTENT OF BANK TRANSACTIONS

Anyone who claims that bank transactions hold no correlation with taxpaying capacity (and therefore contain no economic substance) commits an impropriety. Such a person does not perceive, or obscures the fact, that he or she is reasoning based on an income paradigm, or more precisely, a paradigm of net earnings or increased net worth.

We must underscore this elementary mistake. Though increased net income could be chosen as an ideal tax base, it would be abusive to consider it the exclusive indicator of taxpaying capacity. On the other hand, though bank transactions may not always represent income or increased net worth (albeit this is often the case), this does not mean that bank transactions do not indicate taxpaying capacity.

A good example is a loan. Accounting shows that funds leaving the lender's net worth to enter the borrower's net worth only to once again return to the lender do not trigger a definitive change in the respective net worths of lender and borrower. On the other hand, payment for the loan (interest) decreases the net worth of the borrower, and materially increases the net worth of the lender. So it is fair that income tax should not be levied against the value of the loan, but rather only against the net income from interest, earned by the lender. The borrower, who pays the interest, would be permitted to deduct the interest as a cost or expense.

Now, this logical routine, which is valid within the mental universe of income tax, cannot exclude other dimensions of the phenomenon.

Obviously, the loan has economic substance; it is a manifestation of credit, a quantifiable economic asset. It also indicates the taxpaying capacity of its holder.

This asset, the foundation of financial leverage, can be used, spent, invested, made profitable, multiplied, renewed, "rolled", and exploited economically. It is not income, so it would be absurd to tax it at high income tax rates, of between 15 and 27.5. But it constitutes a bank transaction, utilization of capital, which is indisputably an economic act. In fact, it is already subject to Brazil's IOF tax [Tax on Financial Transactions], with a low rate, and until 2007 to the CPMF [Provisional Contribution on Financial Transactions], both of which would be replaced by the proposed bank transaction tax.

Now let us take the common case of a middle class wage earner whose only income is his monthly salary deposited into a bank account. Under normal conditions, this citizen will not play around with his money, needlessly withdrawing it and re-depositing it into the same bank account, over and over again, knowing he would be charged the tax repeatedly and pointlessly. If he makes a loan, the funds will leave the account and return to it, just once. Normally funds will be withdrawn only once, for consumption, leisure, charity, equipment, maintenance or increased productive capacity, or for savings and investments.

Funds withdrawn for financial investment will not be subject to the proposed tax, as the comments in the section below will make clear. Under the current system, the remainder, after allowed deductions and on amounts exceeding the exemption limits, would be subject to income tax, at rates of between 15 and 27.5%, and until 2007 to the CPMF – in addition to other indirect taxes included in the prices of products and services consumed.

Under the proposed Federal Single Tax system, the funds would be subject to the bank transaction tax, the rate for which would be nearly 10 times less than the income tax rate, in addition to indirect taxes included in the prices of goods and services consumed, which presumably would be less than what they are today. Currently, half or more of taxes included in the prices of products and services are pocketed by sellers, and not passed on to the Treasury. These become illegitimate income appropriated by criminal businessmen and disloyal competitors.

Because it is intended, in principle, to keep the tax burden unchanged, and since that revenue does not rain down from the sky, but does curtail the economy's disposable income, clearly there is no magic. Any tax that ceases to flow from one place will have to emerge from other sources. And since tax avoidance is very high in Brazil, we should expect that the universally applied bank transaction tax would produce a healthy redistribution of tax incidence, and a subsequent easing of fiscal pressure. Reduction of taxes included in product prices will tend to occur as soon as business owners cease to act as tax depositories and as soon as tax evaders, now subjected to the inescapable bank transaction tax, are included in the taxpayer universe.

The case of a self-employed professional, whose earnings takes the form of numerous checks in small denominations, part of which will be used to pay suppliers, will differ little, if at all, from the case of the wage earner. In both cases,

the taxpayer will feel unjustly taxed on that portion of his gross earnings that are paid out as costs, such as checks paid to third party suppliers. Those taxpayers whose business structure involves large bank transaction volumes that do not represent earnings will be hurt; namely, those enterprises, whether individual or corporate, that manipulate third-party funds, involving high costs and minimal margins. These enterprises would suffer – and perhaps even become impracticable – under this type of tax.

It might be fair, albeit not simple, to avoid this effect. On the other hand, this effect would not necessarily be a bad thing, insofar as it would discourage a whole range of speculative businesses that are devoid of true economic usefulness, since they involve using assets in order to seek profits in the intermediation game.

Adoption of the tax base comprised of bank transactions is perfectly compatible with building adjustment mechanisms capable of making the tax's incidence fairer and better tailored to the diversity of individual circumstances. But, we should make clear that any adjustment or individualization of the tax presupposes that paper tax returns and interfacing with the federal revenue agency will survive. In other words, they would exclude the primary advantages of the tax, which are simplicity and low compliance cost.

Perhaps it is preferable to be taxed in a less sophisticated manner, thus avoiding auditing procedures of fiscal obligations, than to be taxed in a fine-tuned system while having to accept a lasting and costly relationship of dependency with the federal revenue agencies. The authors of the Federal Single Tax amendment place their bets that preference will be given to simplicity, low operational costs, abolition of the paper-ridden declaratory system, and elimination of all subjectivity in taxation procedures.

DEFERRED TAXATION OF FINANCIAL INVESTMENTS

A tax should not interfere in the market cost of money. Neither should it drive a wedge into the returns of financial assets. The proposed tax (Federal Single Tax) postulates financial neutrality.

In previous versions of his tax model, Professor Cintra had envisioned a system of mirror bank accounts directly tied to checking accounts. Funds used for investment in the financial or capital markets would move through these mirror bank accounts without being taxed, except upon returning to their respective checking accounts. Business done in the financial and capital markets would be protected as if encapsulated, beyond the reach of any tax. Upon return to the bank checking account, net earnings from the investment would be taxed at a special rate, which in practice would represent a tax on earnings and capital gains. This would be the sole surviving remnant of the income tax.

In the current Federal Single Tax version, income tax disappears completely, taking advantage of the protective capsule, which translates into the principle of tax

deferment, a necessity in a parallel accounting system. And the tax's universality requirement would be preserved. In other words, funds withdrawn for further financial investment would not be taxed, but funds withdrawn for consumption would be taxed, regardless of their origin. If the funds withdrawn for consumption originated from financial investment, the amount of net returns withdrawn for consumption (and only that amount) would be taxed. Adventures and misadventures with financial papers would be emptied of any tax dimension. Bank transactions not earmarked for investment would be taxed. Taxation would be uniform, generalized, and proportional, regardless of the origin of funds.

The proposed model is not incompatible with a differentiated financial earnings and capital gains tax, but this would mean systematic control and assessment of net gains, which is contrary to the simplicity of the model. Therefore, we have a tax base that does not discriminate against its content – transacted funds – based on the legal or economic condition of their origin. But it does discriminate against the manner the funds are used, protecting savings and financial investment. The proposed tax base would be strictly limited to bank transactions not earmarked for debt, equity or securities.

CONSUMED INCOME

With the preceding observations in mind, it becomes crystal clear that for individuals the single bank transaction tax acts as a light tax on gross income, preserving financial investments. That is, it is applicable to gross income that is not invested (consumed income). The bank transaction tax could be conceived as a practicable formula for approximating the Kaldor tax.

The expenditure tax, or consumed income tax, developed by Nicholas Kaldor in 1955 and later picked up by James Meade, the British economist and 1977 Nobel Laureate, has excited the imaginations of tax reformers, though it constantly runs into serious implementation roadblocks. To choose as a tax base those bank transactions that take place outside of financial and capital markets, which is the nucleus of the proposal now being examined, means opting for a simplified variant of the expenditure tax.

The tax system that would stem from this, once its functionality is proven, could potentially be apt to evolve into a progressive personal consumption income tax, which is the dream of modern tax reformers. All that would be needed in the future, as long as organized and mature demand exists for such, would be to make some concessions to supplemental complexities, in exchange for refinement of the tax's equity feature.

VICES, LUXURIES, THE ENVIRONMENT, INTERVENTIONIST TAXATION

The study of comparative tax systems highlights the tendency to overtax

consumer items that could be classified as luxuries, vices, legally restricted consumption such as pornography and weapons, pollutants, non-renewable fuels, jewels, art objects, and durable goods. The list goes on to include cigarettes, alcoholic beverages, perfumes, drugs, controlled substances, items of conspicuous consumption, automobiles, pleasure boats, and sophisticated electronics. Once the single federal tax were adopted, with the corresponding proposed extinction of the IPI, possibly followed in the future by the extinction of the ICMS (a state value-added tax), prices of that list of goods would become cheaper, which could be considered, under the circumstances, undesirable. These are situations that public policymakers might regret, and may be used to illustrate the ineptitude of the bank transaction tax as a regulatory instrument of intervention.

It is appropriate here to again underscore the rich potential of the current tax law system, defined in Article 149 of the Federal Constitution, which proponents of the federal single tax have made efforts to preserve.

The CIDE tax, an "interventionist contribution on economic domain", which functions under highly flexible parameters, including its ability to avail itself of bases identical to those of other taxes, both current and extinct, is the perfect solution for filling these loopholes. It is an underused and recently rediscovered tax. We now have the fully functioning precedent of a CIDE on fuels.

A similar CIDE on cigarettes, for instance, would be appropriate. It is obvious that removing taxes on cigarettes would be disastrous for public health policy and a significant loss of public revenue. Current statistics show a deficit between tax revenue from cigarettes and public expenditures incurred in treatment of cigarette-related diseases. The CIDE could easily be calibrated to cover this deficit. It has the advantage of being an earmarked tax linked to specific behaviors, which gives it an interventionist effectiveness which is much more precise than that of taxes on production and consumption.

The CIDE would be the appropriate instrument to replace, even overcome, the regretful absence of the selective IPI, the abolition of which is being proposed. The major advantage is that the CIDE does not have an exclusive revenue-raising purpose and can be fine-tuned to achieve well-defined intervention goals. It is also the appropriate instrument, within our constitutional framework, for incorporating the environmental taxes promoted by the OECD, which are now springing up all over the world.

A new CIDE, which would be crucial to the systemic equilibrium of the proposed model, would be the CET (tax equalization contribution), which then-Deputy Marcos Cintra introduced as a supplemental bill, aiming to add a levy on prices of imported products and services, equivalent to the cumulative effect of the single federal tax on national production. This cumulative effect would be estimated by using the matrix of inter-industrial flows developed and published by the IBGE [Brazilian Institute of Geography and Statistics].

The use of a tax rebate as a means of exonerating exports, applied at the time of

shipment abroad, and the CET, which is applied on imports, are basic requirements for the bank transaction tax to be practicable. But this is a regulatory issue, the generic guidelines for which could be established through supplemental legislation.

Extinction of the IOF, the financial operations tax, would not be indispensable to the model, since it is inherently a regulatory tax, whereas the bank transaction tax is expected to replace all revenue-raising taxes. The proposal satisfies the intuitive yearning for simplicity, even taking into consideration that the tax base of the IOF broadly intersects with the bank transaction tax. Should it not be preserved, and its extinction cause uneasiness to the monetary authority, which eventually would desire a tax instrument to regulate financial markets, it would be perfectly in order to get hold (also in this sector) of the CIDE.

PROPERTY TAXATION

Under the proposed model, extinction of the ITR [rural land tax] would not be indispensable, because the ITR serves as a predominantly regulatory tax, producing only nominal revenue. Again, in this case the proposed bank transaction tax would fulfill a simplifying function, considering the historical ineptitude of this complicated tax instrument in Brazil. It could be justifiably eliminated altogether, consistent with the paperless aspect of the proposed model.

Truthfully, the ITR has been auctioned off by the Union, either to states or municipalities, during its most recent attempts at tax reform. The reason for this is found in the difficulties faced in implementing the tax against the interests of a politically influential segment of rural landowners. But it would be unusual, within the context of comparative tax systems, if Brazil were to devote itself to taxing urban real estate and omit taxation of rural properties, even if only to repress speculation in which land is amassed as a reserve of value. The elimination of any land tax instrument in Brazil could appear detrimental to the international image of a country that has already been negatively distinguished as a leader in inequality of income and wealth, and in insufficient use of its agricultural potential, with serious turmoil in its rural areas. The ITR could be preserved. However, should its elimination seem appropriate, nothing prevents the CIDE from replacing it, with revenue earmarked for administration of land reform.

One weakness acknowledged by scholars who have carefully studied consumed-income tax models is that landowners find themselves in a privileged position, compared to those who do not own land. These privileges include being able to avail themselves of loopholes in order to circumvent taxation. The proposed federal single tax is aimed at discouraging the acquisition and transfer of non-financial assets. Funds used for real estate acquisition, and for its sale, would be taxed whenever non-financial assets are again mobilized.

To a certain extent, the model can be accused of favoring asset freezing, since it favors directing saved income toward investment in equity and securities.

Because the model is initially to be circumscribed to the federal sector, state and municipal rural land taxes would remain in existence, as would the tax on transfer of assets among the living or following death. It is worth noting that globalization tends to promote resumption of non-financial asset taxation precisely because of its inaptitude for cross-border mobility.

Doctrine points to taxation of personal wealth as the antidote against the above-mentioned asset immobilization. It is also with this in mind that Maurice Allais recommended taxation of capital. Taxes on wealth have this peculiarity, that they tax the fruition of wealth, encouraging it to be mobilized and to produce profits, penalizing immobilization. In other words, they do the opposite of what the proposed federal single tax would do. One could counterbalance the other.

Thus, a tax on wealth, which is being suppressed in Brazil without ever having come into force, could perhaps be preserved, despite its declaratory characteristic, for which the authors of the proposed federal single tax have little appreciation. But it should be pointed out that the wealth tax would affect a small number of individuals who own far greater assets than average, perhaps 100,000 individuals. As such, it would serve as a social and progressive counterweight to the proposed model, with no great ambition as a revenue producer.

REGRESSIVENESS, PROGRESSIVENESS, PROPORTIONALITY, AND NEUTRALITY

The often praised redistributive effect of tax systems has turned out to be somewhat disappointing in most countries. It would seem to make more sense to admit that when there is political will to redistribute, the most effective instrument is budgetary allocations, not the tax system.

The most repeated criticism of the federal single tax is that it would be regressive. This, however, is not the right argument to engage in, but rather whether this regressiveness might not also be much smaller and less harmful than the regressiveness of the taxes it proposes to replace.

The simulations Professor Marcos Cintra has published support this opinion, and recent studies published by the Federal Revenue and by other experts corroborate it. Furthermore, it has been empirically verified that, contrary to what had been thought, cumulative taxes on gross sales (the PIS/PASEP/Cofins taxes) demonstrated almost uniform and proportionally distributed incidence in all income brackets, whereas, the IPI, a selective value-added tax, rich with exemptions and differentiated rates, reveals an almost imperceptible progressiveness, as does the ICMS [a value-added state tax on circulation of goods].

The paper, “Progressiveness in consumption”, published by the Federal Revenue, after revealing evidence that cumulative taxes behave quite like an ideal VAT, from the perspective of their impact on consumers, states that the irregularities of the ICMS and the IPI, both in their legislative profile and in their practical

application, fall short of being the ideal VAT. The report concludes by suggesting that VAT supporters should increase their caution.[190]

This reinforces the thesis that moderate cumulative taxes that are simple, uniform, and easily audited are less distortionary than value-added taxes usually with higher rates, full of exemptions, and always subject to heavy tax avoidance.

For its part, Brazil's income tax is falsely progressive. Its base is highly restricted and irregular, and the progressiveness of the tax rates by income brackets is heavily mitigated, and does not extend to capital income. Informal markets and tax avoidance predominate. Rent earners, entrepreneurs, and self-employed professionals are clearly favored when compared to wage earners. The theoretically fairest tax in Brazil is actually extremely inequitable. As we have stated earlier, it is actually a tax that is overwhelmingly levied on one restricted segment, middle class wage earners.

The choice of a comprehensive, regular, uniform base that is difficult to evade – by itself – reduces the regressiveness of the system. Replacement of the income tax with the proposed federal single tax would mean an immediate broadening of the taxpaying universe, from the fourteen who pay the personal income tax to the 27 who pay the CPMF.

By incorporating into the taxpaying population this vast segment of tax avoiders and those involved in the informal market not usually reached by the traditional tax systems, the pressure on actual taxpayers would both spread and be eased, providing a fairer profile to the fiscal system.

The remaining 180 million people, who do not have the possibility of making bank transactions, will not experience any direct effect of the proposed tax on their gross income. This, undeniably, is enough to make it clear that the system has some degree of progressiveness.

The nature of the system within which the federal single tax functions is compatible with policy measures that could be used to give the system an even stronger progressiveness. Even the authors of the proposal stress the ease of applying progressive rates as a function of transaction volume by a single accountholder within a given period of time. Another possibility would be for employers to assume the onus of the tax on paid wages, up to a given amount.

Lastly, we must address the objection concerning the possible allocative impact of the bank transaction tax on production chains. There is no way to avoid such an impact without sacrificing the proposed tax's simplicity, which is its fundamental feature. The impact of the CPMF at the rate of 0.38% seems negligible, but it would become much more noticeable if the rate were ten times higher.

Professor Marcos Cintra's studies aim to demonstrate that the resulting

[190][SECRETARIA DA RECEITA FEDERAL, 2002(a)] p.17.

distortions would be less than those that stem from adoption of value-added taxes (ICMS + IPI + PIS/Cofins) with rates that add to 34% or more, as will be demonstrated ahead. It is almost intuitive that it would be practically impossible to avoid widespread evasion of a consumption tax of that magnitude. We hope that future empirical studies will be able to better illumine this aspect of the problem.

WHO BENEFICITS?

The most obvious beneficiaries of the proposed federal single tax system are the habitual victims of our current non-comprehensive income tax. Middle and upper class wage earners in the formal economy would experience significant increases in disposable income.

A corollary would be that a vast segment of economic agents would be included in the taxpayer pool. As it is now, these agents manage to circumvent income tax, either because they are exempt or immune to them, or because they are in the informal economy, or even because they are tax avoiders or evaders. A Federal Revenue study using 1998 data reveals 16.9 million people exempt from income tax; and 11.7 million non-registered economic agents – all of which would be included in the pool of bank transaction taxpayers.

The bank transaction tax would decrease the current under-taxation of financial investments income and of capital gains. Profits and dividends would begin to be taxed upon distribution, but the personal income tax (IRPJ) would be abolished, resulting in a significant net gain for anyone who presently pays it and a loss for those who circumvented it, or who made use of irregular methods of profit distribution. Beneficiaries of income tax waivers, special regimes, and localized deductions would lose. For example, the tax advantage that loan capital has over own capital would disappear, with the dissolution of tax benefits for indebtedness.

The cost of labor would decrease significantly, with the discontinuation of employer social contributions and income tax withholding of wage earners. This effect will greatly enhance employability, as well as business operations, especially in labor-intensive industries. Business tax planning would be simplified and tax administration costs, whether personal or outsourced, would greatly decrease.

In addition to these general issues, the breakdown of the distribution of gains and losses is the most challenging issue to be discussed on tax reform, and deserves further research and analysis by all sectors involved.

QUANTITATIVE LEAP AND QUALITATIVE PROBLEMS

If the Federal Single Tax is approved, it is not the bank transaction tax itself that may cause apprehension, but rather the level of the rate to be applied. Because the quantitative leap would be sizeable, up to ten times the present rate, it is likely that the qualitative dimensions of this tax could undergo significant changes.

The CPMF experience, since 1992, has already caused a strong impact, throwing aside traditional arguments that express hesitancy and aversion concerning a bank transaction tax. Its discontinuation, as of 2008, was caused primarily for political reasons, rather than for solid economic arguments.

Andréa Lemgruber and others have conducted research on the impact of the CPMF which, since 2001 have been published on the Federal Revenue's website. These studies effectively disprove those arguments born of incredulity and antipathy, which stained a great amount of paper during the past decade.

Experience confirms, and the paper published by the IMF No. 01/67 acknowledged, that the tax, at least with moderate rates, as has been the case in Brazil, has been successful. It did not cause bank disintermediation, did not increase the preference for use of paper currency, did not cause a fall in the use of bank checks or debit cards, did not inflate prices, did not raise the cost of money, did not hurt investments, did not trigger dramatic restructuring of productive cycles, nor did it increase the regressiveness of the tax system. And it had little influence on the competitiveness of Brazil's products abroad.

But it must be remarked that the proposed bank transaction tax's hike to a new level is not equivalent to a higher CPMF, merely adding new tax obligations to those already in place. Rather, it means something wholly different. It means having a bank transaction tax that *replaces* almost all other federal taxes and contributions currently in effect. It would imply a beneficial replacement of the present tax burden for another with a distribution profile that is purposefully more widespread. As such, it is presumably more balanced and milder.

What we want to foresee is the public's reaction, not to an increase in the current tax burden, but rather to its restructuring, with a new profile that will ultimately take a friendlier shape. A ten-time multiplication of the CPMF tax rate, that would be necessary for implementing the Federal Single Tax, would obviously be intolerable if it were merely an add-on to current taxes. That would effectively double the federal tax burden – completely out of question.

This is an ambitious target. Its implementation may require (at the time this text was written) a tax rate of approximately 3.5% (1.75% on bank account debits, 1.75% on credits), to be applied to each bank transaction. This estimation is the result of a somewhat simple extrapolation based on the current pattern of bank transactions and on current productivity of the CPMF which applies a 0.38% rate, with predicted revenue of 20 billion *reais* annually.

