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Linking Tax Administration Reform with Tax Reform

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Abstract

Tax reform and tax administration are closely linked. However, these links are not always fully discussed, fully analyzed, or even fully appreciated. In this paper, I discuss the links between tax administration reform and tax reform. I begin by discussing some basic aspects of tax administration, which suggest three "paradigms" for tax administration that emerge from the theoretical and empirical literature on what motivates individuals to pay – or not to pay – their taxes. I then summarize the main reasons why countries reform their tax systems and when these reforms are most likely to be successful and even to occur. This then leads to a detailed discussion of the central role of tax administration reform in tax reform, including an examination of the role of new technologies in tax administration. My main conclusions are twofold. First, *a successful reform of a country's tax system requires also a concomitant and concurrent successful reform of a country's tax administration.* Second, *successful tax administration reform needs to go well beyond changes in enforcement policies alone.*

Keywords: Tax reform; tax administration; tax compliance; services; trust
JEL codes: H20; H26; H60; H83

Linking Tax Administration Reform with Tax Reform

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Tax reform and tax administration are closely linked. However, these links are not always fully discussed, fully analyzed, or even fully appreciated. In this paper, I discuss the links between tax administration reform and tax reform. I begin by discussing some basic aspects of tax administration, which suggest three “paradigms” for tax administration that emerge from the theoretical and empirical literature on what motivates individuals to pay – or not to pay – their taxes. I then summarize the main reasons why countries reform their tax systems and when these reforms are most likely to be successful and even to occur. This then leads to a detailed discussion of the central role of tax administration reform in tax reform, including an examination of the role of new technologies in tax administration. My main conclusions are twofold. First, *a successful reform of a country’s tax system requires also a concomitant and concurrent successful reform of a country’s tax administration*. Second, *successful tax administration reform needs to go well beyond changes in enforcement policies alone*.

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1. Introduction

Most discussions of tax reform focus on the details of how the underlying tax structure of a country should be changed – or “reformed” – in order to achieve the basic goals of efficiency, equity, and adequacy. Even so, fundamental to the success of any tax reform is how the reformed tax structure will be administered; that is, there are strong links between the *tax policies* (including any *tax reform*) of a country and its *tax administration*, and the success of any tax reform depends intimately on the ability of the tax administration to implement the tax reform. Indeed, as has often been stated, “tax administration is tax policy”. However, these links are not always fully discussed, fully analyzed, or even fully appreciated.

In this paper, I examine these links in detail. I begin by discussing some basic aspects of tax administration, which suggest three “paradigms” for tax administration that emerge from the theoretical and empirical literature on what motivates individuals to pay – or not to pay – their taxes. I then summarize the main reasons why countries reform their tax systems and when these reforms are most likely to be successful and even to occur. This then leads to a detailed discussion of the central role of tax administration reform in tax reform.

My main conclusions are twofold. First, successful *tax reform* is linked closely and strongly with successful *tax administration reform*; that is, *a successful reform of a country’s tax system requires also a concomitant and concurrent successful reform of a country’s tax administration*. Second, *successful tax administration reform needs to go well beyond changes in enforcement policies alone*, which suggests some specific ways

by which tax administration reform should proceed, especially in an era of rapidly changing technology.

2. What do tax administrations do?¹

Any tax administration exists primarily to raise the revenues needed to finance government expenditures. This means that a tax administration's basic tasks are threefold: to *assess* tax liabilities, to *collect* these taxes, and to *enforce* the tax laws in order to ensure that taxpayers comply with their obligations. The most essential of these three tasks is to ensure that legally due assessed taxes are actually collected by the tax administration. So it is useful at the very start to examine the theoretical and empirical literature on what motivates tax compliance.

2.1. A brief digression: What motivates tax compliance?

The analysis of tax compliance behavior has grown significantly in the last 50 years or so, both in its theoretical dimension and its empirical application. Here I provide a very brief overview of the main results, all with the intention of suggesting ways by which a tax administration can take specific actions to improve tax compliance.²

The many *theoretical* analyses of tax compliance often begin with the standard economics-of-crime approach in which an individual weighs the expected benefits of successful tax evasion with the risky prospect of detection and punishment. This

¹ There is a large literature on tax administrations, often with a focus on developing countries, typically with an emphasis on institution building, and generally coming from various international organizations like the Inter-American Center of Tax Administrations (CIAT), the International Monetary Fund (IMF), the Organisation of Economic Co-operation and Development (OECD), and the World Bank. For illustrative examples, see Bird (1989, 2004, 2010, 2015), Bird and de Jantscher (1992), Bird and Zolt (2008), Gupta et al. (2017), Dom et al. (2022), CIAT (2011, 2020, 2022), IMF (2019, 2023), and OECD (2013, 2020, 2025). This list is far from exhaustive.