It is likely that the profile of bank transactions might undergo some changes in response to a rate that is ten times higher. But it is also possible that the tax's productivity will increase, in response to more severe fraud deterrent regulation. Fraud already detected and eliminated by the Central Bank and the Federal Revenue allow for estimated revenue that is potentially 10 to 20% higher than current estimated revenue of the CPMF.

This basic calculation should also be adjusted to the proposed extinction of all

exemptions and immunities, except for reciprocal immunities among political entities of the Federation. Such increased revenue would probably compensate for the drop in revenue caused by the suggested system of taxation for the financial and capital markets.

In view of these generic parameters, it is clear that, for the time being, the search for more precise estimates would be a useless exercise. The only way to perform a conclusive empirical test of the model is to follow its implementation. This reveals the proposed tax's flank most exposed to criticism, albeit subordinated to highly hypothetical reasoning.

The most skeptical critics will continue to place their bets on the assumption that it will be impossible to tax bank transactions at rates higher than 0.5%, or at most 1%, and they predict society will mobilize on a large scale to find ways to evade taxation of bank transactions.

The most optimistic critics will say that such figures are superstitious, and that everything will run smoothly, as it did with the 0.38% rate, because potential forms of evasion had already been exhausted or overcome.

A realistic posture must acknowledge that efforts to avoid taxation are normal, and predictably will increase since, as the rate increases, so do the rewards for avoidance. Tax avoidance measures that are not attractive at the current 0.38 rate could become much more attractive if the rate is multiplied ten times. Therefore, it is appropriate to ponder the viability of implanting effective deterrent measures, and to consider ways to prevent attempts to dodge the tax.

The measures considered within the legislative bill of the proposed tax, such as prohibiting endorsement of checks to third parties, demanding premiums to those who write bearer checks, punishing of those who write them, discouraging the use of cash, and others that may be proposed, are all infra-constitutional and regulatory measures in the commercial, banking, criminal, and administrative areas, and therefore extend beyond the bounds of a constitutional amendment.

It would be inappropriate to dwell into the details of these measures at this time, neither should they detract us from the focus of the discussion which addresses, not a complete fiscal package, but rather a political choice among taxation models in a democratic discussion within the Legislative.

Nevertheless, along with the proposal's economic and political dimensions, discussion of the requirements for institutional analysis is also indispensable.

TAX REVENUE: AN ESSENTIAL FUNCTION OF THE STATE. THE PERMANENT INSTITUTION SURVIVES ANY CIRCUMSTANCIAL SPECIALIZATION

The saying that "taxes are, first and foremost, administration" still holds true. A clear-thinking tax analyst should always give priority to the conditions for implementation of a given tax, relative to the eventual qualities of its theoretical

profile. For example, Brazil's income tax is sharply disassociated from its theoretical paradigm and from its explicit principles, as contained in the Constitution. This is true because of the fragility of the administrative apparatus in charge of its execution.

A necessary and indispensable assumption of any realistic tax reform is the existence, current or potential, of an institutional apparatus that is empowered to enact the adopted legislative framework. This means that prior analysis of the institutions is fundamental. Without a solid fiscal apparatus there can be no State. A federal revenue agency is a basic component in the nuclear structure of the State, an indispensable requirement for good governance.

Tax policies vary, fiscal experiences come and go, but a federal revenue apparatus must be the filter that collects the product of this historical alchemy. It would be imprudent to weaken the federal revenue agency. The wisdom of tax scholars has never ceased to stress that a good tax depends, first and foremost, on administration. The federal revenue agency must be preserved and cultivated as a permanent institution.

Occasional specializations, which depend on whatever tax policy is in place at a given time, should never exclude a bureaucratic structure that is well founded, solid, diversified, continuous, capable of accumulating knowledge, history, techniques, and values. It must be capable of critical observation, researching, monitoring world events, evaluating, adapting, forecasting, and thinking in the long term. The triggering of a given specialization by a circumstantial fiscal experience is no justification for dismantling other components of the taxing apparatus.

Of course, it would be unrealistic to think that implementation of an hegemonic tax, however simple its administration might be at the operational level, would lead to extinction of the federal revenue agency. It would be unwise to feed this illusion born of romantic liberalism uncommitted to the responsibilities of public administration. It would be unrealistic to suppose that a transaction tax (or any other tax) would signal the end of fiscal administration and the apocalypse of bureaucracy.

Technical analysis of the proposed tax should take care to undo any artificial amalgams between this interesting tax administration experience (the federal single tax) and any eventual leanings of its sympathizers towards the "minimum State" and similar ideologies. The bank transaction tax does not mean, *a priori*, any necessary ties with ultraliberal, anti-bureaucratic, anti-Statist, or anarchical postures. Nor is it in any way incompatible with the social-democracy worldview or with the realities of the "techno bureaucratic production mode". Tax agencies are an essential public duty that must reach beyond circumstantial fiscal policy, just as diplomatic bureaucracy surpasses occasional choices in foreign policy.

NO TAX IS IMUNE TO EVASION

The Federal Revenue has prosecuted a number of large banks for practicing

premeditated fraudulent procedures that lend themselves to evasion of the CPMF, in amounts of approximately 5 billion *reais*, though this figure is expected to reach 8 billion *reais*.

The banks claim that they were exercising a legal form of tax avoidance. They were doing so to benefit large clients, probably in exchange for some reciprocal benefit. These banks used their legal authorization to endorse checks issued by large clients and to transfer large values to the bank's bond and securities distributors. These distributors, in turn, credited the accounts of the vendor's of those clients, without paying the CPMF, thus bypassing a bank transaction in the client's checking accounts which, otherwise, would have been charged the tax.

This is a typical maneuver that makes no economic sense, showing patent irregularity on the part of the securities distributors whose business objective does not include making payments to vendors of the bank's clients and their associates. The sole purpose of the maneuver was to evade the tax. This ploy, which of course reduces tax revenue, also distorts the distributive impact of the tax and aggravates its regressiveness, since it favors large clients to the detriment of others.

The maneuver was relatively elementary and predictable, as is the transformation of bearer checks into quasi-money and other formulas – fraudulent or not – for avoiding the tax. Banks fear the loss of a formidable flow of funds, and feel a strong temptation to take advantage of this situation, if not outright appropriation of some residual sums for their own benefit.

The only way to prevent or repress the natural propensity to evade the tax is to have a well-equipped federal revenue agency that acts persistently, even fiercely, to deter it. The truth is that there is not, there has never been, and there will never be a completely fraud-proof tax system. It is an illusion to imagine that any tax system could do away with a tough auditing structure.

A simplified tax system might require a more light-duty federal revenue apparatus that is more specialized and targeted. The hegemonic bank transaction tax would certainly relieve the general citizenry of any worries with the federal revenue agency, which would direct its efforts to auditing banks. This might explain bank reticence about this tax.

Thus, it is impertinent to view the struggle for a bank transaction tax as a sort of *vendetta* against the alleged oppression of a voracious federal revenue agency. This feeling would only fit that limited segment of the population that is subjected to localized tax surcharges, but it would not be a shared sentiment among the population as a whole, which is invisible to the federal revenue agency. The federal revenue bureaucracy, first of all, does not have a genetic predisposition against a bank transaction tax. Secondly, it would not be disposable, even in the ideal scenario of a single tax on bank transactions.

THE BANKING SYSTEM: DOMAIN OF THE TREASURY´S AGENTS

Most developed countries depend on traditional tax collection systems for public revenue. Therefore, due to respect for traditions, cultural preferences, collective resistance by agents of the public treasury, or strategic posturing, those countries view Brazil's bank transaction tax experience with reticence. It is highly unlikely that, over the medium term, the population of these countries would agree to turn over to private banks the function of public tax collection. They prefer to tolerate the costs of heavy federal revenue bureaucracy – perhaps antiquated, but reliable, under oath, and imbued with the spirit of public service – than to turn this traditionally public function over to what many see as organizations of mercenary money merchants.[191]

The fallacious claim that *"if the bank transaction tax were good, it would already have been adopted in developed countries,"* errs precisely because it ignores one tiny detail, to wit, that the bank transaction tax can only be economically viable, and can only be competitive as a tax revenue instrument, in a country that enjoys advanced and well-distributed banking information technology. Furthermore, that country must also consent to delegate the collection of public revenue to the banking system. It is this very requirement, which Brazil fully meets, that prevents other developed countries – despite their growing curiosity about the bank transaction tax – from adopting this technique.

Whether they, or we, are correct depends on historical, social, administrative, institutional, and political factors that would be too lengthy to explore here. But it is important to understand that mere economic analysis is insufficient for deciding on tax reform. Institutional analysis is also important, and often decisive.

Any sensible observer would agree that the State, which embodies the public interest, and particularly the public treasury, cannot be subjected to being brought to its knees by the unpredictable capriciousness of banking operators or by the extremely self-oriented interests of the finance barons.

This reservation, does not exclude, however, acknowledgement of the lengthy experience Brazil has had using the banking system for tax collection. No serious setbacks have been recorded in three decades of experience. It is possible to believe that the Central Bank and the Federal Revenue can satisfactorily control the banking system. But this should not prevent concerns over what could happen in a scenario of an eventually weak government and lax institutions.

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[191] To illustrate, in France, a country smaller than Brazil, the *Direction de la Comptabilité Publique* is the agency responsible for the public treasury, for collection and control of public revenue. The agency has approximately 50,000 agents, another nearly 80,000 agents in charge of federal taxes (*Direction des Impôts*), and nearly 50,000 customs agents (*Direction de la Douane*). These statistics illustrate that Brazil's federal bureaucracy is comparatively lightweight, and could not function without the help of the banking system.

If the banking system were to assimilate the functions of the public treasury, it would give banks enormous bargaining power. At the same time, it would subject them to the discomforts of government investigation and control. This is the reason bank directors still maintain a reticent and ambiguous posture concerning their playing this role.

CONCLUSIONS

Since the end of the authoritarian regime in the mid-1980, Congress has had a difficult time overcoming its timidity about exercising its prerogative to evaluate and influence tax policymaking in Brazil. It is a verifiable fact that even today nearly 90% of all tax legislation derives from the executive branch.

Executive branches of government are growing by gargantuan proportions, while legislative branches are shrinking. This is a common phenomenon throughout the world. Therefore, of course, no one is thinking of competing with the formidable machine of the executive branch in the complexities of tax execution. It would not be reasonable to expect the legislative branch to build complete fiscal systems. But the definition of more generic guidelines for tax policy falls fully within the scope of the legislative branch, in response to social demands.

The proposal for the “federal single tax” has merit in that it constitutes a formulation entirely and genuinely consummated within the environs of the legislative branch. Of course, notwithstanding the exceptional scientific qualifications of its major proponent, it cannot pretend to embody an exhaustive fiscal system. But it does outline the generic makeup of a complete tax model, which is offered as a viable alternative to the obvious impasse in the tax reform proposed in PEC No. 175/95, and others that came after it.

In order for the proposed model to be appreciated, it is not necessary that it be propped up with exhaustive regulatory detail and exact numerical forecasts. This, of course, is not possible without the cooperation of the executive branch.

The proposal of a VAT, for its part, despite originating in the executive branch, cannot guarantee its results. Every time tax policy guidelines have been approved, approval has come with the unspoken understanding that the taxes adopted would lead to heavy tax avoidance, the repression of which would be incumbent on fiscal agencies. Public policy choices cannot rely on advance guarantees of full execution. They need reasonable indicators of viability.

The 1965 tax reform, which is still Brazil’s major tax benchmark, was adopted even prior to the formation of institutional agencies capable of implementing it. These were formed slowly over subsequent years, which meant that the tax reform did not enjoy immediate and automatic effectiveness. Guidelines were defined first. Conditions for implementation came later.

The institutional scenario is different now, much more sophisticated, capable of speedy approval of the new proposed model, without apprehension about continuity,

even if only because the current economic situation would not tolerate gaps in providing public revenues. Finally, this is about appreciating an innovative option for tax policy, based predominately on bank transactions that do not represent savings, offered as a viable solution to the impasse in tax reform.

What is left to decide is whether it meets society's demand for a tax system that is broader and whose incidence is more equitably distributed, that is simpler, smooth, universal, cheap, effective, and difficult to evade. [192]

[192] The Constitutional Amendment Bill, PEC 474/2001 was unanimously accepted by the two Committees in the Chamber of Deputies responsible for appreciating it, the Judiciary Committee and the Special Tax Reform Committee. It is also under appreciation in the Brazilian Senate under an identical but separate bill subscribed by Senator Paulo Otávio. As of the year of its approval in 2002, the Single Federal Tax Proposal is presently in the roll of legislative bills to be taken to the floor of the Chamber of Deputies for appreciation, after which it goes to the Senate for final approval. Now, presenting it for a vote in the floor is only a matter of political decision since the bill has completed its legislative process in the lower house.

5

FURTHER ISSUES ON TAX REFORM IN BRAZIL

INTRODUCTION

After publication of the article entitled "For a tax revolution", in the *Folha de São Paulo,* in January 1990, the Single Tax proposal contained in that article gave rise to a controversy that deeply involved public opinion, and brought fresh air to the technical debate on the subject. [193]

The article held that the Brazilian economic situation demanded a sweeping tax reform. This is still true nowadays. It called attention to a wrong turn taken by the debate. Tax reform was being treated in a restricted manner, merely as a program for guaranteeing tax revenue. Measures such as fighting tax evasion, reducing tax incentives and subsidies, and tax expenditure planning were frequently seen not as objectives in themselves, but merely as means to increase government revenue and, therefore, to balance the public deficit and to reduce inflationary pressures resulting from constant budget disequilibrium.

Issues related to the efficiency of tax mechanisms, their equity, costs, incidence patterns, and other important questions were given secondary attention. Taxation was assumed to be a necessary evil, affording few options for improvement and innovation. Further, the simplifying and highly stylized postulates of neoclassical economic theory were uncritically accepted, producing theoretically efficient models from a distributive and allocative perspective but devoid of sound judgment about the realism of their assumptions.

The complexity of Brazil's tax structure had already been a subject of discussion for decades. The countless forms of taxation (such as income taxes, value-added taxes, estate taxes, not to mention taxes on services, quasi-fiscal contributions, compulsory loans, fee surcharges, etc.) made it absolutely impossible to arrive at any trustworthy conclusion about the characteristics of Brazil's tax system, such as its alleged regressiveness, its efficiency, etc.

The text on the Single Tax contained a forceful demand for a broad tax reform that would encompass all of these issues, but in a context in which the formulators of

[193] For a comprehensive discussion on the main controversies involved in tax reform in the world see [OWENS, 2005]; concerning the Single Tax bill, and the controversies that were raised in Brazil, with arguments for and against the bill, see [CINTRA, 1994(a), 1994(b), 1994(c)].

economic policy would not be constrained to existing fiscal and operational procedures.

The idea of a Single Tax polarized the debate on tax reform and triggered two major reactions. On the one hand, were those who supported a bureaucracy-free system using the Single Tax as an important foundation in the debate. On the other, were the supporters of the orthodox paper-driven declaratory tax structure, who unleashed a violent criticism against the single-taxers.

In 1992, Roberto Campos published an article in the *O Estado de S. Paulo* titled, "Exógenos e papirófilos",[194] in which he explained in his inimitable style the important points that clearly differentiate the two currents that emerged as the debate intensified. In order to synthesize the issue, he labeled the two groups as the "exogenous" and the "papyrophyles" distinguishing the first, who argue for a simple, evasion-free structure, from the second group, that calls for maintaining, albeit with improvements, the current complex and bureaucracy-laden system.

The first group rejects paper-driven declaratory taxes. Such classical taxes force the taxpayer to submit tax returns and the revenue agency to assess and audit taxpayers. The compliance and auditing costs are enormous and assessment involves subjectivity, making the temptation to evade almost irresistible.

Roberto Campos states, "*The papyrophyles, who have forgotten that they live in the electronic age, love the bureaucracy of documentation. These include income and property tax returns, production or consumption invoices, receipts for services, and payroll taxes. There is a bureaucratic 'delirium tremens'. In 1990 alone 1,062 fiscal instruments were handed down by the Government, including laws, decrees, executive orders, and regulatory statements. That is 4.6 new regulations per business day! Over 33 accounting books are required, eight accounting ledgers, six corporate ledgers, nine fiscal books, six labor volumes, and 24 different tax declarations. There are 25 basic labor and social security obligations*!"

It is fair to suspect that today, almost twenty years later, the bureaucratic complexity is probably even more intense than it was then.

Campos estimates that *"in 1990, the cost of tax collection for the four revenue agency levels – federal, state, municipal, and social security –amounted to US$3 billion. That is, 3% of GDP. For corporations, the cost of compliance was even higher. At least one third of administrative costs, or approximately 5% of GDP, represented bureaucratic and legal expenditures involved in paying taxes*."

The group that argues for the paperless non-declaratory system, called "exogenous", according to Roberto Campos "*proposes that different tax bases – income, consumption, production, and labor use – be replaced by a single bank transaction tax collected through the banking system. This tax would be exogenous, automatic, and evasion-proof. It would be exogenous because it would not depend on returns filled out by the taxpayer. It would be automatic in that it would be a simple*

[194] [CAMPOS, 1994]

charge against use of banking services. It would be evasion-proof, because in a modern economy banks are indispensable, financial supermarkets that offer diverse services. This is especially true in Brazil, where there is minimal use of paper currency to prevent robbery."

According to Roberto Campos, "*there are differences in thinking among both the 'exogenous' and the 'papyrophyles'. The 'radical exogenous' want the bank transaction tax as the only revenue tax (only economic regulation taxes would survive, such as the import tax). Moderates would allow for six taxes on specific products (excises), in addition to the bank transaction tax. Those products are energy, fuels, communications, vehicles, alcohol, and tobacco. These taxes are collected at the production unit of a limited number of producing agents, exempting tax collection at the subsequent stages of trade and consumption, and would not require taxpayers (consumers) to fill out returns.*

"There are also the 'dietetics' among the papyrophyles. These want to trim taxes down, from 15 to five (the Ives Gandra proposal). There are also the fatty, (as in the proposal by the Executive Committee on Tax Reform), who would create - ´horresco referens´ – two new taxes: a tax on corporate assets and a selective tax on specific products. The common weakness of all proposals by the 'papyrophyles' is that they preserve, to greater or lesser degree, the corrupt bureaucracies of revenue agencies and the documentation hell faced by the taxpayer."

Roberto Campos believed that the only fiscal model worth its salt is the one that can claim to possess four desirable features and to avoid five unwelcome effects. The desirable features are:

1. A tax base that is comprehensive enough to circumvent the barrier between the informal economy (which pays no taxes), the state economy (which pays little), and the fiscal "victims" (payroll employees and formal sector companies);
2. Low tax rates in order to convert tax evasion from an act of cunning into an act of outright deceit (in the single bank transactions tax the threshold seems to be 2% to 3% on each side of a bank transaction – debtor and creditor);
3. Automatic, not primitive mechanisms for tax collection;
4. Instant pass-through of shared revenue to beneficiaries – the Union, the states, the municipalities, and social security.

The five effects to be avoided are:

1. The underground economy effect – non-registered payments (for example, fiscal blackmail and tax evasion);
2. The government corruption effect – corruption in intermediation of public funds;
3. The "Tanzi" effect – inflationary corrosion of revenue between time of collection and actual availability of funds;
4. The "papyrus" effect – the proliferation of documents and tax books;

5. The "toga" effect – when tax cases logjam the judiciary branch.

TAX REFORM: THE DISADVANTAGES OF BEING CONSERVATIVE

The Special Committee on Tax Reform of the Chamber of Deputies began working in 1995. At the time, Deputy Mussa Demes presented four versions of the Committee's report. Three of those were not even read for lack of parliamentary support. The last version, dated November 1999, was voted and approved by 35 votes in favor, and one against, that was my solitary vote. This majority approval, however, did not mean that a technical or political consensus had been reached.[195]

The bill that was approved in the Committee incorporated an orthodox vision of tax reform, with three basic characteristics: a) the unification of circulation taxes (ICMS, IPI, and ISS); b) the elimination of cumulative social contributions; and c) the creation of a comprehensive VAT that would merge all those eliminated taxes and contributions. The Committee assumed one commitment, that of maintaining government revenue constant.

Such proposal ignored two fundamental aspects of a good tax reform in Brazil. It also made one fatal error. The omissions were: a) it excluded the personal and corporate income tax from the reform, and b) it did not exonerate the heavy labor social contributions paid by company payrolls. The technical error was that the rate of the new, comprehensive VAT had to be excessively high to keep constant the present levels of revenue, and this, strongly stimulates evasion.[196]

A tax reform must find solutions to several fundamental problems. It must be able to guarantee adequate revenue collection – so the government can meet the demand for public services; it must be neutral and seek allocative efficiency to minimize tax-related distortions in the decisions of economic agents; it must be simple and inexpensive in order to minimize tax compliance and administrative

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[195] [CINTRA, 2000]; the separate vote by Deputy Marcos Cintra, contrary to the opinion by Deputy Mussa Demes, is also available at: www.marcoscintra.org/singletax

[196] There are some fundamental issues to be resolved in building a Tax Reform bill. Two problems in particular need urgent solution: 1) the incorporation of the services sector in the tax base of the new ICMS or in the federal VAT implies a significant increase in tax burden on service producers (since the ISS is replaced by the ICMS/VAT), creating undesirable asymmetry in the impact of tax reform on different sectors in Brazil's economy; and 2) from the standpoint of a set of taxpayers which includes individuals, small and medium sized business owners, and the informal sector, the tax reform that is underway is unlikely to benefit them directly; its impact will be diffuse, invisible to the large mass of Brazilian population, and incapable of creating enthusiasm, as would be desirable. One eloquent example of the lack of consensus emerging from the official tax reform bill comes from the *Ação Empresarial (Entrepreneurial Action)*, a group led by the National Confederation of Industry. An article signed by Antonio Oliveira Santos, president of the National Confederation of Commerce, published in *Correio Braziliense* on March 1, 2000, states that: "*these observations lead us to suspect the validity and the timeliness of this supposed tax reform, which after all, by all indications, will not reduce the tax burden, will not simplify the system, nor provide the desired competitive equality Ação Empresarial dreams of.*"

costs; and it must be fair, respecting current standards of social equity.

Additionally, as Everardo Maciel, former Secretary of the Federal Revenue, recalled in his speech on August 7, 2001 at the headquarters of the Federação das Indústrias de Brasília, "*there is no tax system that is good and adequate for every country in the world. In modeling the tax system, one must not fail to consider the political situation, the cultural tradition, and the stage of economic and social development of a given country. There is no model that can simply be transported from one country to another.*"[197]

The various bills presented before in the Special Committee on Tax Reform sought to meet those criteria. Each bill under discussion has its advantages and disadvantages; each makes advances in some areas and back steps in others. However, there are two preliminary problems that, if not addressed properly, will make any tax reform become a mere attempt at "perfecting of the obsolete", to paraphrase Roberto Campos.

The first is to improve the pattern of tax incidence in Brazil. It is well-known that the average tax burden has greatly increased, from 23% during the 1970s and 1980s to 35% today, in tandem with the narrowing of the tax base. The rise in evasion, avoidance, and flight to the informal economy was stimulated, and resulted in a tax system that overburdens the formal economy, asphyxiates organized businesses, and hurts the registered wage-earner. As Mário Henrique Simonsen taught us: "*A fair tax is one you can collect*". *Contrario sensu*, the worst tax is one that can be evaded.

The second is the high cost of the current tax system. Society bears a heavy tax load in order to meet several fiscal demands such as maintaining the Union's gigantic tax collection machine, maintaining the expensive social security program and financing the operating costs of the legislative and judiciary branches whose responsibility include legislating and judging millions of tax-related cases that clog Brazil's courts. We must also add the administrative and compliance costs of individuals and of corporations that are related to the system's bureaucratic demands.

The Special Committee on Tax Reform set the stage for discussions about two opposing concepts concerning the construction of a new tax model for Brazil.

On one hand stands the orthodox view espoused in the text of the Tax Reform Committee's reporter, Deputy Mussa Demes. On the other hand, inspired by the Single Tax proposal, is the Alternative Proposal, inspired by the Single Tax, a daring and innovative concept of which I am the author,(198) and which assembles the contributions of several deputies and ex-deputies, such as Luís Roberto Ponte, Francisco Horta, Alberto Mourão, Edinho Araújo, and Ronaldo Vasconcellos. This proposal stresses the *rôle* of paperless non-declaratory taxes, the principal feature of which is that they can be collected automatically using information technology and

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[197] [MACIEL, 2001]

[198] See [CINTRA et alii, 1999].

thus eliminating tax avoidance and evasion. Collection of these taxes has low-cost and is free of bureaucracy and, therefore, immune to corruption.

The final report produced by the Special Committee on Tax Reform proposed a conventional tax structure, though important advances were made on items such as taxpayer advocacy, ending the fiscal war, and simplifying the complex ICMS legislation. On the other hand, it totally rejected the contributions that non-declaratory taxes could make to enhancing Brazil's tax system. In fact, the *Alternative Proposal* served as a counterpoint to the reporter's text, insofar as it introduced two important paperless taxes (the Bank transaction tax, and an excise called Selective Tax), as substitutes for several other taxes.

Both the Mussa Demes proposal and the *Alternative Proposal* advanced very similar diagnostics about the state of taxation in Brazil, and both sought to eliminate social contributions based on company's gross income (PIS, Cofins,) on profits (CSLL), bank transactions tax (CPMF)), and to end the multiple taxes on circulation of goods and services (IPI, ICMS, and ISS). The big difference between the proposals, however, is that Deputy Mussa Demes encumbered a national VAT to be the hegemonic tax of the Brazilian system, whereas in the *Alternative Proposal* that function would befall on two paperless taxes: the Bank transaction tax and the Selective taxes.

The *Alternative Proposal* has the following characteristics:

1. Tax asepsis: it eliminates the IPI, the ICMS, and corporate income tax, which have high bureaucratic complexity, high evasion rates, and high operating costs. It also eliminates several social contributions that heavily pollute the current tax system – i.e., PIS, Cofins, CSLL, and the bank debit transaction tax (CPMF);
2. Personal Income tax to be levied only on high income recipients: the personal income tax will exempt incomes up to 20 minimum wages monthly, which will exclude over 90% of Brazil's population from paying income tax;
3. Exoneration of production – by eliminating the corporate income tax (IRPJ), corporate profits, if reinvested, will not be taxed, which will stimulate production and employment. Distributed profits, however, will be taxed as individual income on the personal income tax of shareholders. Withholding income tax will be applied to all financial and capital earnings;
4. Paperless taxes: declaratory taxes eliminated by the Alternative Proposal will be replaced by non-declaratory taxes, such as the selective tax, and by the tax on bank transactions, both of which are immune to evasion and are simple and cost-effective to collect;
5. Exoneration of corporate payrolls: according to a previous proposal by Ives Gandra da Silva Martins, the employer's portion of the INSS payment will be eliminated, replaced by the bank transaction tax.

It is important to stress that the following fears, related to the bank transaction

tax, are unfounded: a) its cumulativeness (because the tax rate will be low, and it will replace several other taxes, such as the ICMS and the employer's contributions to the INSS); b) difficulties in zero-rating exports (which is possible by using a list of rebates prepared with the assistance of the official input-product matrices, a practice that is accepted and recommended by the World Trade Organization (WTO)); c) the impact of cumulativeness on the financial markets (given that, in the Alternative Proposal, transactions in the financial and capital markets will be exempt from the bank transaction tax); and d) a possible bank disintermediation (because the proposal provides for prohibition of endorsements and the issuance of non-personal checks payable to the bearer, in addition to requiring that all payments be processed through Brazil's banking system, without which a transaction would lose its formal validity).

The *Alternative Proposal*, in addition to seeking to address the traditional requirements of efficiency and equity, makes significant strides in three essential aspects related to the redesign of the current tax system: simplicity, immunity to evasion, and low cost, both public and private. Furthermore, it broadens the universe of taxpayers, as it reaches the informal market and includes tax evaders in the taxpayers' universe. It also underscores the rights and guarantees of taxpayers. New taxes and rate increases will require a referendum, and the use of Executive Orders (Medidas Provisórias) for tax legislation will be prohibited. Furthermore, legal ceilings will be established for existing tax rates in order to contain the government's escalating fiscal appetite.

Finally, it should be pointed out that the impact of the bank transactions tax across economic sectors and on final consumer prices was estimated with the help the official input-output matrix. The simulations show it collects more efficiently and with less impact on final consumer prices than a VAT, as will be shown below.

On the other hand, the orthodox proposal passed in the Congressional Special Committee on Tax Reform outlined a reform model that goes in the opposite direction, and fails to tend to the most pressing needs of Brazil's tax system. New taxes were created, rates were raised, and items that carry significant weight in costs to the productive sector were overcharged. Some elements of public spending were positively altered, albeit insufficiently.

The same report, after intense political and economic debate, was altered, but never gained enough support to be approved at the floor of the Chamber of Deputies. It is conservative and it aggravates the defects of the current system.[199] The bill creates a conventional, paper-driven, and bureaucracy-laden VAT to jointly replace the IPI (the federal VAT on industrial products), the current state VAT (the ICMS), and social contributions. However, to raise the same revenue as the sum of the abolished taxes, the total rate of the new VAT will need to be excessively high. The services sector, for example, will see its tax burden double. This will stimulate tax evasion and avoidance.

[199] For a complete evaluation of the report presented by Deputy Mussa Demes in the Tax Reform Committee, see [CINTRA, 2000].

The bill also has glaring technical flaws, such as the introduction of the "little boat" method of collecting the VAT, which, in interstate trade, will lead to the creation of systemic and certainly non-liquid credit balances against the government. And it commits the dramatically nonsensical mistake of creating new taxes, such as the Retail Sales Tax (called IVV), an underhanded compensation to municipalities that stand to lose their Services Tax (called ISS), which would be transferred to the central government in order to increase the tax base of the new VAT, and therefore stand a chance of requiring that a lower tax rate be applied.

It is important to remember the condemnation uttered by the world's top tax experts concerning the introduction of this type of tax (retail sales tax) in countries such as Brazil. "*In the case of Brazil, high administrative costs mean that retail sales are not a good base for sub national governments. The retail sales tax is an example of administrative costs ruling out a theoretically attractive alternative. The retail sales tax has been successfully used to finance both state and local governments in developed countries. The preponderance of small retail outlets with rudimentary record-keeping would make the RST very costly to administer in Brazil*".[200]

In attempting to incorporate isolated suggestions in order to garner support, the official bill loses its conceptual consistency. It contains many details that are unusual in constitutional texts. It is out of the ordinary that, in order to remit the new VAT to the destination state, a non-mandatory constitutional text would allow for choice between different alternatives, such as the use of the "little boat" technique, or the creation of a compensation fund, or any "other procedures".

Culminating with what could be called an anti-reform, such proposal allows for the creation of thirteen new tax species, all of which are paper-driven, technocratic, and highly evadable, for which partial compensation is offered by extinguishing only four existing taxes. In summary, the Committee demonstrated that it was incapable of producing a reasonable tax reform bill. According to Professor Ives Gandra da Silva Martins, the current tax system is a bad one, but it would become even worse if such bill were implemented.[201]

There is no escaping the impression that the government does not really want to reform the current tax system. Former Minister Antonio Kandir said, in 1997, that tax reform is not a priority. Surprisingly, former Minister Pedro Malan asserted that only in the "next millennium" would Brazil have a new system. This confirms the

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[200] [EDWARDS, 1993], [McLURE, 1993], and [BIRD, 1993]. In [LEWIS, 1984] p.241, it is stated that *"despite the advantages one can state in principle for a general retail sales tax, the actual administration of such a tax generally would be too difficult. The number of retailers is too large; their average sales too small; their level of literacy and record-keeping inadequate; their geographical dispersion too great. Further, political pressures to exempt a range of basic commodities from tax dilute the tax base by eliminating the commodities that bulk largest in consumption purchases. A retail tax could not and would not be a general tax, especially in developing countries; thus, its otherwise attractive features would not be realized."*

[201] [MARTINS, 1999(b)]

huge gap that separates what the government thinks about the problem from what society wishes. The government's tax reform bill[202] does not profoundly modify the current structure. The country will continue to have an inefficient tax system that is unfair and that greatly induces evasion, avoidance, and the accelerated expansion of the informal economy.

Value-added taxes are difficult to administer in federal systems. Brazil is one of the few federative countries that have a state VAT, which explains its enormous complexity and its lack of administrative control. Federalization of the VAT would imply significant operational improvements. But the change would lead to further centralization, given that the current ICMS is the most important source of revenue for the States. The VAT would be collected by the federal government and shared with States and municipalities. But governors and mayors fear to lose their financial autonomy and to suffer a significant reduction in their own revenues, not to mention the exacerbation of political conditionalities which usually follows revenue sharing. In exchange, municipal governments would gain the retail sales tax, the IVV.

The operation of the IVV requires a tax ethics that does not exist in Brazil. It is obviously cultural mimicry to attempt to collect taxes at each consumer point-of-sale, as in the US. Tax evasion would be enormous and due to the need for new and costly auditing systems, its administrative costs would be considerable. Of the current ICMS revenue in the State of São Paulo, 90% comes from 1,000 companies. To collect as little as half of that amount would require monitoring of no less than 300,000 retailers throughout the state.

Summing up, the new bill is centralizing, bureaucratic, and induces heavy evasion.

In editorial, the newspaper "O Estado de S. Paulo"[203] showed that the government, in addition, still dares, unashamedly, to propose the creation of a new fuels tax. There is talk of a "green tax" and of charging the ICMS on the use of São Paulo's water resources. It is not surprising that taxpayers have become so discontented.

Furthermore, several experts have been calling attention to Brazil's excessive tax burden. The weight of taxes already surpasses that of rich countries such as the United States and Japan. In recent years it has threatened to hit 40% of GNP, a level without equal among developing countries. This results in low productivity, and discourages economic activity, while stimulating tax evasion.

Tax avoidance, including evasion and the growth of the informal economy, is increasing at a frightening rate. The Federal Revenue admits that for each *real* collected by the public sector, another *real* is lost to tax evasion.

In spite of all, economic authorities have stood practically inert. On one hand,

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[202] Proposal presented by the Ministério da Fazenda (Minister of Finance and Economics) in 08/2000.

[203] [O ESTADO DE S. PAULO, 2002]

they make disastrous reform proposals to existing tax structure. These are touch-ups that create more problems than solutions. On the other hand, the government is constantly attempting to fine-tune the system, but in an uncoordinated way, which only aggravates the complexity and inconsistency of the current structure, which has become an incomprehensible quilted patchwork of taxes and contributions.

To continue down this path will result in two undesirable facts: oppression by public bureaucracy over the formal economy, and accelerated expansion of the informal economy. Those who presently pay taxes will pay more; others, on an increasing scale, will pay less and less, or nothing at all.

The growing centralization that would result from implementing the government's proposal can be analyzed under yet another prism. To unify the ICMS, IPI, and ISS, and at the same time to avoid loss of revenue and to enable the government to guarantee compensation for lost revenue of lost taxes by states and municipalities, would imply imposing a VAT with high rates. Revenue from these three taxes combined currently accounts for 10.5% of GDP, or 34% of Brazil's gross tax burden. The ICMS accounts for 7.4% of GDP. If we suppose that the incidence base for the new VAT is about 20% broader than that of the ICMS, the new tax's rate would have to be as high as 21%, to prevent losses.

If today, with old VAT rate at 17%, tax avoidance and evasion are already high, it is obvious that the reward for evasive behavior will increase in direct proportion to the increase in the nominal VAT rate resulting from the proposed tax reform bill. The government's proposal, therefore, will inevitably exacerbate the tax system's major operational problems: avoidance, evasion, and flight to the informal economy.

THE FRUSTRATED REFORM AND THE DEMONIZATION OF CUMULATIVE SOCIAL CONTRIBUTIONS

Once the effort to comprehensively reform the tax system was frustrated, defenders of tax conservatism focused their efforts on eliminating cumulative social contributions.[204]

There are three types of social contribution in Brazil. The first, on wage earners and employers, is collected by Social Security by withholdings on payrolls. This is the most perverse of all because while it raises the cost of labor, it discourages the creation of new jobs, induces the adoption of capital intensive production techniques, and stimulates the informal job market.

The second type of social contribution, such as PIS and Cofins, were imposed on a firm's gross revenues. Corporate segments have been arguing ferociously for their elimination, and as of 2002 they have become partially non-cumulative.

And the third type, the contribution on financial transactions, the bank debit transaction tax (CPMF), against which certain corporate sectors and parts of the

[204] See for example, [VARSANO et alii, 2001]; see also [SILVA and LIMA, 2001].

government bureaucracy fight with equal vigor, because of its alleged cascading effect. In fact, after a bitter dispute in Congress, it was abolished in Brazil at the end of 2007.

The reasons why they have been arguing for the elimination of the PIS, Cofins, and the bank transactions tax (CPMF) have already been duly discussed and rebutted. We saw that it is a mistake to oppose such contributions because of their cumulative nature.[205] One can, however, accept extinguishing the PIS and the Cofins based on the fact that they are both declaratory taxes, full of bureaucracy, and as such, susceptible to evasion.

It is interesting to note that the tax base of social contributions levied on firms' gross revenue is approximately equal to the tax base of the CPMF.[206] In other words, firms´ gross revenue or gross corporate sales is a concept quite similar to the national account concept of Gross Value of Production. Thus, the cumulative PIS/Cofins are very similar to taxes on bank transactions, such as the CPMF. The difference, however, is that the former is collected through a declaratory process based on the value of reported sales. And though it has a rate that is 9.6 times higher than the CPMF (3.65, compared to 0.38), it collects only 2.5 times as much revenue. Even if we allow for a tax base 50% smaller for the PIS/Cofins, the comparison with the bank debit transactions tax (CPMF) demonstrates that evasion of paper-driven contributions on sales is staggering.[207]

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[205] [SILVA and LIMA, 2001] in their arguments against cumulativeness commit glaring errors, such as when they assert that one of the advantages of the tax reform bill of the Special Committee of the Chamber of Deputies is "exonerating tax burden that falls on the productive sector by eliminating cascade taxation" (p. 105), as if, for example, the VAT they defend were not also levied at each phase of the productive process; later, they admit that eliminating cumulativeness is an objective within itself, disregarding, however, that the raise in the VAT rate made necessary to compensate for the revenue loss of such a project would strongly stimulate tax evasion. (p.105). They further assert, "*considering that the basis of calculation (of the CPMF) occurs all along the various phases of production and commercialization, one can assert that the tax incidence of the CPMF is also cumulative. The transfer of this cumulative effect to the final price of goods and services is inevitable, going against widely accepted tax principles that recommend incidence on value-added"* (p. 103). This latter assertion ignores the fact that it is not incidence distributed along the phases of the productive process that characterizes cumulativeness. If it were, the VAT would be equally cumulative! In the same way, the insinuation that, unlike cumulative taxes, the VAT would not impact final prices of merchandise is inaccurate. The non-incidence of taxation on final prices would occur only in the case of totally inelastic demand curves, which the authors did not assume. Finally, the assertion that the taxes could "create additional inflationary pressures" (p. 103) does not deserve comments. On that same issue, Everardo Maciel stated, "*I hear lots of people saying 'we need to remove cumulativeness from social contributions in order to exonerate production'. This is false because, inversely, such action increases tax burden on production (…). Social contributions are levied on two types of corporate revenue, operational and non-operational. If we adopt a value-added system such as the ICMS, it will only be levied on operational revenue. See* [MACIEL, 2001]

[206] For a detailed breakdown of this similarity, see [CINTRA, 1994(e)] p. 112.

[207] See [CINTRA, 1994(h)]

A study by the IBGE/FGV showed similar findings. In estimating the impact of the bank transactions tax (CPMF) and of the PIS/Cofins in the various sectors of the economy, its authors noted that, "*whereas the measured impact of the bank debit transaction tax (CPMF) were in the range of 10% of the measured impact caused by the use of PIS/Pasep and Cofins, in 2000 total bank transaction tax revenue was equal to nearly 30% of total revenue from PIS/Pasep and Cofins*."[208] The origin of this discrepancy, evidently, is the lesser possibilities for evasion by the paperless, non-declaratory base of the bank transactions tax (CPMF), as compared to the paper-driven, declaratory base of the PIS/Cofins.

Therefore, the proposal to replace the PIS, Cofins, and the CPMF for a non-cumulative contribution proves totally inadvisable. According to studies conducted by the Research Institute of Applied Economics, (IPEA), the elimination of those cumulative contributions would require a non-cumulative declaratory tax with a rate of about 10% (or if the financial sector is exempted, as has been suggested by some, of 11.5 %,). Therefore, if all those taxes are replaced by a unified VAT, the mere issuance of an invoice will imply a tax burden of approximately 37% on value-added (17% for ICMS, 10% for IPI, and 10% of the non-cumulative contributions).[209]

In fact, former Secretary of the Federal Revenue, Everardo Maciel, in testimony before the Special Committee on Cumulative Taxation in the Chamber of Deputies, on 2 April 2002, stated that a change from a turnover tax system to a value-added system raised three concerns: 1) the operational change would increase tax evasion, given that the more complex the system is, the more susceptible it is to a wide range of avoidance tactics; 2) a consequence of the first concern is that the change could have repercussions in fiscal revenues; and 3) the shift would cause changes in relative prices in the economy, given that some taxpayers will see their tax burdens increase, while for others it will decrease.

But what really stands out in this debate is the insistence on the elimination of gross revenue and bank transaction taxes in contrast with the tolerance shown for excessive payroll taxes. In truth, one of the fundamental points of any tax reform bill is that it must lessen the burden on corporate payrolls.[210]

Brazil taxes wages excessively. This explains why the population of wage-earners increases very little and why the average salary is incapable of supporting

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[208] See [FIESP, 2001] p.21.

[209] Following a different methodology (with no provision for differing levels of informality, nor allowing for tax credits in the acquisition of investment goods), Fiesp (Industry Federation of the State of São Paulo) estimates the noncumulative tax rate for replacing only the PIS and Cofins at between 6% and 7%. See [FIESP, 2001].

[210] See interview given to the newspaper, *O Estado de S.Paulo.* "É preciso tirar a economia da informalidade", in which the respected economist Aloísio Araújo raises the serious issue of Brazil's informal economy and, mentioning James Heckman, winner of the Nobel Prize in Economics who during a visit to Brazil spoke extensively about the excessive costs of regulating the labor market in Latin America- states that "*excessive taxation encourages informality*".

permanent increases in production.

The cause of this contrast between low wages and a high tax burden on them lies in the structure of Brazil's tax system. The government, incapable of controlling evasion in a system made up of declaratory taxes on production, seeks an easy way out to guarantee its revenues, and assigns to formal wage-earners a tax burden that is higher than in other countries. The tax on formal wage earners is one of the highest in the world. In Brazil, a monthly salary of US$ 840 is taxed at a nominal rate of 27.5%, whereas in the United States the same monthly salary is taxed at 15%.[211]

The 8.5% rate on payrolls collected as workers indemnity fund in case of unjustified dismissals has become a *quasi* fiscal contribution that differs little from other taxes on wages. Additionally, INSS (social security) payments add about 35% to the payroll tax burden. It is not surprising therefore, that only half of Brazil's work force is formally on the payroll and that the infamous "Brazilian cost differential" has become an upward spiral of inefficiency and loss of competitiveness imposed on domestic production.

The proposal to lighten the burden on payrolls by eliminating employer contributions to the INSS (the official Social Security System) could turn out to be an important stimulus for expanding the process of including the informal work force into the regular economy and for stimulating the creation of new jobs. But the major benefit is that eliminating the INSS contribution of 20% included in the tax wedge on labor would allow for an increase in real wages, without pressures on costs and prices. The resulting increase in the consumer market would stimulate aggregate demand and investment, and would make an effective contribution toward supporting further GDP growth.

It is possible to exonerate payrolls, to increase take-home wages, to reduce tax evasion, to create jobs, to reduce the "Brazilian cost differential" and to lower prices.

There is a Constitutional Amendment Bill in the Chamber of Deputies aiming at exonerating corporate payrolls by eliminating the employer social security contribution to the INSS and by replacing it with a social security tax on bank transactions.[212] According to data of the IBGE, 95% of the supply of new jobs created in 2000 was filled by workers who had never been formal wage-earners. This fact becomes ever more common as time passes, with damaging consequences to the well-being of the workers and their families, in addition to meaning an unsustainable

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[211] According to data compiled by Arthur Andersen Consulting, the total cost of worker's social benefit programs in Brazil is equal to 60.24% of the payroll, whereas the average in 15 other countries surveyed, including Mexico, Germany, Canada, China, Singapore, South Korea, Hong Kong, United States, Scotland, and Indonesia is only 13.67%. See [ELETROS, 2000]. [THE ECONOMIST, 2000(b)] points to the increasing difficulty involved in taxing production factors that have greater mobility, such as capital earnings, stating that: "*the harder it gets to tax mobile people and businesses, the bigger the burden that will have to be borne by the immobile*". This fact ends up causing governments to overtax factors that are less mobile, such as labor.

[212] PEC 256/00, by Deputies Fetter Jr., Marcos Cintra, Mares Guia, Roberto Argenta, Alberto Mourão, Roberto Brandt et al, available at www.marcoscintra.org/singletax

overload on the social security system.

Furthermore, removing taxes from corporate payrolls by eliminating the employer payment of the INSS would serve as the instrument for correcting the flagrant injustice that is committed against the services sector (highly labor intensive), should its tax burden be increased, as proposed in the bill of the Special Committee on Tax Reform. It is well known that payrolls in the services sector ranges from 40% to 70% of the value of gross sales. In this case, employer payments to the INSS of 20% to 22% on payroll mean that firms in the service sector must contribute from 8% to 15.4% of gross sales to finance the official social security system. Such peculiarities of the services sector call for corrective measures capable of relieving the high tax burden that labor-intensive activities would have to bear.

If the employers' contributions to the INSS are replaced by the Social Tax on bank transactions at a rate of 0.6% on bank debits and credits, as is proposed by PEC No. 256/00 (a constitutional amendment bill), the social security system would collect the same revenue that the INSS presently collects from its payroll-based tax. This is merely a revenue substitution that in no way alters the destination of social security funds, including earmarked revenue for educational expenses and the so-called "S System" (used to fund employers administered programs in workers training).

The rates proposed for the Social Tax, presupposes exemption for intrabank and other financial and capital market transactions, especially stocks and bonds transacted in the securities exchanges. There would also be a need to guarantee that transactions above pre-set legislated limits would only have legal validity if processed and cleared through the country's banking system. This would ensure that the tax base of the Social Tax would retain the same revenue potential as the bank debit transaction tax (CPMF).

The major benefits of the Social Tax and of eliminating the employer payroll payment to INSS are listed, as follows:

1. Lightening the tax burden on corporate payrolls, reducing tax burden and production costs especially in the service sectors, which are highly labor-intensive;
2. Stimulating demand for labor; demand for formal jobs would also be stimulated, reducing excessive outsourcing caused by high labor costs;
3. Fighting unemployment; nowadays, unemployment and underemployment affect 20% of the economically active population in the country's major metropolitan areas;
4. Stimulating formalization of labor relations, as the growth of informal jobs worsens the quality of labor relations; social security guarantees would be extended to all workers, and there would no longer be stimulus for hiring illegal or informal workers;
5. Allowing reduction of tax burden on the cost of labor; cost reduction would lead to lower production costs and inflation control;

6. Increasing the competitiveness of Brazilian products *vis-à-vis* their foreign competitors through the elimination of the INSS employer payroll payment (which cannot be exonerated in exports); exports would benefit and domestic products would find fair competitive conditions to face imported products.

Reducing labor costs could pave the way for wage increases in all sectors. It would be particularly important, and utterly possible, that wages be increased at least by the amount of the Social Tax on bank transactions paid by wage-earners, so as not to further burden after-tax wage earnings.

BANK TRANSACTIONS AS THE FOUNDATION OF A NEW SOCIAL SECURITY CONTRIBUTION[213]

In order to balance the social security budget, economists are unanimous in their call for more jobs and higher economic growth. Some see a need for GDP to grow by 6% to 7% annually, in addition to the need for changes in social security legislation. But no specific solution has been proposed.

In recent months, the government, through the Finance Ministry, has spoken of exonerating companies' payrolls from labor contributions and of finding new ways to finance social security. The objective is to decrease the cost of labor.

Presently, social security contributions amount to 36.55% of payrolls, as shown in TABLE 26. In addition to these direct charges, firms must pay indirect taxes and contributions levied on gross income and on value-added, such as ICMS, IPI, Cide, PIS, Cofins, and ISS. In 2005, firms paid R$ 36.5 billion into the INSS, and R$ 42.7 billion in 2007. Between 2000 and 2003, INSS revenue remained constant, whereas in 2004, 2005, 2006 and 2007 there was a small increase (see TABLE 22). Such revenue growth is mostly due to the formalization of jobs and to increases in the minimum wage, not necessarily to newly created jobs.

[213] This section, written by Luigi Nese, President of the Services Confederation of Brazil, is based on a series of policy research and issue reports commissioned to the Getulio Vargas Foundation on the economic impact of adopting a bank transaction contribution to replace the current social security contributions based on withholdings of companies payrolls, see [GARCIA, 2003, 2004(a), 2004(b), 2005].

TABLE 26
Breakdown of Payroll Tax Burden

20,0%	Employers´ contribution to Social Security (INSS)
3.10%	"S" System (training and leisure programs for employees)
2.50%	Contribution for education
0.20%	Land Reform Contribution (Incra)
2,0%	Labor accidents insurance -SAT (average)
8,0%	FGTS (contribution for future unemployment compensation, credited to employees and paid by employers)
35.8%	**Total**

A study by the Brazilian Institute for Tax Planning places Brazil in second place, behind Denmark, in the worldwide ranking on payroll taxation (see TABLE 27). INSS contributions and other taxes levied on company payrolls directly impacts employment and wages.

TABLE 27
Tax Burden on gross wages
(2005)

Countries	Tax burden on gross wages (%)
Denmark	42.9
Brazil	42.5
Belgium	41.4
Germany	41.2
Finland	31.7
Sweden	31.2
Norway	28.8
Netherlands	28.7
Uruguay	28.4
Italy	28.1
France	26.5
Canada	25.7
Argentina	27.7
United States	24.3
Switzerland	21.5
Spain	19.2
Portugal	16.5
Japan	16.2
Mexico	9.1
Korea	8.7

Source: Brazilian Institute for Tax Planning (IBPT).

A NEW PROPOSAL

In order to unburden company payrolls, the National Confederation of Services (CNS) and the Federation of Services of the State of São Paulo (Fesesp) are proposing the adoption of a new tax base for financing the INSS system.[214] "Bank transactions" is the suggested new tax base to replace payroll. To provide technical support for the proposal, the Getulio Vargas Foundation was commissioned to conduct a study on the repercussions such a change would have on the economy.

What would be the impact on the Brazilian economy if companies were no longer required to pay the INSS payroll contribution to the government-sponsored pension funds?

This question could be put in a different way, namely, if this tax ceased to exists, would companies be able to increase investments and employment, while reducing prices? To answer this question one must first indentify a revenue source capable of generating the same amount that companies paid into the INSS. In this study, the alternative source of revenue is the bank transactions tax, and a simulation was performed to measure the impact of different bank transactions rates, in addition to the CPMF of 0.38%, and to observe the aggregate macroeconomic impacts, both on the overall economy and on each productive sector.

The study was based on the following facts:

- To reduce tax burden on payrolls, companies seek legal alternatives to making direct wage payments, such as earnings and profit sharing, distribution of transportation coupons, of meal tickets and of utilities payments, in addition to engaging in informal work contracts, such as temporary employment.
- Life expectancy has increased for Brazilians. Currently, there is only 1.8 active worker to support each retired member of the labor force, a ratio that was 10 to 1 just 40 years ago.
- Article 195 of the Constitution states that: "social security will be funded by society as a whole, through direct and indirect means..."
- In order to remain competitive in a globalized economy, businesses must reduce costs, innovate, and improve the quality of products and services.
- The legal costs associated with labor-related lawsuits must be reduced (there are currently 30 million labor-related lawsuits in Brazil's court system). There is an urgent need for a simpler and more straightforward labor legislation, capable of providing assurances and guarantees to employers and employees

The Getulio Vargas Foundation (FGV) study, based on IBGE data up to 2006,

[214] Significantly, in the service sector the payroll accounts for 40% to 80% of total costs. Thus, tax burden is much higher than on industry and trade. In these latter sectors tax burden accounts for between 3% and 15% of total cost of production.

showed that by replacing the INSS payroll tax with a bank transaction contribution, (calculated at a 0.458% rate), GDP would increase by 0.98%, the employment rate by 0.92%, and aggregate demand by 1.09%. Considering that INSS revenue, which that year amounted to R$ 32.1 billion, would remain the same, such change would also have beneficial impacts on inflation indices, with the consumer price index (IPC) dropping by 0.32% and the general price index (IGP) falling by 0.48%, as shown in TABLE 29.

TABLE 28
INSS revenue (R$ 000)
(2000 - 2007)

Contributions	2000	2001	2002	2003
Employers INSS contributions	**30,704,539**	**33,104,286**	**35,486,286**	**35,871,880**
Senar	41,181	50,895	99,542	136,609
Senai	229,957	291,741	303,768	357,916
Sesi	298,601	359,230	387,808	452,150
Senac	314,494	360,750	395,736	459,543
Sesc	606,797	703,897	778,599	898,539
Incra	243,889	304,361	319,168	378,492
SDR	45,114	50,230	58,047	65,706
Sest	67,913	86,028	91,066	107,412
Senat	45,985	56,959	59,668	71,770
Airway fund	33,725	36,423	41,587	48,406
Maritime Fund – DPC	22,656	27,646	29,164	35,530
Sebrae	582,141	680,569	773,666	790,582
Sescoop	19,997	23,224	24,967	28,963
Total "S" System	**2,552,450**	**3,031,953**	**3,362,786**	**3,831,618**
Educational Contribution INSS	1,359,643	1,489,200	1,708,873	1,954,473
Education Contribution FNDE	1,431,608	1,634,078	1,951,855	2,050,702
Total Education Contribution	2,791,251	3,123,278	3,660,728	4,005,175
INSS payroll Contribution	26,792,446	28,583,133	30,414,664	30,085,789
INSS+Incra+Ed. Contribution	**29,827,586**	**32,010,772**	**34,394,560**	**34,469,456**

TABLE 28 (CONTINUATION)
INSS revenue (R$ 000)
(2000 - 2007)

Contributions	2004	2005	2006	2007
Employers INSS contributions	**39,421,944**	**43,981,995**	**49,034,673**	**55,930,651**
Senar	169,208	168,143	203,385	224,501
Senai	438,174	406,429	478,538	557,010
Sesi	555,865	565,019	677,440	795,063
Senac	560,578	561,441	705,333	853,398
Sesc	1,099,352	1,084,000	1,346,864	1,610,486
Incra	476,463	411,213	533,420	632,822
SDR	172,093	72,129	93,716	111,244
Sest	131,112	117,224	136,437	164,244
Senat	87,001	77,908	90,607	107,963
Airway fund	61,126	39,486	50,435	78,161
Maritime Fund – DPC	43,890	46,887	59,584	72,107
Sebrae	944,176	827,782	1,045,713	1,261,039
Sescoop	35,127	44,252	51,829	68,872
Total "S" System	**4,774,165**	**4,421,913**	**5,473,301**	**6,536,978**
Educational Contribution INSS	2,200,776	3,124,899	3,888,802	6,702,073
Education Contribution FNDE	2,048,444	2,781,452	3,076,606	454,276
Total Education Contribution	4,249,220	5,906,351	6,965,408	7,156,349
INSS payroll Contribution	32,447,003	36,435,183	39,672,570	42,691,600
INSS+Incra+Ed. Contribution	**37,172,686**	**42,752,747**	**47,171,398**	**50,480,771**

Source: Social Security Institute (INSS).

In 2007, the rate of the new contribution needed to replace the present INSS payroll revenue would be 0.45%. It would have to be increased to 0.53% if additionally the Incra and the Educational Contributions were also eliminated, as shown in TABLE 30. TABLE 31 and ILLUSTRATION 7 show the results of the study commissioned by the National Services Confederation to the Getulio Vargas Foundation, on the effects of the elimination of the INSS payroll contribution and its replacement by a bank transactions tax on growth rates for various sectors of the economy, and the decrease in their respective tax burdens.

It is worth mentioning that the CPMF (a bank transactions tax), which caused so much controversy in Brazil, was the result of academic research made by Prof. Marcos Cintra, vice president of the Getulio Vargas Foundation. But, rather than instituting Cintra's innovative proposal, which called for a single tax to replace all other taxes, the CPMF became, in effect, an addition to the current tax burden. Such deviation created fierce opposition, such as by the late Senator Roberto Campos, who said: "The simplifying methodology of the single tax was undermined by the fact that the government, on two occasions - through the IPMF (1993) and the CPMF (1996) - applied the automatic components of the new methodology, while failing to apply its simplifying 'ideology'…it is a sophisticated instrument that has become brutish through misuse, as if it were a fencing sword used for cutting grass."

TABLE 29
Effects of CMF rates on macroeconomic aggregates (2004)

Additional CMF rate (%)			
Aggregates	**0.81525%**	**0.45820%**	**0.49973%**
GDP	1.75%	0.98%	1.07%
Employment	1.65%	0.92%	1,00%
IGP	-0.86%	-0.48%	-0.52%
IPC	-0.57%	-0.32%	-0.35%
Aggregate demand	1.96%	1.09%	1.19%

Source: GV consult (2004)

On the other hand, the National Confederation of Industry (CNI), in a recent report, stated: *"the CPMF is a cumulative tax that distorts the allocation of resources and raises the costs of transactions and of bank intermediation in the economy, in addition to the fact that it is almost impossible to calculate the portion of the CPMF in a product's final cost. In summary, from an economic standpoint it is a poor-quality tax and a pernicious one when it comes to efficiently allocating resources and investment.*" It is our belief that such statement reflects deep-rooted prejudice rather than an accurate technical analysis of the matter, as was extensively shown in various sections of this text.

A common argument used against the CPMF is that, with high rates, there is an incentive for commercial payments and transactions to be carried out outside the banking system, causing the economy to regress to a prehistoric system based on barter and on cash trade. However, it is important to recall that Brazil has the most technologically advanced banking system in the world, and that practically all commercial transactions - transfers, tax and fee payments, etc. - are carried out through its digital systems. Therefore, the Central Bank and the Internal Revenue Service have adequate instruments to detect and deter attempts to evade the CPMF tax. The Internal Revenue Service, under former Secretary Everardo Maciel, used this tax (the CPMF) as a tool for controlling tax evasion. The ease with which bank transaction information is cross-referenced with other statistics available to the government led to significant improvements in the tax-collecting apparatus.

TABLE 30
Comparison between CMF rate and federal payroll taxes (INSS, Incra, and Educational Contribution) (2000 – 2007)

Year	INSS payroll tax (R$ 000)	Necessary CMF rate (%)	INSS+Incra+Ed. Sal.	Necessary CMF rate (%)
2000	26,792,446	0.63	29,827,586	0.70
2001	28,583,133	0.60	32,010,772	0.67
2002	30,414,664	0.57	34,394,560	0.64
2003	30,085,789	0.44	34,469,456	0.50
2004	32,447,003	0.47	37,172,686	0.53
2005	36,435,183	0.47	42,752,747	0.55
2006	36,672,570	0.47	47,171,398	0.56
2007	42,672,570	0.45	50,480,771	0.53

Furthermore, it is highly unlikely that in the age of the Internet, of digital credit cards, and of every other sort of financial instruments to support the exchange of goods and services, there could be a regression to barter economy, given that the costs of conducting business outside the banking system would be far greater than the benefit of evading a transaction tax.

The proposed replacement of the INSS payroll tax with a CMF contribution would have countless advantages. INSS income would not depend on the evolution of the rates of employment since the current CPMF has proven that its revenue is stable relative to national income and product levels. It is important to recall that, with the increase in life expectancy of Brazilians, there is a decreasing number of active workers supporting present retirement benefits. As such, the INSS go easily go under if the system that funds social security continues to be based on corporate payrolls.

Opposition to the creation of a new INSS bank transaction contribution could possibly come from the labor sector, since it is an across-the-board tax, that is, it would be paid by any individuals and corporations that conduct banking transactions, and by active and retired workers alike. However, according to the proposal, such new tax would be paid entirely by the employer, who would add to active worker's salaries the amount they would have to pay on account of the new social contribution, thus exempting wage earners from it.

The use of such new contribution would have countless advantages, such as making evasion more difficult, reducing the number of labor-related lawsuits, and spreading the incidence of INSS payments over the whole of society. Modern labor saving methods of production, which increase productivity but concomitantly may increase unemployment, would not be held responsible for reducing INSS revenue.

The CNS commissioned a public opinion poll in nine of the country's capital cities, in order to evaluate the proposal and its repercussions among the population. The poll asked whether the respondent agreed, or not, to the following concept: *"There is a proposal to end the INSS payroll tax for businesses. For this to happen*

the CPMF (present bank transaction tax) would increase from 0.38% to 0.88%, but this increase would be reimbursed by businesses to their employees. With this change, studies showed that there is a tendency for product prices to fall and for employment to increase." The results were overwhelmingly favorable to the proposal: 64% agreed, 25% disagreed, and 11% were indifferent or would not answer.

TABLE 31
Effects of an additional 0.50% CMF rate after introduction of the new tax system

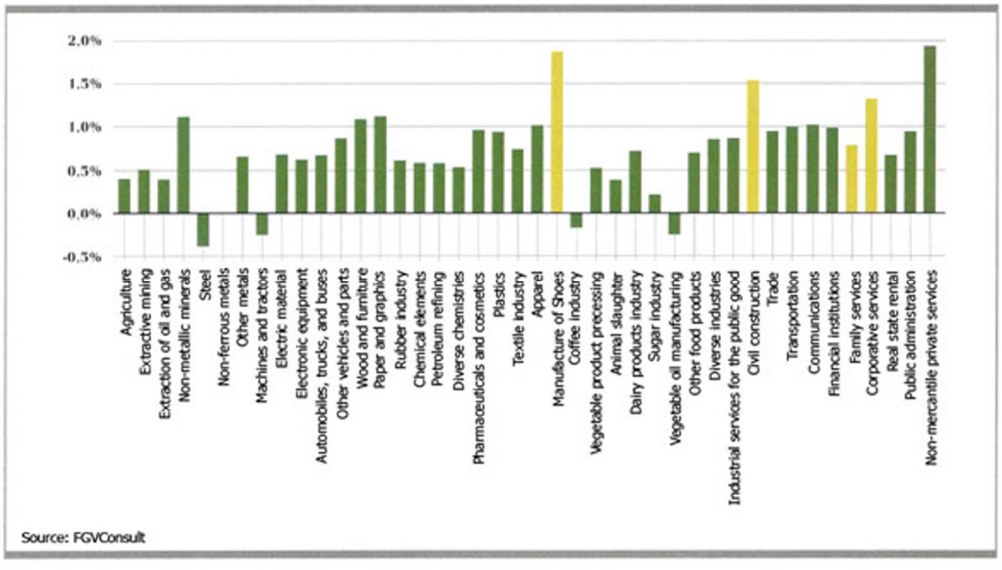
Activity Sectors	VA (%change)	Cost (%change)	Initial tax Burden* (%)	Tax Burden after change (%)	Variation (pp)
Agriculture, wildlife, forestry	3.6	-1.1	14.6	13.1	-1.5
Livestock and fish	3.6	-2.1	25.5	21.8	-3.8
Oil and natural gas	2.0	-0.7	22.3	21.3	-0.9
Iron ore	1.3	-0.3	19.4	19.3	-0.1
Other extractives	1.8	-0.8	24.4	23.3	-1.1
Food and beverages	5.6	-0.5	31.4	31.3	-0.1
Tobacco products	1.1	-0.5	66.7	66.7	0.0
Textiles	2.7	-1.0	26.3	24.6	-1.7
Apparel and accessories	3.5	-0.8	20.0	18.9	-1.1
Leather articles and shoes	3.5	-1.4	39.2	35.5	-3.7
Wood products, excluding furniture	1.7	-0.8	21.8	20.7	-1.1
Paper and paper products	2.4	-1.0	29.4	27.6	-1.7
Newspapers, magazines, records	1.9	-1.4	23.6	21.1	-2.4
Coke and petroleum refining	2.8	0.2	142.9	150.8	7.9
Alcohol	2.7	-0.4	41.4	41.1	-0.2
Chemicals	2.7	-0.4	33.4	34.1	0.7
Resin and elastomer manufacturing	2.4	-0.3	74.3	75.2	0.9
Pharmaceutical products	2.6	-1.7	25.1	21.9	-3.2
Agricultural defensives	3.0	-0.4	30.5	30.7	0.2
Perfume, hygiene, and cleaning	2.8	-0.9	24.4	22.9	-1.5
Paints, varnishes, lacquers, etc.	0.5	-1.2	41.0	37.9	-3.2
Diverse chemical products and derivatives	1.8	-1.2	37.3	34.4	-2.9
Rubber and plastic articles	1.9	-1.2	41.2	38.4	-2.8
Cement	0.3	-0.5	23.9	23.6	-0.4
Other non-metallic mineral products	0.5	-1.4	34.5	31.6	-2.8
Manufacturing of steel and derivatives	1.9	-0.5	23.6	23.2	-0.4
Non-ferrous metals metallurgy	2.0	-0.6	26.4	25.7	-0.7
Metal products, excluding machines and equipment	1.5	-1.2	25.0	23.1	-2.0
Machines and equipment. (maintenance and repair)	3.1	-1.5	42.4	38.9	-3.5
Electronic appliances	3.3	-1.0	38.3	36.3	-2.0
Office machines and computing equipment	3.2	-0.7	59.6	58.3	-1.3
Machines, and electrical materials	2.1	-1.4	33.9	31.0	-3.0
Electronics and communications equipment	2.9	-0.7	74.4	73.7	-0.7
Medical/hospital and instruments, measuring, and optical	3.3	-1.3	26.0	23.9	-2.1
Automobiles, pick-ups, and vans	2.5	-0.7	118.0	116.9	-1.1
Trucks and buses	0.9	-1.0	86.2	82.9	-3.2
Automobile parts and accessories	1.8	-1.4	41.3	37.8	-3.6
Other transportation equipment	3.1	-1.1	50.7	47.4	-3.3

TABLE 31 (CONTINUATION)
Effects of an additional 0.50% CMF rate after introduction of the new tax system

Activity Sectors	VA (%change)	Cost (%change)	Initial tax Burden*	Tax Burden after change	Variation
Furniture and products of diverse industries	2.9	-0.8	20.0	19.0	-1.0
Electricity, gas, water, sewage, and urban cleaning	2.7	-0.5	23.9	23.4	-0.4
Construction	0.2	-1.1	20.0	18.4	-1.7
Trade	2.3	-2.4	22.3	19.0	-3.3
Transportation, warehousing, and mail	2.7	-1.4	29.3	27.1	-2.2
Information services	2.9	-0.7	22.7	21.8	-0.9
Financial intermediation and insurance	0.9	-1.9	35.6	32.6	-3.0
Real estate and rental services	8.0	0.3	2.3	2.6	0.3
Maintenance and repair services	3.4	-0.1	11.8	11.8	0.0
Lodging and board services	2.8	-0.5	34.0	33.6	-0.5
Services rendered to businesses	1.4	-2.1	37.3	34.1	-3.2
Private education	3.4	-2.5	27.5	23.5	-3.9
Private health services	3.1	-1.4	25.5	23.3	-2.3
Other services	2.7	-1.8	18.6	16.0	-2.6
Public education	0.2	-1.7	10.2	8.0	-2.2
Public health	0.3	-1.5	17.1	14.8	-2.3
Public administration and social security	0.3	-1.9	15.3	12.6	-2.7

Source: FGV Projects.
(*) The concept of tax burden as applied in this study is the same as applied by the IBGE in National Accounts for the economy as a whole, which is the total tax collected on the activity's value-added. For this reason, activities that have low value-added relative to their production value, as well as those activities that are subjected to "tax substitution" collecting methods show higher tax burdens, hich can exceed 100% of the value-added.

ILLUSTRATION 7
Economic Growth by the Sector



NON-DECLARATORY TAX BILLS CURRENTLY IN CONGRESS

There are several bills in Congress that propose the adoption of non-declaratory taxes as a basis for tax reform. In particular, I have introduced two bills: PL 4722/01 proposes to exonerate Brazilian exports from the PIS/Pasep, the Cofins, and from bank transactions tax (CPMF), and PLC 190/01 that proposes to tax imports with those same taxes, thus giving equal tax treatment for domestic or imported production. Both bills propose the use of the input-product matrix as the mechanism for calculating tax rates either for exonerating exports or for taxing imports.

There are other bills before Congress that deserve to be mentioned and that should be discussed as alternatives to the complex current system. One of these is PEC 47/99, which I authored, presented to the Special Committee on Tax Reform. It creates the Single Tax gradually, through offsets to other taxes, and extinguishes several other inefficient and complex forms of taxation in use in Brazil. Another bill is PEC 183/99, also called the Alternative Proposal, which creates the bank transaction tax and the selective (excise) taxes. Also PL 256/00, which I introduced together with other deputies, which creates the Social Tax on bank transactions to replace the employers' contribution to the INSS (social security). Finally, PEC 474/01, should be mentioned, which I and others authored and that introduces the Single Federal Tax and incorporates the knowledge and experience acquired over years of observation and research on the Single Tax proposal in Brazil.

Constitutional amendment (PEC 228/04) authored by deputy Luiz Carlos Hauly, proposes a significant simplification of the tax system. It includes a tax structure made up of a progressive income tax, a tax on financial transactions net of social security contributions, and an excise tax on alcoholic beverages, electricity, communication services, fuels, vehicles, tires, auto-parts, electronic products, home appliances and equipment, sanitation services and firearms.

There was a general feeling of frustration when it was realized that the reform proposal endorsed by the Special Committee on Tax Reform in 1999 was nothing more than a timid and conventional attempt to correct some isolated problems in Brazil's tax system. Furthermore, it failed to ignite public opinion or to move forward in the urgent need to simplify and universalize the tax collection system for the country.

In contrast, the Federal Single Tax bill (PEC 474/2001), more fully analyzed in earlier chapters of this text, seeks to implement a new and revolutionary tax system in Brazil.

As a first step, it proposes to implement the single tax only at the federal level (called FST), replacing several federal taxes with just one tax on bank transactions. Next, the proposal calls for a popular referendum in order to include interested states and municipalities into this same tax format.

The FST is an innovative and revolutionary tax system that will provide extreme simplification to the structure of taxes in Brazil. Its implementation will lead to a steep drop in tax collection costs to the government and to private agents. Tax

evasion, avoidance, and corruption will be significantly reduced, making the system fair and more efficient.

The idea of the FST is simple: a 1.7% tax on each credit and debit transaction performed in the banking system. Federal taxes will be extinguished (IRPF, IRPJ, CSLL, IPI, Cofins, CPMF, social security payments to the INSS, IOF, ITR, and all types of withholdings). The only taxes that will remain in place will be the FST, some extra-fiscal taxes (instruments for regulating economic activities, such as foreign trade taxes), and user fees. Criteria for revenue sharing among the various levels of government will not be changed, and actual transfers will be automatically performed using software to be developed specifically for this purpose. Taxation in the financial and capital markets will be deferred, avoiding cumulative taxation of financial turnover and capital transfers. The value of the principal in any financial transaction will be immune to the FST for as long as it remains within the financial circuit and is not transferred to bank cash deposits. FST will have the effect of redistributing the tax burden, introducing greater social justice, and relieving the excessive tax incidence on wage-earners, on the middle class, and on organized businesses, which today bear an abusive tax burden in Brazil.

For 2007, the tax rates must be recalculated. The goal of the FST is to ensure the same revenue as currently collected, about R$ 396 billion at the federal level. Simulations as show in TABLE 32 that a 2.072% rate on debits and 2.072% on credits for each bank transaction would be sufficient to raise revenue equal to that generated by the taxes that will be eliminated.

TABLE 32
Current federal revenue and estimated FST rate (2007)

Tax	Current revenue (R$ 000,000)	FST rate Total (%)	FST on debit and credit transactions (%)
Corp. and Personal Income Tax	130,220	1.362	0.681
INSS Employer Payment	42,759	0.447	0.224
Cofins	99,164	1.038	0.519
IPI	32,867	0.344	0.172
Bank transactions tax (CPMF)	36,320	0.380	0.190
CSLL	32,880	0.344	0.172
IOF	7,795	0.082	0.041
Contribution for Education	7,156	0.075	0.037
“S” system	6,674	0.070	0.035
ITR	331	0.003	0.002
Total	**396,166**	**4.145**	**2.072**

The FST model would eliminate all revenue raising taxes (fiscal taxes), which account for more than 60% of current federal revenue. Extra-fiscal obligations such as the FGTS, PIS/Pasep, taxes on foreign trade, social security for civil servants and employer social contributions will remain unchanged.

There are several advantages to the FST: it reduces the individual tax burden; it simplifies the current tax system; it reduces administrative costs to the government, to social security, and to states and municipalities by making the fiscal machinery leaner, as well as reducing compliance costs to businesses by no longer requiring paper returns, judicial actions, and dispensing with tax planning and consultancy activities; it stimulates greater productivity and profits; it increases real and nominal salaries; it reduces "Brazilian cost differential"; it is universal – no one would easily evade it, nor would anyone be exempt from the tax; it is transparent and impersonal; it is equitable – by being evasion-proof and proportional to each citizen's earnings; and it would put an end to corruption.

On the other hand, criticisms of the FST were raised by opponents of the proposal. The only criticism that still remains partially unanswered refers to its impact on relative prices, and to its distortionary effects on allocative efficiency.

The FST, despite being cumulative, causes less distortion in relative prices than a VAT type tax, as our simulations have shown. In addition, it has less impact on costs. According to estimates in TABLE 33 the tax burden of the FST on product prices reaches a maximum of 15.34%, whereas incidence of only two taxes, the IPI and the INSS, would amount to 36.06% of consumer prices. This comparison becomes even more dramatic when one sees that the FST collects 15.25% of GDP, whereas the other taxes will have stronger impact on final prices, but will collect only 2.92% of GDP.

The FST proposal, if implemented, would have important positive impacts on the economy:

- In the labor market, the FST will stimulate the creation of new jobs and increased labor demand, by eliminating payroll taxes;
- In the consumer market, the FST will make prices fall as a result of the lower tax burden on final prices; furthermore, elimination of payroll taxes will increase the purchasing power of wage earners;
- For businesses, the FST will reduce cost of production, stimulate sales and increase investment in machinery and equipment, expanding productive capacity;
- In the public sector, the FST will encourage a shift of emphasis from tax auditing (which would become unnecessary as far as the individual taxpayers are concerned), to the monitoring and auditing of the public sector itself, which is the source of major scandals, inefficiencies, and focal points of corruption;
- Resources that are currently spent on compliance costs and on public costs related to auditing and collecting revenue will be significantly reduced;
- For tax purposes, the boundaries between the formal and the informal economy will disappear.
- For exports, the use of rebates based on physical observations of

shipment/transportation of goods or services should provide a more efficient system of exonerating sales to foreigners than is actually practiced in Brazil.[215]

TABLE 33
Impact on sector prices and on relative prices of FST and of a traditional tax system with two federal taxes (IPI and INSS)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		FST	Traditional system
nº	Products	2.07%	IPI+INSS
1	Rice	12.14	15.19
2	Corn	11.32	15.50
3	Wheat and others cereals	12.39	14.68
4	Sugar Cane	12.69	15.05
5	Soybean	12.32	15.14
6	Other agricultural products	10.83	15.40
7	Manioc	11.22	15.38
8	Tobacco	12.60	34.60
9	Cotton	12.01	15.22
10	Citric fruits	12.44	15.11
11	Coffee	12.50	15.11
12	Forest products	11.07	14.70
13	Cattle and other live animals	13.22	15.71
14	Cow Milk	13.29	15.64
15	Live pigs	13.46	15.69
16	Live poultry	13.36	15.75
17	Chicken eggs	11.19	15.94
18	Fish	13.18	15.76
19	Oil and natural gás	11.27	11.91
20	Iron ore	13.67	15.63
21	Coal	12.61	14.27
22	Non-ferrous metallic minerals	12.32	13.87
23	Non-metallic minerals	11.91	14.67
24	Meat processing	12.98	16.12
25	Fresh, refrigerated or frozen pork	13.45	16.05
26	Fresh, refrigerated or frozen poultry	12.75	16.16
27	Processed fish meat	13.55	16.11
28	Canned fruit, legumes and other vegetables	14.03	16.01
29	Non-refined soybean oil and by-products	14.73	16.05
30	Vegetables except corn and animal oils	13.94	16.03

[215] The various forms and proposals to deal with this problem are complex, highly bureaucratic, and imply high compliance and administrative costs to taxpayers and to the government. "*Refunding of credits is the 'Achilles heel' of the VAT…while straightforward in principle, serious problems arise in practice, including opportunities for fraud and corruption*". See [HARRISON, and KRELOVE, 2005].

TABLE 33 (CONTINUATION)

Impact on sector prices and on relative prices of FST and of a traditional tax system with two federal taxes (IPI and INSS)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		FST	Traditional system
nº	Products	2.07%	IPI+INSS
31	Processed soybean oil	13.21	16.15
32	Refrigerated, sterilized and pasteurized milk	13.34	16.14
33	Dairy products and ice-cream	12.65	16.90
34	Processed rice and by-products	11.80	16.17
35	Wheat flour	14.37	16.07
36	Manioc flour	11.96	15.93
37	Corn oil and corn products	13.00	16.12
38	Sugar products	14.22	17.50
39	Ground coffee	12.80	16.15
40	Instant coffee	13.95	16.10
41	Other food products	12.73	16.16
42	Beverages	13.77	31.02
43	Tobacco products	14.18	36.06
44	Processed cotton	12.04	14.69
45	Textiles	11.38	14.88
46	Other textiles products	11.68	14.93
47	Clothing	10.70	15.72
48	Leather products except shoes	12.06	21.31
49	Shoes	11.86	17.27
50	Wood products except furniture	12.40	22.43
51	Cellulose and other paper inputs	12.69	17.16
52	Paper cardboard and packaging	11.62	22.54
53	Newspapers, magazines and sound recordings	10.30	17.28
54	Liquefied oil gas	12.93	13.91
55	Gasoline	15.34	12.78
56	Gasalcohol	12.61	13.82
57	Heating oil	14.14	13.12
58	Diesel oil	13.09	13.01
59	Other oil products	12.79	12.65
60	Alcohol	13.53	15.70
61	Inorganic chemical products	11.13	12.70
62	Organic chemical products	10.50	10.49
63	Resin and elastomer	10.61	12.82
64	Pharmaceutical products	9.12	15.34
65	Pesticides	11.77	14.84
66	Perfumery, soaps and cleaning products	11.75	26.33
67	Paints, vanish, enamels and lacquers	11.72	16.68
68	Other chemical products	11.05	20.47
69	Rubber products	11.78	18.34
70	Plastic products	11.48	18.27
71	Cement	12.61	17.55
72	Other non-metallic mineral products	12.23	15.45
73	Pig iron	13.33	17.80

TABLE 33 (CONTINUATION)

Impact on sector prices and on relative prices of FST and of a traditional tax system with two federal taxes (IPI and INSS)

Inter-industrial Matrix - Brazil 2006		Tax burden (%)	
		FST	Traditional system
nº	Products	2.07%	IPI+INSS
74	Semi-finished rolled steel and steel tubes	12.35	16.68
75	Non-ferrous metallic products	12.44	15.03
76	Cast steel	13.74	16.63
77	Metal products - except machinery and equipment	11.80	17.33
78	Machinery and equipment	11.63	15.77
79	Home appliances	12.04	20.14
80	Office and computer equipment	11.26	19.50
81	Electric machines and equipment	11.45	17.90
82	Electronics and communication equipment	9.80	17.87
83	Medical and hospital equipment	9.59	22.51
84	Automobiles, vans and pick-ups	13.41	19.86
85	Buses and trucks	12.81	22.14
86	Auto industry parts and equipments	11.33	16.08
87	Other transport equipment	11.94	19.50
88	Furniture	10.17	21.86
89	Recycled scrap	13.22	17.60
90	Electricity, gas, water, sewer and urban sanitation	10.24	14.91
91	Construction	11.32	16.66
92	Trade	9.03	15.32
93	Freight	11.73	15.64
94	Passenger transportation	10.52	15.32
95	Mail	11.15	15.61
96	Information services	9.26	15.15
97	Insurance and finance	8.84	15.65
98	Real estate rental	7.30	14.16
99	Imputed rental values	13.84	15.90
100	Maintenance and repair	9.30	16.60
101	Lodge and food	10.79	20.46
102	Services to firms	8.58	13.76
103	Private education	8.81	16.16
104	Private health services	13.64	16.02
105	Services to families	9.43	16.43
106	Community services	10.53	16.41
107	Domestic services	14.00	16.25
108	Public education	13.84	16.15
109	Public health care	13.13	15.33
110	Government and social security	13.16	15.50
Maximum		15.34	36.06
Minimum		7.30	10.49
Deviation		1.89%	4.35%

Rates: 20% INSS; and IPI, where applicable.

Summarizing, the FST can be the basis for a broad tax reform agreement. It is not an easy task to accommodate the interests of the major social groups involved in the issue, such as workers, business, individual tax payers, and the government. Each group wants to take the opportunity to tend to their own interests, configuring a conflict of interests that is impossible for a conventional tax reform to overcome.

The FST, by allowing gains for all parties involved – the public sector, wage-earners, and business owners – creates conditions for a productive dialogue on tax reform that is long overdue in Brazil. For the public sector, the FST allows for reduction of operational costs, dismantling of bureaucracy, furthering of administrative modernization, and increased efficiency in revenue collection. It facilitates necessary fiscal adjustment. For workers, it is a new opportunity for increases in real wages by transferring, even if partially, social security and tax withholdings expenditures into salaries. And for the business community, it allows for reduced costs, increased markets, and higher profit margins. The only losers will be tax evaders and to a lesser extent, the underground economy.

ANNEX I

A – ASSUMPTIONS IMPLIED IN THE SIMULATIONS

The following assumptions were accepted:

Tax rates:

1. A 20% payroll employer's contribution to *INSS* [National Social Security Institute];
2. The sectoral rates for *IPI*, [Industrialized Products Tax], *ICMS* [Tax on Circulation of Goods and Services], and *ISS* [Services Tax] are averages based on the product mix of each of the 110 Products included in *IBGE*'s 2005 input-output matrix (TABLE A-1);
3. The tax evasion rates applied in the simulations are based on *IBGE* estimates of the proportion of the formal activities (the legal economy) in the various sectors of the economy;[216]
4. Tax revenue estimates for the single tax on transactions were based on the 2007 tax revenue of *CPMF* [Provisional Contribution on Financial Transactions] ;
5. The tax rates needed to achieve a specified revenue target were based on data contained in "Carga Tributária no Brasil – 2007", published on December 2008 on the website of the Receita Federal, www.receita.fazenda.gov.br. Nominal GDP for 2007 was estimated at R$ 2.6 trillion.
6. In the single tax on transactions model, which implies the elimination of all federal, state, and municipal taxes that have essentially fiscal characteristics, the initial estimates of the single tax rate necessary to keep government revenue constant were based on data on monthly payment flows of one important bank, available from June 1990 to May 1996. The monthly volumes of banking debits and credits are reproduced in the TABLE A-2 below.

[216] Information reproduced from [PEREIRA and IKEDA, 2001] p.8. It is worth noticing that "formalization rates" as informed in the above mentioned paper is not the same as "evasion rates", since tax avoidance and tax evasion are also commonly practiced by formally registered firms. Thus, there is a clear under estimation of the tax evasion rates used in the simulations, pointing to the fact that distortions in relative prices caused by the use of VAT's may actually be stronger than the estimates presented in this text.

Simulation 1:

The single tax on transactions rate of 2.81% resulted in estimated revenue of R$ 701 billion (27% of GDP). The estimated revenue for the conventional tax system, using the rates for *ICMS*, *ISS*, *IPI* indicated in TABLE A-1 and *INSS* payroll tax rate of 20%, amounted to R$ 282 billion (10.9% of GDP).

Simulation 2:

In order to compare two different tax systems, it is necessary to fix tax rates so that revenue generated by each system is the same. To accomplish this, the estimated rates for the conventional taxes would have to be raised by 82% (having set a ceiling of 80% for the sum of the rates of the two value-added taxes, *ICMS*, and *IPI*). But instead of using such unrealistic assumptions, we chose a different path: in order for both systems to generate equivalent revenues, the rate of single tax on transactions was set at 1.13%, keeping the rates of the conventional taxes as currently applied, from which resulted tax revenues of 10.9% of GDP, as mentioned in Simulation 2 in the main text.

Simulation 3:

In this exercise we attempted to estimate the effects that would result by eliminating the cumulative social taxes (i.e., *Cofins* [Contribution to Social Security Financing], *PIS* [Social Integration Program], *CPMF [Provisional Contribution os Financial Transactions]* and *ISS* [Services Tax] from the Brazilian tax system. In 2007, they raised revenue equivalent to 3.4% of GDP, or R$ 88,3 billion. To replace the revenue from these eliminated contributions, rates for the remaining conventional taxes (*ICMS*, *IPI and INSS*) had to be increased by 33.56%.

Simulation 4:

In this exercise we attempted to re-estimate the model in Simulation 1 by including rates of tax evasion published by BNDES. The nominal rates of the conventional taxes (ICMS, IPI, and ISS) were increasead according to each sector's estimated rate of tax evasion. The implicit hypothesis in this procedure is that the effective tax rate for each sector is lower than the formal (or nominal) rate, resulting in lower tax burdens and, consequently, in tax credits limited to these lower effective tax payments. Because of tax evasion, nominal tax rates for conventional taxes had to be raised in order to guarantee the equivalent revenue. The increase in the *INSS* contribution was based on the proportion between the sum of effective rates and the sum of theoretical rates, which resulted in the need to raise the *INSS* rate by 10.8%. It is worth noting that, in this model, dutiful taxpayers ended up paying for the tax evaders, which appears to be what actually happens. Through this procedure, revenue is kept at the same level as before the tax evasion factor was included, but the system becomes affected by greater differences among tax rates.

TABLE A-1

Average sectoral tax rates for ICMS, IPI, and ISS, used in the simulations

	Products	ICMS	IPI	ISS
1	Rice	7.0%	0.0%	0.0%
2	Corn	12.0%	0.0%	0.0%
3	Wheat and others cereals	12.0%	0.0%	0.0%
4	Sugar Cane	12.0%	0.0%	0.0%
5	Soybean	12.0%	0.0%	0.0%
6	Other agricultural products	12.0%	0.0%	0.0%
7	Manioc	12.0%	0.0%	0.0%
8	Tobacco	12.0%	30.0%	0.0%
9	Cotton	12.0%	0.0%	0.0%
10	Citric fruits	12.0%	0.0%	0.0%
11	Coffee	7.0%	0.0%	0.0%
12	Forest products	12.0%	0.0%	0.0%
13	Cattle and other live animals	12.0%	0.0%	0.0%
14	Cow Milk	0.0%	0.0%	0.0%
15	Live pigs	12.0%	0.0%	0.0%
16	Live poultry	12.0%	0.0%	0.0%
17	Chicken eggs	7.0%	0.0%	0.0%
18	Fish	0.1%	0.0%	0.0%
19	Oil and natural gas	18.0%	0.0%	0.0%
20	Iron ore	18.0%	0.0%	0.0%
21	Coal	12.0%	0.0%	0.0%
22	Non-ferrous metallic minerals	18.0%	0.0%	0.0%
23	Non-metallic minerals	18.0%	0.0%	0.0%
24	Meat processing	12.0%	0.0%	0.0%
25	Fresh, refrigerated or frozen pork	12.0%	0.0%	0.0%
26	Fresh, refrigerated or frozen poultry	12.0%	0.0%	0.0%
27	Processed fish meat	12.0%	0.0%	0.0%
28	Canned fruit, legumes and other vegetables	12.0%	0.0%	0.0%
29	Non-refined soybean oil and by-products	12.0%	0.0%	0.0%
30	Vegetables except corn and animal oils	12.0%	0.0%	0.0%
31	Processed soybean oil	7.0%	0.0%	0.0%
32	Refrigerated, sterilized and pasteurized milk	12.0%	0.0%	0.0%
33	Dairy products and ice-cream	12.0%	2.5%	0.0%
34	Processed rice and by-products	7.0%	0.0%	0.0%
35	Wheat flour	12.0%	0.0%	0.0%
36	Manioc flour	7.0%	0.0%	0.0%
37	Corn oil and corn products	12.0%	0.0%	0.0%
38	Sugar products	7.0%	5.0%	0.0%
39	Ground coffee	7.0%	0.0%	0.0%

TABLE A-1 (CONTINUATION)
Average sectoral tax rates for ICMS, IPI, and ISS, used in the simulations

Products		ICMS	IPI	ISS
40	Instant coffee	12.0%	0.0%	0.0%
41	Other food products	12.0%	0.0%	0.0%
42	Beverages	25.0%	40.0%	0.0%
43	Tobacco products	25.0%	29.2%	0.0%
44	Processed cotton	18.0%	0.0%	0.0%
45	Textiles	18.0%	0.0%	0.0%
46	Other textiles products	18.0%	0.0%	0.0%
47	Clothing	18.0%	0.0%	0.0%
48	Leather products except shoes	18.0%	10.0%	0.0%
49	Shoes	18.0%	0.0%	0.0%
50	Wood products except furniture	12.0%	10.0%	0.0%
51	Cellulose and other paper inputs	12.0%	0.0%	0.0%
52	Paper cardboard and packaging	12.0%	15.0%	0.0%
53	Newspapers, magazines and sound recordings	0.0%	0.0%	0.0%
54	Liquefied oil gas	12.0%	0.0%	0.0%
55	Gasoline	25.0%	0.0%	0.0%
56	Gasalcohol	25.0%	0.0%	0.0%
57	Heating oil	18.0%	0.0%	0.0%
58	Diesel oil	12.0%	0.0%	0.0%
59	Other oil products	18.0%	4.0%	0.0%
60	Alcohol	12.0%	0.0%	0.0%
61	Inorganic chemical products	18.0%	0.0%	0.0%
62	Organic chemical products	18.0%	0.0%	0.0%
63	Resin and elastomer	18.0%	5.0%	0.0%
64	Pharmaceutical products	18.0%	0.0%	0.0%
65	Pesticides	18.0%	0.0%	0.0%
66	Perfumery, soaps and cleaning products	25.0%	25.0%	0.0%
67	Paints, vanish, enamels and lacquers	18.0%	5.0%	0.0%
68	Other chemical products	18.0%	15.0%	0.0%
69	Rubber products	18.0%	10.0%	0.0%
70	Plastic products	12.0%	10.0%	0.0%
71	Cement	12.0%	4.0%	0.0%
72	Other non-metallic mineral products	18.0%	0.0%	0.0%
73	Pig iron	18.0%	5.0%	0.0%
74	Semi-finished rolled steel and steel tubes	18.0%	5.0%	0.0%
75	Non-ferrous metallic products	18.0%	5.0%	0.0%
76	Cast steel	18.0%	5.0%	0.0%
77	Metal products - except machinery and equipment	18.0%	5.0%	0.0%
78	Machinery and equipment	12.0%	5.0%	0.0%
79	Home appliances	18.0%	10.0%	0.0%
80	Office and computer equipment	18.0%	10.0%	0.0%
81	Electric machines and equipment	18.0%	10.0%	0.0%
82	Electronics and communication equipment	18.0%	15.0%	0.0%
83	Medical and hospital equipment	18.0%	12.0%	0.0%
84	Automobiles, vans and pick-ups	12.0%	15.0%	0.0%
85	Buses and trucks	12.0%	15.0%	0.0%
86	Auto industry parts and equipments	12.0%	5.0%	0.0%

TABLE A-1 (CONTINUATION)
Average sectoral tax rates for ICMS, IPI, and ISS, used in the simulations

Products		ICMS	IPI	ISS
87	Other transport equipment	12.0%	10.0%	0.0%
88	Furniture	12.0%	10.0%	0.0%
89	Recycled scrap	18.0%	0.0%	0.0%
90	Electricity, gas, water, sewer and urban sanitation	18.0%	0.0%	0.0%
91	Construction	0.0%	0.0%	5.0%
92	Trade	18.0%	0.0%	0.0%
93	Freight	12.0%	0.0%	0.0%
94	Passenger transportation	12.0%	0.0%	2.0%
95	Mail	0.0%	0.0%	5.0%
96	Information services	0.0%	0.0%	5.0%
97	Insurance and finance	0.0%	0.0%	5.0%
98	Real estate rental	0.0%	0.0%	5.0%
99	Imputed rental values	0.0%	0.0%	0.0%
100	Maintenance and repair	0.0%	0.0%	5.0%
101	Lodge and food	6.0%	0.0%	2.5%
102	Services to firms	0.0%	0.0%	5.0%
103	Private education	0.0%	0.0%	2.0%
104	Private health services	0.0%	0.0%	2.0%
105	Services to families	0.0%	0.0%	5.0%
106	Community services	0.0%	0.0%	0.0%
107	Domestic services	0.0%	0.0%	0.0%
108	Public education	0.0%	0.0%	0.0%
109	Public health care	0.0%	0.0%	0.0%
110	Government and social security	0.0%	0.0%	0.0%

B – BANKING TRANSACTIONS (1990-1996)

TABLE A-2

Volume of debit and credit entries on current accounts of bank clients; data from accounting books of a large private bank

Month/year	Total credits current prices (Cr$ 000)	Total debits current prices (Cr$ 000)	IGP-DI Dec. 2000 = 100
Jun-90	1,533,298,910.00	1,537,550,041.00	0.00001178
Jul-90	1,822,582,439.00	1,827,128,605.00	0.00001330
Aug-90	1,587,112,437.00	1,592,129,950.00	0.00001502
Sept-90	2,086,060,050.92	2,091,860,346.50	0.00001679
Oct-90	2,411,111,638.31	2,417,822,554.91	0.00001971
Nov-90	2,695,552,482.21	2,703,358,058.62	0.00002296
Dec-90	3,244,146,012.99	3,253,290,019.67	0.00002674

Month/year	Total credits (R$ 000 - Dec. 2000)	Total debits (R$ 000 - Dec. 2000)
Jun-90	47,347,339.94	47,478,612
Jul-90	49,814,338.63	49,938,593
Aug-90	38,411,879.17	38,533,315
Sept-90	45,191,185.91	45,316,840
Oct-90	44,472,467.90	44,596,249
Nov-90	42,691,844.33	42,815,468
Dec-90	44,118,499.38	44,242,853

Month/year	Total credits current prices (Cr$ 000)	Total debits current prices (Cr$ 000)	IGP-DI Dec. 2000 = 100
Jan-91	2,953,355,730.99	2,951,229,860.41	0.00003207
Feb-91	3,763,608,152.25	3,765,245,536.25	0.00003884
Mar-91	4,173,298,707.68	4,173,020,590.57	0.00004165
Apr-91	4,217,692,000.00	4,233,189,000.00	0.00004529
May-91	4,352,789,000.00	4,254,071,000.00	0.00004825
Jun-91	5,209,312,000.00	5,218,229,000.00	0.00005300
Jul-91	5,045,839,000.00	5,050,080,000.00	0.00005980
Aug-91	5,808,619,000.00	5,838,460,000.00	0.00006907
Sept-91	7,051,713,000.00	7,060,451,000.00	0.00008025
Oct-91	9,474,334,000.00	9,503,800,000.00	0.00010100
Nov-91	17,806,261,000.00	17,935,588,000.00	0.00012701
Dec-91	20,129,261,000.00	20,060,040,000.00	0.00015513

TABLE A-2 (CONTINUATION)

Volume of debit and credit entries on current accounts of bank clients; data from accounting books of a large private bank

Month/year	Total credits (R$ 000 - Dec. 2000)	Total debits (R$ 000 - Dec. 2000)
Jan-91	33,489,469.38	33,465,636
Feb-91	35,238,458.51	35,253,789
Mar-91	36,432,978.00	36,430,550
Apr-91	33,861,074.40	33,985,490
May-91	32,806,683.57	32,062,653
Jun-91	35,738,431.57	35,799,607
Jul-91	30,680,605.09	30,706,392
Aug-91	30,581,518.15	30,738,627
Sept-91	31,953,028.51	31,992,623
Oct-91	34,112,446.65	34,218,539
Nov-91	50,979,360.67	51,349,624
Dec-91	47,183,653.43	47,021,397

Month/year	Total credits current prices (Cr$ 000)	Total debits current prices (Cr$ 000)	IGP-DI Dec. 2000 = 100
Jan-92	22,547,019,000.00	22,548,508,000.00	0.0001968
Feb-92	23,592,648,000.00	23,460,583,000.00	0.0002455
Mar-92	31,375,053,000.00	30,575,897,000.00	0.0002964
Apr-92	39,010,822,000.00	38,763,434,000.00	0.0003513
May-92	44,898,418,000.00	44,669,416,000.00	0.0004302
Jun-92	66,676,716,000.00	66,448,266,000.00	0.0005223
Jul-92	72,686,732,290.37	72,332,079,881.00	0.0006356
Aug-92	92,132,020,650.83	91,725,682,234.50	0.0007980
Sept-92	121,105,397,420.19	120,595,674,882.01	0.0010164
Oct-92	165,364,982,000.00	165,411,073,000.00	0.0012699
Nov-92	197,022,852,000.00	196,631,023,000.00	0.0015775
Dec-92	295,625,858,000.00	297,149,629,000.00	0.0019513

Month/year	Total credits (R$ 000 - Dec. 2000)	Total debits (R$ 000 - Dec. 2000)
Jan-92	41,667,422.05	41,670,173.76
Feb-92	34,938,511.95	34,742,936.00
Mar-92	38,495,052.31	37,514,542.35
Apr-92	40,377,611.45	40,121,555.93
May-92	37,951,397.48	37,757,828.39
Jun-92	46,417,388.91	46,258,352.10
Jul-92	41,582,132.62	41,379,245.47
Aug-92	41,983,639.67	41,798,475.32
Sept-92	43,327,720.40	43,145,357.63
Oct-92	47,352,660.77	47,365,859.04
Nov-92	45,417,781.41	45,327,456.84
Dec-92	55,091,174.76	55,375,136.16
Total	**514,602,493.79**	**512,456,919.00**

TABLE A-2 (CONTINUATION)

Volume of debit and credit entries on current accounts of bank clients; data from accounting books of a large private bank

Month/year	Total credits current prices (Cr$ 000)	Total debits current prices (Cr$ 000)	IGP-DI Dec. 2000 = 100
Jan-93	241,461,453,000.00	242,635,852,000.00	0.0025119
Feb-93	304,752,887,000.00	305,604,451,000.00	0.0031778
Mar-93	479,044,180,000.00	479,853,272,000.00	0.0040616
Apr-93	588,707,398,000.00	590,489,761,000.00	0.0052078
May-93	646,800,217,000.00	650,770,945,000.00	0.0068883
Jun-93	875,546,815,000.00	873,804,721,000.00	0.0090044
Jul-93	1,101,831,135,000.00	1,105,196,704,000.00	0.0118822
Month/year	**Total credits current prices (CR$ 000)**	**Total debits current prices (CR$ 000)**	**IGP-DI Dec. 2000 = 100**
Aug-93	1,518,701,000.00	1,544,318,000.00	0.0158664
Sept-93	1,912,573,000.00	1,929,226,000.00	0.0217353
Oct-93	2,729,538,000.00	2,764,890,000.00	0.0293731
Nov-93	4,048,968,000.00	4,063,258,000.00	0.0402294
Dec-93	6,916,187,000.00	7,401,746,000.00	0.0548005

Month/year	Total credits (R$ 000 - Dec. 2000)	Total debits (R$ 000 - Dec. 2000)
Jan-93	34,954,866.95	35,124,878
Feb-93	34,872,478.75	34,969,922
Mar-93	42,888,980.70	42,961,419
Apr-93	41,106,819.48	41,231,274
May-93	34,144,690.97	34,354,306
Jun-93	35,358,217.43	35,287,864
Jul-93	33,719,701.60	33,822,699
Aug-93	34,806,663.82	35,393,749
Sept-93	31,997,716.67	32,276,325
Oct-93	33,791,388.64	34,229,067
Nov-93	36,598,867.81	36,728,036
Dec-93	45,893,286.29	49,115,278

Month/year	Total credits current prices (CR$ 000)	Total debits current prices (CR$ 000)	IGP-DI Dec. 2000 = 100
Jan-94	6,394,679,000.00	7,523,902,000.00	0.0779209
Feb-94	7,815,124,000.00	9,640,008,000.00	0.1109671
Mar-94	13,243,235,000.00	16,497,548,000.00	0.1607137
Apr-94	18,116,295,000.00	23,208,436,000.00	0.2289528
May-94	28,292,834,000.00	35,020,635,000.00	0.3227089
Jun-94	42,298,139,000.00	52,968,457,000.00	0.4730267
Month/year	**Total credits current prices (R$ 000)**	**Total debits current prices (R$ 000)**	**IGP-DI Dec. 2000 = 100**
Jul-94	27,258,628.00	22,776,028.00	0.4989013
Aug-94	28,799,615.00	27,099,407.00	0.5155646
Sept-94	23,830,262.00	23,818,694.00	0.5235558
Oct-94	21,777,245.00	21,780,842.00	0.5369065
Nov-94	-	-	0.5501681
Dec-94	27,110,163.00	27,184,428.00	0.5533041

TABLE A-2 (CONTINUATION)

Volume of debit and credit entries on current accounts of bank clients; data from accounting books of a large private bank

Month/year	Total credits (R$ 000 - Dec. 2000)	Total debits (R$ 000 - Dec. 2000)
Jan-94	29,842,288.50	35,112,071
Feb-94	25,609,955.18	31,590,045
Mar-94	29,964,599.50	37,327,917
Apr-94	28,773,374.80	36,861,015
May-94	31,881,063.88	39,462,115
Jun-94	32,509,513.82	40,719,171
Month/year	**Total credits (R$ 000 - Dec. 2000)**	**Total debits (R$ 000 - Dec. 2000)**
Jul-94	54,637,316.63	45,652,373
Aug-94	55,860,342.47	52,562,583
Sept-94	45,516,179.49	45,494,093
Oct-94	40,560,606.10	40,567,293
Nov-94	45,816,791.55	44,999,100
Dec-94	48,995,861.48	49,131,094

Month/year	Total credits current prices (R$ 000)	Total debits current prices (R$ 000)	IGP-DI Dec. 2000 = 100
Jan-95	29,211,673.00	29,282,874.00	0.5608290
Feb-95	20,622,799.00	20,627,144.00	0.5672785
Mar-95	30,713,451.00	30,875,363.00	0.5775463
Apr-95	23,887,570.00	24,070,617.00	0.5908298
May-95	30,042,045.00	29,970,966.00	0.5931932
Jun-95	30,202,552.00	30,082,080.00	0.6087348
Jul-95	29,237,968.00-	29,162,542.00	0.6223705
Aug-95	-	-	0.6303991
Sept-95	29,719,044.00	29,681,517.00	0.6235908
Oct-95	31,696,006.00	31,649,318.00	0.6250250
Nov-95	34,192,850.00	34,128,240.00	0.6333378
Dec-95	34,645,506.00	32,667,096.00	0.6350479

Month/year	Total credits (R$ 000 - Dec. 2000)	Total debits (R$ 000 - Dec. 2000)
Jan-95	52,086,596.06	52,213,547.41
Feb-95	36,353,916.97	36,361,579.87
Mar-95	53,179,201.21	53,459,549.30
Apr-95	40,430,542.05	40,740,353.75
May-95	50,644,622.47	50,524,799.78
Jun-95	49,615,285.03	49,417,379.48
Jul-95	46,978,397.20	46,857,204.11
Aug-95	49,169,609.94	48,199,857.26
Sept-95	47,657,928.92	47,597,750.03
Oct-95	50,711,579.81	50,636,866.00
Nov-95	53,988,327.17	53,886,310.52
Dec-95	54,555,739.99	51,440,368.51

TABLE A-2 (CONTINUATION)

Volume of debit and credit entries on current accounts of bank clients;
data from accounting books of a large private bank

Month/year	Total credits current prices (R$ 000)	Total debits current prices (R$ 000)	IGP-DI Dec. 2000 = 100
Jan-96	36,409,233.00	35,886,339.00	0.6464152
Feb-96	30,004,494.00	30,661,524,00	0.6513280
Mar-96	33,070,535.00	33,858,915.00	0.6527609
Apr-96	36,127,974.00	34,888,731.00	0.6573302
May-96	34,825,525.00	35,802,690.00	0.6683734

Month/year	Total credits (R$ 000 - Dec. 2000)	Total debits (R$ 000 - Dec. 2000)
Jan-96	56,324,838.88	55,515,927
Feb-96	46,066,644.17	47,070,793
Mar-96	50,662,555.38	51,870,316
Apr-96	54,961,681.19	53,076,411
May-96	52,104,896.17	53,566,904

Note: IGP-di (general price index-internal supply)

C –REDUCED BRAZILIAN NATIONAL ACCOUNTS AND INPUT-OUTPUT DATA 2005 (12 SECTORS)

TABLE A-3
Resources 2005

Product	Supply of goods and services (current values R$ 000,000)				
	Total supply at consumers prices	Trade Margin	Transport Margin	Import Tax	IPI Tax
Agriculture	217,902	22,356	2,374	68	0
Minerals	146,223	2,636	3,344	9	0
Manufacturing	1,957,518	261,107	27,920	8,820	24,115
Production and distribution of electricity, gas, and water	166,541	0	0	0	0
Building Construction	172,456	0	0	0	0
Commerce	10,628	(-) 286,099	0	0	0
Transport, storage and mail	164,332	0	(-) 33,638	0	0
Information services	177,865	0	0	0	0
Financial services, insurance, and pension funds	214,210	0	0	0	0
Real estate activities and rent	212,994	0	0	0	0
Other services	482,419	0	0	0	0
Administration, Health management and public education	415,943	0	0	0	0
CIF/FOB Adjustment					
Total	**4,339,031**	**0**	**0**	**8,897**	**24,115**

Product	Supply of goods and services (current values R$ 000,000)			
	ICMS tax	Other taxes minus subsidies	Total taxes net of subsidies	Total supply in basic prices
Agriculture	5,037	4,180	9,285	183,887
Minerals	776	1,182	1,967	138,276
Manufacturing	91,288	53,183	177,406	1,491,085
Production and distribution of electricity, gas, and water	23,271	5,813	29,084	137,457
Building Construction	0	5,230	5,230	167,226
Commerce	0	0	0	296,727
Transport, storage and mail	4,732	6,268	11,000	186,970
Information services	19,287	11,748	31,035	146,830
Financial services, insurance, and pension funds	0	11,782	11,782	202,830
Real estate activities and rent	0	1,553	1,553	211,441
Other services	9,150	17,494	26,644	455,775
Administration, Health management and public education	0	0	0	415,943
CIF/FOB Adjustment				
Total	**153,541**	**118,433**	**304,986**	**4,034,045**

TABLE A-3 (CONTINUATION)
Resources 2005

Product	Production by Activities (current values R$ 000,000)		
	01 Agriculture	**02 Minerals**	**03 Manufacturing**
Agriculture	0	0	0
Minerals	0	0	0
Manufacturing	0	0	881
Production and distribution of electricity, gas, and water	132,266	0	0
Building Construction	0	166,736	1
Commerce	1	0	282,371
Transport, storage and mail	0	0	905
Information services	0	0	172
Financial services, insurance, and pension funds	0	0	0
Real estate activities and rent	336	936	1,462
Other services	32	0	8,598
Administration, Health management and public education	0	0	0
CIF/FOB Adjustment			
Total	**132,635**	**167,672**	**294,390**

Product	Production by Activities (current values R$ 000,000)		
	04 Production and distribution of electricity, gas, and water	**05 Building Construction**	**06 Commerce**
Agriculture	0	0	0
Minerals	0	0	0
Manufacturing	0	0	881
Production and distribution of electricity, gas, and water	132,266	0	0
Building Construction	0	166,736	1
Commerce	1	0	282,371
Transport, storage and mail	0	0	905
Information services	0	0	172
Financial services, insurance, and pension funds	0	0	0
Real estate activities and rent	336	936	1,462
Other services	32	0	8,598
Administration, Health management and public education	0	0	0
CIF/FOB Adjustment			
Total	**132,635**	**167,672**	**294,390**

TABLE A-3 (CONTINUATION)
Resources 2005

Product	Production by Activities (current values R$ 000,000)		
	07 Transport, Storage and mail	**08 Information services**	**09 Financial services, insurance and pension funds**
Agriculture	0	0	0
Minerals	0	0	0
Manufacturing	0	44	0
Production and distribution of electricity, gas, and water	0	0	0
Building Construction	0	0	0
Commerce	99	(-) 1,266	0
Transport, storage and mail	180,366	0	0
Information services	0	141,106	0
Financial services, insurance, and pension funds	0	0	198,895
Real estate activities and rent	406	385	436
Other services	27	0	0
Administration, Health management and public education	0	0	0
CIF/FOB Adjustment			
Total	**180,898**	**140,269**	**199,331**

Product	Production by Activities (current values R$ 000,000)			
	10 Real estate activities and rent	**11 Other services**	**12 Administration, Health management and public education**	**Total Production**
Agriculture	0	0	142	179,292
Minerals	0	2	0	108,729
Manufacturing	1	126	1,639	1,328,623
Production and distribution of electricity, gas, and water	0	0	2,408	134,700
Building Construction	0	0	0	167,041
Commerce	76	12,088	783	249,600
Transport, storage and mail	0	0	2,054	183,325
Information services	0	0	159	141,437
Financial services, insurance, and pension funds	0	0	0	198,895
Real estate activities and rent	176,159	16,628	549	198,701
Other services	22	417,524	9,194	435,397
Administration, Health management and public education	0	0	415,943	415,943
CIF/FOB Adjustment				
Total	**176,258**	**446,368**	**432,871**	**3,786,683**

TABLE A-3 (CONTINUATION)
Resources 2005

Product	Imports (current values R$ 000,000)		
	CIF/FOB adjustment	Merchandise Imports	Services Imports
Agriculture	0	4,595	0
Minerals	0	29,547	0
Manufacturing	0	162,462	0
Production and distribution of electricity, gas, and water	0	2,757	0
Building Construction	0	0	185
Commerce	0	0	2,127
Transport, storage and mail	(-) 9,546	0	13,191
Information services	0	0	5,393
Financial services, insurance, and pension funds	(-) 254	0	3,787
Real estate activities and rent	0	0	12,740
Other services	0	0	20,378
Administration, Health management and public education	0	0	0
CIF/FOB Adjustment	9,800	(-) 9,800	0
Total	**0**	**189,561**	**57,801**

Source: Brazilian Institute of Geography and Statistics (IBGE)

TABLE A-4
Intermediate Uses of Goods and Services (consumer prices) – 2005

Product level 12	Intermediate consumption by activities (current values R$ 000,000)		
	01 Agriculture	02 Minerals	03 Manufacturing
Agriculture	20,445	0	122,304
Minerals	1,709	6,839	97,346
Manufacturing	59,783	19,857	599,925
Production and distribution of electricity, gas, and water	1,456	4,356	39,166
Building Construction	0	1,483	1,643
Commerce	0	0	3,710
Transport, storage and mail	2,511	10,951	34,263
Information services	671	4,165	15,807
Financial services, insurance, and pension funds	2,438	2,271	29,049
Real estate activities and rent	236	4,804	7,456
Other services	65	6,831	30,554
Administration, Health management and public education	0	0	0
CIF/FOB Adjustment			
Total	**89,314**	**61,557**	**981,223**

TABLE A-4 (CONTINUATION)
Intermediate Uses of Goods and Services (consumer prices) – 2005

Product level 12	Intermediate consumption by activities (current values R$ 000,000)		
	04 Production and distribution of electricity, gas, and water	**05 Building Construction**	**06 Commerce**
Agriculture	0	0	0
Minerals	4,580	2,443	0
Manufacturing	11,333	64,337	23,290
Production and distribution of electricity, gas, and water	33,204	472	7,143
Building Construction	9	3,758	194
Commerce	0	51	5,399
Transport, storage and mail	2,165	990	14,751
Information services	1,747	546	4,976
Financial services, insurance, and pension funds	2,038	1,615	6,380
Real estate activities and rent	459	550	8,134
Other services	6,735	2,783	18,391
Administration, Health management and public education	0	0	0
CIF/FOB Adjustment			
Total	**62,270**	**77,455**	**88,658**

Product level 12	Intermediate consumption by activities (current values R$ 000,000)		
	07 Transport, Storage and mail	**08 Information services**	**09 Financial services, insurance and pension funds**
Agriculture	0	0	0
Minerals	0	0	0
Manufacturing	52,976	11,688	9,578
Production and distribution of electricity, gas, and water	2,824	2,061	1,513
Building Construction	24	618	1,236
Commerce	0	0	0
Transport, storage and mail	13,847	3,017	2,068
Information services	2,260	26,027	11,619
Financial services, insurance, and pension funds	4,174	3,690	25,521
Real estate activities and rent	1,976	5,519	1,370
Other services	11,358	14,424	16,489
Administration, Health management and public education	0	0	0
CIF/FOB Adjustment			
Total	**89,439**	**67,044**	**69,394**

TABLE A-4 (CONTINUATION)
Intermediate Uses of Goods and Services (consumer prices) – 2005

Product level 12	Intermediate consumption by activities (current values R$ 000,000)			
	10 Real estate activities and rent	**11 Other services**	**12 Administration, Health management and public education**	**Total Production**
Agriculture	0	2,377	404	145,530
Minerals	0	40	39	112,996
Manufacturing	1,819	93,337	33,767	981,690
Production and distribution of electricity, gas, and water	235	13,408	9,577	115,415
Building Construction	4,230	2,791	10,815	26,801
Commerce	0	10	0	9,170
Transport, storage and mail	228	8,012	3,017	95,820
Information services	394	32,190	23,507	123,819
Financial services, insurance, and pension funds	681	4,448	32,455	114,760
Real estate activities and rent	657	6,685	8,872	46,718
Other services	2,100	28,759	33,222	171,711
Administration, Health management and public education	0	0	0	0
CIF/FOB Adjustment				
Total	**10,344**	**192,057**	**155,675**	**1,944,430**

Product level 12	Final demand (current values R$ 000,000)			
	Goods Exports	**Services Exports**	**Public Sector Consumption**	**Third Sector Consumption**
Agriculture	21,451	0	0	0
Minerals	30,543	0	0	0
Manufacturing	235,327	0	0	0
Production and distribution of electricity, gas, and water	0	0	0	0
Building Construction	0	946	0	0
Commerce	0	1,458	0	0
Transport, storage and mail	0	5,455	0	0
Information services	0	953	0	0
Financial services, insurance, and pension funds	0	1,653	1,541	0
Real estate activities and rent	0	2,506	0	0
Other services	0	24,550	10,069	29,136
Administration, Health management and public education	0	0	415,943	0
CIF/FOB Adjustment				
Total	**287,321**	**37,521**	**427,553**	**29,136**

TABLE A-4 (CONTINUATION)
Intermediate Uses of Goods and Services (consumer prices) – 2005

Product level 12	Final demand (current values R$ 000,000)				
	Consumption by families	Gross fixed capital formation	Inventory changes	Final demand	Total demand
Agriculture	39,866	12,168	(-) 1,113	72,372	217,902
Minerals	395	0	2,289	33,227	146,223
Manufacturing	555,591	180,347	4,563	975,828	1,957,518
Production and distribution of electricity, gas, and water	51,126	0	0	51,126	166,541
Building Construction	0	144,709	0	145,655	172,456
Commerce	0	0	0	1,458	10,628
Transport, storage and mail	63,057	0	0	68,512	164,332
Information services	53,093	0	0	54,046	177,865
Financial services, insurance, and pension funds	96,256	0	0	99,450	214,210
Real estate activities and rent	159,859	3,911	0	166,276	212,994
Other services	245,851	1,102	0	310,708	482,419
Administration, Health management and public education	0	0	0	415,943	415,943
CIF/FOB Adjustment					
Total	**1,265,094**	**342,237**	**5,739**	**4,339,601**	**4,339,031**

Operations	Value Added (current values R$ 000,000)		
	01 Agriculture	02 Minerals	03 Manufacturing
Gross value added (Gross Internal Product)	105,163	45,353	333,381
Income Payments	45,302	10,328	163,151
Wages	36,128	6,997	124,299
Social Contributions	9,174	3,328	38,772
Social Security/Unemployment Fund (FGTS)	9,174	2,592	36,642
Private Pension Funds	0	736	2,130
Imputed Social Contributions	0	3	80
Gross Operational Surplus and other gross income	59,495	34,406	159,811
Other gross income	48,077	246	15,191
Gross Operational Surplus	11,418	34,160	144,620
Other taxes on production	1,131	619	10,731
Other subsidies on production	(-) 765	0	(-) 312
Value of Production	194,477	106,910	1,314,604
Employment	18,980,620	275,704	11,673,764

TABLE A-4 (CONTINUATION)
Intermediate Uses of Goods and Services (consumer prices) – 2005

Operations	Value Added (current values R$ 000,000)		
	04 Production and distribution of electricity, gas, and water	**05 Building Construction**	**06 Commerce**
Gross value added (Gross Internal Product)	70,365	90,217	205,732
Income Payments	14,719	28,478	90,407
Wages	11,585	22,756	71,292
Social Contributions	3,133	5,695	19,051
Social Security/Unemployment Fund (FGTS)	2,862	5,549	18,739
Private Pension Funds	271	146	312
Imputed Social Contributions	1	27	64
Gross Operational Surplus and other gross income	54,595	60,971	111,457
Other gross income	0	21,046	39,636
Gross Operational Surplus	54,595	39,925	71,821
Other taxes on production	1,086	773	3,868
Other subsidies on production	(-) 35	(-) 5	0
Value of Production	132,635	167,672	294,390
Employment	372,432	5,872,879	14,799,874

Operations	Value Added (current values R$ 000,000)		
	07 Transport, Storage and mail	**08 Information services**	**09 Financial services, insurance and pension funds**
Gross value added (Gross Internal Product)	91,459	73,225	129,937
Income Payments	38,822	22,535	50,667
Wages	31,991	18,884	39,501
Social Contributions	6,811	3,642	11,166
Social Security/Unemployment Fund (FGTS)	6,789	3,633	10,092
Private Pension Funds	22	9	1,074
Imputed Social Contributions	20	9	0
Gross Operational Surplus and other gross income	51,803	48,560	76,853
Other gross income	17,306	8,146	1,051
Gross Operational Surplus	34,497	40,414	75,802
Other taxes on production	1,460	2,545	2,417
Other subsidies on production	(-) 626	(-) 415	0
Value of Production	180,898	140,269	199,331
Employment	3,791,040	1,558,030	919,809

TABLE A-4 (CONTINUATION)
Intermediate Uses of Goods and Services (consumer prices) – 2005

Operations	Value Added (current values R$ 000,000)			
	10 Real estate activities and rent	**11 Other services**	**12 Administration, Health management and public education**	**Total Production**
Gross value added (Gross Internal Product)	165,914	254,311	277,196	1,842,253
Income Payments	4,472	148,608	243,397	860,886
Wages	3,857	126,605	187,172	681,067
Social Contributions	3,857	21,963	17,781	141,130
Social Security/Unemployment Fund (FGTS)	614	21,450	17,700	135,836
Private Pension Funds	0	513	81	5,294
Imputed Social Contributions	1	40	38,444	38,689
Gross Operational Surplus and other gross income	161,292	102,929	33,769	955,941
Other gross income	2,123	48,037	0	200,859
Gross Operational Surplus	159,169	54,892	33,769	755,082
Other taxes on production	150	3,166	30	27,976
Other subsidies on production	0	(-) 392	0	(-) 2,550
Value of Production	176,258	446,368	432,871	3,786,683
Employment	568,907	22,792,031	9,300,583	90,905,673

Source: Brazilian Institute of Geography and Statistics (IBGE)

TABLE A-5
Production supply and demand (basic prices) – 2005

Product	Resources	Intermediate consumption by activities (current values R$ 000,000)		
	Value of Production	**01 Agriculture**	**02 Minerals**	**03 Manufacturing**
Agriculture	179,292	16,588	0	104,143
Minerals	108,729	1,144	6,289	65,336
Manufacturing	1,328,623	46,720	14,680	417,444
Production and distribution of electricity, gas, and water	134,700	999	4,268	38,249
Building Construction	167,041	0	1,420	1,573
Commerce	294,600	7,419	2,042	62,451
Transport, storage and mail	183,325	4,101	10,962	46,088
Information services	141,437	554	3,852	14,373
Financial services, insurance, and pension funds	198,895	2,203	2,039	25,732
Real estate activities and rent	198,701	229	826	6,748
Other services	435,397	63	5,924	26,506
Administration, Health management and public education	415,943	0	0	0
CIF/FOB Adjustment				
Total	**3,786,863**	**80,020**	**52,302**	**808,643**

TABLE A-5 (CONTINUATION)
Production supply and demand (basic prices) – 2005

Product	Intermediate consumption by activities (current values R$ 000,000)		
	04 Production and distribution of electricity, gas, and water	**05 Building Construction**	**06 Commerce**
Agriculture	0	0	0
Minerals	4,220	1,692	0
Manufacturing	7,375	41,152	16,277
Production and distribution of electricity, gas, and water	29,842	324	4,902
Building Construction	9	3,414	186
Commerce	1,291	8,751	6,671
Transport, storage and mail	2,263	2,212	13,218
Information services	1,641	322	4,110
Financial services, insurance, and pension funds	1,809	1,430	5,661
Real estate activities and rent	419	133	7,120
Other services	5,874	2,341	16,107
Administration, Health management and public education	0	0	0
CIF/FOB Adjustment			
Total	**54,743**	**61,771**	**74,152**

Product	Intermediate consumption by activities (current values R$ 000,000)		
	07 Transport, Storage and mail	**08 Information services**	**09 Financial services, insurance and pension funds**
Agriculture	0	0	0
Minerals	0	0	0
Manufacturing	38,916	7,537	6,397
Production and distribution of electricity, gas, and water	2,578	2,023	1,038
Building Construction	23	592	1,184
Commerce	6,067	1,402	1,549
Transport, storage and mail	15,486	3,074	2,082
Information services	2,074	23,025	7,843
Financial services, insurance, and pension funds	3,712	3,311	23,050
Real estate activities and rent	775	3,699	1,234
Other services	10,680	12,691	14,400
Administration, Health management and public education	0	0	0
CIF/FOB Adjustment			
Total	**80,311**	**57,354**	**58,777**

TABLE A-5 (CONTINUATION)
Production supply and demand (basic prices) – 2005

Product	Intermediate consumption by activities (current values R$ 000,000)			
	10 Real estate activities and rent	**11 Other services**	**12 Administration, Health management and public education**	**Total Production**
Agriculture	0	1,697	281	122,709
Minerals	0	28	29	78,738
Manufacturing	1,155	62,991	21,535	682,178
Production and distribution of electricity, gas, and water	162	9,204	6,574	100,163
Building Construction	4,051	2,674	10,356	25,482
Commerce	220	13,822	4,599	116,185
Transport, storage and mail	239	9,555	3,556	112,836
Information services	325	25,276	19,228	102,623
Financial services, insurance, and pension funds	607	3,896	29,891	103,341
Real estate activities and rent	618	4,548	7,607	33,956
Other services	1,801	25,492	30,268	152,147
Administration, Health management and public education	0	0	0	0
CIF/FOB Adjustment				
Total	**9,178**	**159,183**	**133,924**	**1,630,358**

Product	Final demand (current values R$ 000,000)			
	Exports	**Public Sector Consumption**	**Consumption by lucrative endless Institutions**	**Consumption by families**
Agriculture	18,043	0	0	28,195
Minerals	27,728	0	0	235
Manufacturing	224,412	0	0	320,604
Production and distribution of electricity, gas, and water	0	0	0	34,537
Building Construction	946	0	0	0
Commerce	13,217	0	0	139,835
Transport, storage and mail	10,059	0	0	56,344
Information services	953	0	0	37,861
Financial services, insurance, and pension funds	1,653	1,541	0	92,360
Real estate activities and rent	2,506	0	0	158,344
Other services	24,550	10,069	29,136	218,393
Administration, Health management and public education	0	415,943	0	0
CIF/FOB Adjustment				
Total	**324,067**	**427,943**	**29,136**	**1,086,708**

TABLE A-5 (CONTINUATION)
Production supply and demand (basic prices) – 2005

Product	Final demand (current values R$ 000,000)			
	Gross fixed capital formation	Inventory changes	Final demand	Total demand
Agriculture	11,193	(-) 848	56,583	179,292
Minerals	0	2,028	29,991	108,729
Manufacturing	97,073	4,356	646,445	1,328,623
Production and distribution of electricity, gas, and water	0	0	34,537	134,700
Building Construction	140,613	0	141,559	167,041
Commerce	25,363	0	178,415	294,600
Transport, storage and mail	4,086	0	70,489	183,325
Information services	0	0	38,814	141,437
Financial services, insurance, and pension funds	0	0	95,554	198,895
Real estate activities and rent	3,895	0	164,745	198,701
Other services	1,102	0	283,250	435,397
Administration, Health management and public education	0	0	415,943	415,943
CIF/FOB Adjustment				
Total	**283,325**	**5,536**	**2,156,325**	**3,786,683**

Source: Brazilian Institute of Geography and Statistics (IBGE)

ANNEX II

BREAKDOWN OF COMPLIANCE COSTS FOR PUBLICLY HELD COMPANIES- BRAZIL 2001

TABLE A-6
How much does it cost to pay taxes?
All corporations

All corporations (amounts in R$ 000,000)			
Gross corporate income R$ 48,131.840		**Total corporations**	
Corporate area	**Value**	**% partial**	**% total**
Corporate Board	4,007	3.24	2.56
Fiscal counsel	70	0.06	0.04
Executive Board	5,494	4.45	3.51
Controller	33,487	27.12	21.42
Legal counsel	10,598	8.58	6.78
Information technology	8,813	7.14	5.64
Archives	1,872	1.52	1.20
Indirect taxes	37,848	30.65	24.20
Costs	1,718	1.39	1.10
Human resources	4,619	3.74	2.95
Transfer prices	2,394	1.94	1.53
Import taxes	6,752	5.47	4.32
Treasury	1,375	1.11	0.88
Internal auditing	1,282	1.04	0.82
Records	3,154	2.55	2.02
Total internal costs	**123,483**	**100.00**	**78.97**
Incidence on gross income	0.26%		
Auditors and consultants	4,069	12.37	2.60
Lawyers	11,608	35.30	7.42
Miscellaneous	2,401	7.30	1.54
Outsourced files	605	1.84	0.39
Customs agents	3,341	10.16	2.14
Information technology	10,864	33.03	6.95
Total external costs	**32,888**	**100.00**	**21.03**
Incidence on gross income	0.07%		
Total compliance costs	156,371		100.00
Incidence on gross income	0.32%		

Source: [BERTOLUCCI, 2001] p. 51

TABLE A-7
How much does it cost to pay taxes?
Corporations with gross income up to R$ 100,000,000/year

Corporations with gross income up to R$ 100,000,000/year (amounts in R$ 000,000)			
Gross corporate income R$ 154,194		**Total corporations**	
Corporate area	**Value**	**% partial**	**% total**
Corporate Board	176	8.69	6.88
Fiscal counsel	9	0.44	0.35
Executive Board	107	5.28	4.18
Controller	937	46.27	36.63
Legal counsel	78	3.85	3.05
Information technology	143	7.06	5.59
Archives	11	0.54	0.43
Indirect taxes	69	3.41	2.70
Costs	0	0.00	0.00
Human resources	267	13.19	10.44
Transfer prices	0	0.00	0.00
Import taxes	12	0.59	0.47
Treasury	192	9.48	7.51
Internal auditing	14	0.69	0.55
Records	10	0.49	0.39
Total internal costs	**2,025**	**100.00**	**79.16**
Incidence on gross income	1.31%		
Auditors and consultants	127	28.83	4.96
Lawyers	217	40.71	8.48
Miscellaneous	64	12.01	2.50
Outsourced files	0	0.00	0.00
Customs agents	27	5.07	1.06
Information technology	98	18.39	3.83
Total external costs	**533**	**100.00**	**20.84**
Incidence on gross income	0.35%		
Total compliance costs	2,558		100.00
Incidence on gross income	1.66%		

Source: [BERTOLUCCI, 2001] p.152

TABLE A-8
How much does it cost to pay taxes?
Corporations with gross income from R$ 100,000,000 to R$ 1,000,000,000/year

Corporations with gross income from R$ 100,000,000 to R$ 1,000,000,000/year (amounts in R$ 000,000)			
Gross corporate income R$ 3,736,199		**Total corporations**	
Corporate area	**Value**	**% partial**	**% total**
Corporate Board	1,235	6.30	4.89
Fiscal counsel	0	0.00	0.00
Executive Board	2,333	11.90	9.23
Controller	2,397	12.23	9.48
Legal counsel	1,649	8.41	6.52
Information technology	1,511	7.71	5.98
Archives	394	2.01	1.56
Indirect taxes	4,634	23.64	18.33
Costs	615	3.14	2.43
Human resources	1,184	6.04	4.68
Transfer prices	1,992	10.16	7.89
Import taxes	840	4.28	3.32
Treasury	436	2.22	1.73
Internal auditing	214	1.09	0.85
Records	172	0.88	0.68
Total internal costs	**19,606**	**100.00**	**77.57**
Incidence on gross income	0.52%		
Auditors and consultants	820	14.46	3.24
Lawyers	2,747	48.46	10.87
Miscellaneous	247	4.36	0.98
Outsourced files	0	0.00	0.00
Customs agents	1,363	24.04	5.39
Information technology	492	8.68	1.95
Total external costs	**5,669**	**100.00**	**22.43**
Incidence on gross income	0.15%		
Total compliance costs	25,275		100.00
Incidence on gross income	0.68%		

Source: [BERTOLUCCI, 2001] p.153

TABLE A-9
How much does it cost to pay taxes?
Corporations with gross income from R$ 1,000,000,000 to R$ 5,000,000,000/year

Corporations with gross income from R$ 1,000,000,000 to R$ 5,000,000,000/year (amounts in R$ 000,000)			
Corporate area	**Value**	**% partial**	**% total**
Corporate Board	2,585	3.38	2.72
Fiscal counsel	59	0.08	0.06
Executive Board	2,566	3.35	2.70
Controller	13,045	17.05	13.75
Legal counsel	5,680	7.42	5.99
Information technology	5,479	7.16	5.78
Archives	1,436	1.88	1.51
Indirect taxes	30,660	40.07	32.32
Costs	1,103	1.44	1.16
Human resources	3,006	3.93	3.17
Transfer prices	402	0.53	0.42
Import taxes	5,900	7.71	6.22
Treasury	647	0.85	0.68
Internal auditing	974	1.27	1.03
Records	2,972	3.88	3.13
Total internal costs	**76,514**	**100.00**	**80.66**
Incidence on gross income	0.39%		
Auditors and consultants	1,912	10.42	2.02
Lawyers	3,808	20.75	4.01
Miscellaneous	2,085	11.36	2.20
Outsourced files	333	1.81	0.35
Customs agents	1,951	10.63	2.06
Information technology	8,261	45.02	8.71
Total external costs	**18,349**	**100.00**	19.34
Incidence on gross income	0.09%		
Total compliance costs	94,863		100.00
Incidence on gross income	0.48%		

Source: [BERTOLUCCI, 2001] p.154

TABLE A-10
How much does it cost to pay taxes?
Corporations with gross income above R$ 5,000,000,000/year

Corporations with gross income above R$ 5,000,000,000/year (amounts in R$ 000,000)			
Gross corporate income R$ 24,610,181		**Total corporations**	
Corporate area	**Value**	**% partial**	**% total**
Corporate Board	11	0.04	0.03
Fiscal counsel	2	0.01	0.01
Executive Board	488	1.93	1.45
Controller	17,108	67.55	50.82
Legal counsel	3,191	12.60	9.48
Information technology	1,680	6.63	4.99
Archives	18	0.07	0.05
Indirect taxes	2,485	9.81	7.38
Costs	0	0.00	0.00
Human resources	162	0.64	0.48
Transfer prices	0	0.00	0.00
Import taxes	0	0.00	0.00
Treasury	100	0.39	0.30
Internal auditing	80	0.32	0.24
Records	0	0.00	0.00
Total internal costs	**25,325**	**100.00**	**75.23**
Incidence on gross income	0.10%		
Auditors and consultants	1,210	14.51	3.59
Lawyers	4,840	58.05	14.38
Miscellaneous	5	0.06	0.01
Outsourced files	272	3.26	0.81
Customs agents	0	0.00	0.00
Information technology	2,010	24.11	5.97
Total external costs	**8,337**	**100.00**	**24.77**
Incidence on gross income	0.03%		
Total compliance costs	33,662		100.00
Incidence on gross income	0.14%		

Source: [BERTOLUCCI, 2001] p. 155

TABLE A-11
How much does it cost to pay taxes?
Percentages of participation by major activity

How much does it cost to pay taxes (% participation by major activity)					
Categories of gross income (in R$ 000,000)					
Activity	**Up to 100**	**From 100 to 1,000**	**From 1,000 to 5,000**	**From 5,000 to 15,000**	**All Corps**
Advisory, Executive Board, Tax advisory	11.4	14.1	5.5	1.5	6.1
Controller, legal, information technology	45.3	22.0	25.5	65.3	33.8
Indirect taxes	2.7	18.3	32.3	7.4	24.2
Other internal costs	19.8	23.1	17.3	1.1	14.8
Total internal costs	79.2	77.6	80.6	75.3	79.0
Auditors, attorneys, and information technology	17.3	16.0	14.7	23.9	17.0
Other external costs	3.6	6.4	4.6	0.8	4.0
Total external costs	20.8	22.4	19.3	24.7	21.0

Source: [BERTOLUCCI, 2001] p. 156

ANNEX III

THE BRAZILIAN EXPERIENCE WITH A BANK TRANSACTIONS TAX

First of all, I would like to congratulate the organizers and sponsors of this forum, specially the Parliamentarians for Global Action for the choice of "poverty eradication on a world level" as the main theme of this meeting.

Indeed, it is estimated that one billion people throughout the world suffer the pain and misery of utmost poverty. Particularly striking, and painful, is the fact that poverty flourishes in the midst of great wealth. Opulence and misery live side by side, are door-to-door neighbors' in many developing countries. Income inequality and income concentration are nowadays two of the most common manifestations of world globalization.

Countries, such as Brazil, that chose to retrocede in its import substitution policies and to open its economy to world investors, now have to deal with a transitional situation which imposes great threats and challenges.

Short of official development assistance, lacking foreign aid, and unable to compete on a global level, such countries suffered a sharp fall in the rate of economic growth. Its savings rate fell dramatically, public deficit, and debt grew enormously, national industry and services were quickly taken over by multinational concerns. They now have to face the socially disrupting effects of growing inequality, such as urban violence, unemployment, swollen cities without minimum urban equipment, and dwindling social investment in sanitation, health, and education.

Our countries are going through a painful process of integration with the world economy, and we now face the challenge of reaching a successful conclusion.

We do not dispute the benefits of world integration, nor do we underestimate the expected future gains that can be reaped out of growing flows of financial and commercial transactions on a global scale. But what we fear is that the process of building an integrated world economy may be aborted by the inability of the developing countries to bear the burden of such a transition to a global economy.

In response to this challenge, it is not acceptable to draw back, and to adopt the isolationist policies that typified the fifties and the sixties in the developing countries. That was a strategy that ran its course, that achieved remarkable results at its time, but that cannot be made to have the same positive effects again.

By the same token, it is not wise to allow big government to take over again, under the illusion that it can row against the tide of world integration and neutralize the prevalence of the private over the public sector. It is well known that governments make mistakes, such as mistargeting and other forms of inefficiency; governments are prone to corruption, and are easy targets for rent-seekers.

The challenge is facing us right in the eye; the bridges behind us have been burned, there is no turn around.

It is an objective of this 21st Forum to "share national level strategies", to "learn about best practices", and to "forge new partnerships for poverty eradication". Based on the Brazilian experience with the use of a national transactions tax, I would like to propose the use of such tax both as an federal component of national tax systems, and as an internationally agreed toll tax in world short-term capital movements.

THE EXPERIENCE OF THE TRANSACTIONS TAX IN BRAZIL

I first proposed the adoption of a transactions tax in Brazil in January 1990, in the context of a modern single-tax model.

Following an old and respectable tradition in the history of economic thought, which dates back at least to the Physiocratic School, the single-tax ideal was never implemented. The difficulty, which has turned the single-tax ideal into an almost utopian proposal, resides in the until now insurmountable difficulty in identifying a tax base sufficiently broad to allow the collection of enough revenues needed by governments to finance their activities, without, at the same time, requiring excessively high tax rates. As we know, evasion and its natural complement, corruption, varies in direct proportion to the nominal tax rates.

Such a tax base has never been found, in the past.

But now, the electronic age has opened the way for such a tax base: the set of all payments cleared through the banking system.

It is important to point out that a monetary payment has never been used as a tax base because, before the growth of the modern banking system, payments were made through the use of commodity-based money, or, more recently, through paper money. Such means of payment implied the use of manual, or carry-on, money, and this made it impossible to implement a tax system capable of avoiding large-scale tax evasion.

Nowadays, the electronic age has turned the banking system into the locus of all payment clearings. Except for small payments, most economic exchanges are made through the use of fiat money issued by the banking system, which makes possible the use of such clearing houses as the loci where tax collection can occur.

In Brazil, the long history of inflation has led to the overdevelopment of the banking system, especially to the use of sophisticated electronic means of administering bank deposits. Speed in clearing bank transactions was an essential prerequisite for high profitability in banking activities. Brazil is one of the few countries in the world that has an integrated clearing house for the whole banking sector, capable of clearing tens of millions of banking documents overnight.

At the same time, chronic inflation has caused a strong tendency for the expulsion of paper money, which not being indexed, lost purchasing power as inflation set place in Brazil, reaching in 1985, the monthly rate of 80%. The

substitution of bank deposits for paper money turned Brazil into one of the most "unmonetized" economies in the world. Paper money outside the banking system accounts for less than 2% of GNP, while in other countries it rarely falls below 10% of GNP.

It should be pointed out, however, that there is a worldwide trend towards the use of electronic means of exchange -bank deposits, smart cards, on-line transactions- which leads us to believe that Keynes was right when stated that paper money was a barbaric relic from the past, and should soon be replaced by electronic means of exchange.

Such a detour into the history of money is important since it sets the ground for understanding the appearance of concrete possibilities for the achievement of the single tax ideal, based on a transactions tax.

The proposal of a single tax in Brazil raised an emotional controversy, particularly when, in 1995, and again in 1998 through 2002, Congress approved the use of such tax, although not as a single tax.

Its cumulative effects were quickly brought to the debate. Those who opposed the transactions tax pointed out its alleged negative effects on allocative efficiency. Others claimed that Brazilian exports would lose competitiveness due to the difficulties in rebating the taxes collected along the production process. Others still, pointed out the possible inducements to verticalization and banking disintermediation (or hoarding), which could result from even modest rates on banking transactions, and that such tax would have low tax yield in stable economies, with low inflation rates.

Actually, all such criticism proved completely wrong. None of the negative predictions actually occurred. Quite on the contrary, the revenues collected from the transactions tax in both periods of application showed solid revenues and a universal pattern of incidence. It proved to be impossible to evade it. From the equity point of view, it turned out to be a fair tax, since the most unfair tax is that one which can be evaded.

From the revenue side, each tenth of a percent (0.1%) in its rate structure resulted in revenues equivalent to 0.9% of GNP. In 1999 it collected R$ 8.5 billion with a rate of 0.2% on each bank account debit entry, both of persons or of firms. From 1999 to 2003, the rate was set at 0.38%.[3]

The use of the transactions tax in Brazil confirmed the following advantages:

- It is an evasion-proof tax
- It is a corruption-proof tax
- It has low collection cost
- It is simple, non-declaratory, automatically collected, and requires no bureaucratic procedures on the part of the taxpayer
- It causes no significant distortion in market conditions.

The transactions tax turned out to be both a powerful tool for achieving federal tax equity, and a source of solid revenues for the government. Although it is a turnover tax, it caused no significant distortion in the functioning of the market. It prevented tax evasion, which in many countries caused a shift of tax incidence to sectors least capable of "tax planning" or "tax avoidance", such as small and medium firms, and wage earners, with obvious negative equity impact. It also served the purpose of taxing the informal economy. It established a pattern of tax incidence, that made everybody pay, and if all pay their taxes, all should pay less.

The use of a transactions tax in Brazil was the first large-scale experiment with such a tax. And it proved enormously successful. However, a few lessons were learned from it, and deserve attention from tax planners.

First, if rates are raised, a few safeguard measures should be adopted. To avoid the use of checks transfers to be used as quasi-money, they should be turned into nominal, non-endorsable orders of payment. Also, appropriate laws should require that transactions above a minimum amount should necessarily be cleared through the domestic banking system in order to acquire legal existence.

Second, the transactions tax should not be imposed on financial and capital markets. Since it is a turnover tax, at each period of maturity it would be collected on the stock of capital, thereby tending to raise the federal interest rate. This feature of the transactions tax will be further discussed below, with reference to the Tobin tax.

Third, time and effort should be addressed to constructing input-output tables, with as many entries as possible, in order to evaluate the cost burden caused by the transactions tax in each sector of the economy. Such calculations are indispensable if exports are to be tax exempt. The Leontief tables should provide the proper levels of tax refunds to exporters. In the appendix, a 35 sector estimate of sectoral tax burden is presented. Since the transactions tax allows no tax evasion, it requires a much lower rate (2.7% in our estimates) to collect the same revenue as a conventional value-added tax with a rate of 17%. Therefore, a transactions tax imposes a significantly lower tax burden on all sectors of the economy, and therefore introduces less distortion in relative prices than a value-added tax.

In brief, the experiment with a transactions tax in Brazil was fully successful. It proved to be a powerful tool to raise revenues, a strong instrument to attain a more equitable pattern of income distribution, and a robust deterrent of tax evasion and corruption. And with an almost null collection cost. [4]

THE TOBIN TAX IN THE LIGHT OF THE BRAZILIAN TRANSACTIONS TAX

The experience with a transactions tax in Brazil showed that the banking system is the unavoidable locus of all payment clearings in the modern world. It also showed that other forms of making payments, such as barter, use of paper money, or offshore facilities, usually imply higher costs than the tax savings made possible by such

alternative devices.

Furthermore, it became clear that some simple legislative actions would close most tax shelters.

The Brazilian experience also showed that a solid tax system, with a fair pattern of incidence, is a prerequisite for lowering income concentration and eradicating poverty.

On the other hand, a transactions tax should not reach the domestic capital markets. Especially in developing countries, where most financial transactions are short term due to the uncertainties and risks involved, a turnover tax has two effects: a) it raises the domestic interest rate, and b) it lengthens the maturity periods of financial markets.

As issues involving domestic economic policy, these two effects are usually undesirable.

The higher interest rate effect reduces investment and growth; the lengthening of maturity periods, on the other hand, is more controversial. Some argue that term structure of financial markets should be left totally free to be determined solely by market forces, and therefore, should reflect the opportunity cost of money and liquidity. Others, however, argue that short term financial markets should be contained, and that a toll tax, due to its turnover characteristics, would throw some sand in the wheels of financial speculation.

It is precisely this second opinion, which led James Tobin and others to propose the introduction of a transactions tax on capital flows, on a world level. According to their opinion, trillions of dollars flow across international borders each year in search of investment opportunities. Most of it, however, is short-term highly volatile capital, which many analysts believe is the main reason behind world financial instability.

Thus, a transactions tax on international capital flows would reduce the mobility of such financial flows, making capital mobility a more stable source of investment financing for the developing countries. According to this view, therefore, the transactions tax would reduce economic instability, limit the depth of international financial crisis, and would provide an alternative source of funding for eradicating world poverty.

Of course, there will be a need for multilateral coordination to implement such a tax on a world basis. Although this should turn out to be a very demanding task, it is technically viable, as the Brazilian experience has shown.

In conclusion, the transactions tax no doubt will be the in the heart of future tax systems all over the world. Both federally and on a world basis, such a tax should prove to be a valuable tool in providing resources for eradicating poverty, to improve income distribution, and to attain social justice across the world.

APPENDIX

IMPACT OF A 17% VALUE-ADDED TAX AND OF A 2.7% TRANSACTIONS TAX ON THE TAX BURDEN OVER COST OF PRODUCTION OF VARIOUS INDUSTRIES OF THE BRAZILIAN ECONOMY

n.º	Industries	Tax Burden % over taxless cost of production	
		VAT (17%)	Trans.Tax (2.7%)
1	Agriculture	29.8	8.9
2	Mining	26.8	8.2
3	Oil and natural gas	22.4	7.3
4	Coal	24.6	7.2
5	Non-metallic minerals	25.3	8.5
6	Metallurgy	23.8	9.9
7	Mechanic	22.1	8.1
8	Electrical and communications materials	23.6	8.4
9	Transport materials	22.9	9.6
10	Wood	26.9	9.2
11	Furniture	25.5	9.3
12	Paper and cardboard	25.7	9.7
13	Rubber	23.9	9.5
14	Leather and skin	24.6	9.5
15	Alcohol	31.4	11.1
16	Oil refining	18.4	4.1
17	Pharmaceutics	22.7	7.3
18	Cosmetics	25.0	9.0
19	Other chemicals	24.0	8.2
20	Textiles	27.1	10.7
21	Clothing and shoes	27.0	10.4
22	Foodstuff	28.2	10.4
23	Beverage	24.5	9.0
24	Tobacco	26.8	9.3
25	Editorial and printing	23.5	8.0
26	Other industries	25.2	8.5
27	Electric Energy	23.7	6.9
28	Sanitation and water supply	20.4	5.3
29	Construction	25.0	8.5
30	Commerce	23.8	6.1
31	Transport and communication services	22.0	5.9
32	Finance	22.0	4.7
33	Other services	22.4	5.9
34	Dummy maintenance	21.2	8.1
35	Dummy firms	22.5	8.2

NOTES

[1] Paper presented at the 21.st Annual United Nations Parliamentary Forum organized by Parliamentarians for Global Action, held on September 29-30, 1999 at the United Nations.

[2] Marcos Cintra Cavalcanti de Albuquerque, Ph.D. in economics (Harvard University), is a member of the Brazilian National Congress representing the state of São Paulo, vice-president of the Getulio Vargas Foundation, and full-professor of the Department of Economics at the São Paulo Business School. (Internet: www.marcoscintra.org , Email: mcintra@marcoscintra.org

[3] The use of transactions tax was tried in Argentina for a few years, before it reformed its tax system along orthodox lines in 1992. The Argentinean experience was enormously successful, and the banking disintermediation (or hoarding) that occurred during a few months was due to an interest rate freeze during the peak of hyperinflation in the end of the eighties, rather than to the transactions tax, which had its rate increased at the same period. Colombia, and Ecuador also experimented with the transactions tax, and Australia has been collecting a similar tax for many years, although with a minute rate.

[4] A focus of strong opposition to the transactions tax is seen in sectors of the economy that fear that its continuing use might end up being a strong evidence of evasion of the other taxes collected by the government. Such evidence, for instance, appears when the transactions tax revenue is compared with the revenue attained by the Confins, a turnover tax on gross revenues of firms. Financial transactions and firms´ gross revenues should be almost equivalent concepts if there were no tax evasion through unreported revenues. However, evidence of generalized tax evasion is easily seen, as the Confins revenue is twice as much as that of the transactions tax, although its rate is ten times higher.

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