² See Sandmo (2012), Slemrod (2019), and Alm (2019) for detailed discussions of the theoretical and empirical literatures.

approach concludes that enforcement matters – indeed, that enforcement is the only thing that matters – including the ways in which third-party sources of information and tax withholding systems affect the enforcement capabilities of tax administrations. However, other theories (especially theories based on behavioral economics) also suggest that an individual does not always behave as assumed in the standard economics-of-crime approach; that is, an individual may not be able to make all calculations required under expected utility theory, an individual may not be able to determine the true costs of an action, an individual may face limits on his or her self-control, and an individual may be affected by the framing of a decision. Finally, theories (again, theories based largely on behavioral economics) suggest that an individual is a social creature, and may be influenced by group considerations in his or her compliance behavior. All of these results indicate that there are administrative policies suggested by theory that can improve compliance, policies that start with enforcement but that do not end there.

As for *empirical* work, empirical research on tax compliance is notoriously difficult. Hard and useful evidence on tax compliance is very hard to find, for obvious reasons, and indeed the fundamental difficulty in analyzing empirically what motivates tax compliance is the lack of reliable information on taxpayer compliance. After all, tax evasion is illegal, and individuals have strong incentives to conceal their cheating, given financial and other penalties that are imposed on individuals who are found cheating on their taxes. Even so, researchers have been increasingly creative in finding data to examine evasion using naturally occurring field data, controlled field experiments, and laboratory experiments. Further, researchers have also been quite creative in finding new econometric methods to analyze these data, especially by taking advantage of

nonlinearities in policy design (e.g., the presence of “kinks” in tax schedules, regression discontinuity at a discrete schedular threshold). There are problems with all tax evasion data and all methodologies. Even so, these data and these methods have provided many insights.

Specifically, empirical studies, together with their theoretical foundations, suggest several main conclusions on what motivates compliance:

- (1) *Audits matter – and matter a lot.* There is strong evidence that audits have “direct effects” by raising revenue through the assessment of additional taxes, interest, and penalties on individuals who are audited, with an estimated reported income-audit rate elasticity that generally lies between 0.2 and 0.4. Audits also have “indirect effects” by deterring future noncompliance among both audited taxpayers (“specific deterrence”) and unaudited taxpayers (“general deterrence”). This “spillover” effect of audits, or the increase in compliance revenues generated directly from each dollar of direct audit revenues, is typically estimated to vary between from 4 to 12.
- (2) *Perceptions of audits affect behavior; that is, cognitive considerations matter.* Taxpayers often misperceive audit rates, typically overweighing a (low) probability of audit, and the effects of audits also depend on taxpayers’ subjective experiences of the audit.
- (3) *Fines, whether financial or nonfinancial, affect compliance, but their deterrent effects are often small.* The limited amount of work on fines typically finds that a higher fine rate leads to marginally more compliance, with an estimated reported income-fine rate elasticity of less than 0.1. There is also evidence that nonfinancial penalties (e.g., public disclosure and “shame”) may act as a deterrent in some settings.
- (4) *Positive inducements, whether to individuals or to groups, improve compliance.* There is evidence that, when a government gives an individual a reward for honest tax reporting (e.g., social insurance, entry into a lottery), these efforts increase compliance. Similarly, if a group of taxpayers receives a benefit from their taxes (e.g., a public good), tax compliance generally improves.
- (5) *Tax rates affect compliance, but the effects are nuanced.* The level of tax rates matters in a taxpayer’s compliance decision, with an increase in tax rates generally leading to greater noncompliance. In addition, one’s tax rate *relative* to others’ matters; that is, if a taxpayer believes that his or her tax rate is too high relative to others, then he or she is likely to become less compliant.
- (6) *The social and institutional environment in which individuals live affects compliance.* The overall setting in which a taxpayer lives, works, and functions has important effects on tax compliance, consistently demonstrated by empirical findings of differences in behavior among countries with similar fiscal systems but different social and institutional environments. One compelling explanation

- for these differences in compliance behavior is the existence of a social norm of compliance. Consistent with this perspective, when individual trust in government is greater, enforcement tends to be more effective at deterring tax noncompliance.
- (7) *Individual participation in the choice of institutions affects compliance; that is, process (versus outcome) is an essential determinant of compliance.* Independent of the actual levels of tax, audit, and fine rates, individual taxpayer participation in the choice of institutions improves tax compliance. For example, taxpayers exhibit a greater propensity to pay their taxes when they choose how their taxes are spent compared to when an identical use is imposed upon them.
 - (8) *The information that tax authorities have on income sources is an essential component of a compliance strategy.* Compliance is far higher on income subject to employer withholding and to third-party information sources than on income not subject to these features.
 - (9) *The information that individuals are provided about the tax system and about other individuals affects tax compliance, but sometimes in surprising ways.* For example, higher audit rates have no impact on compliance if this “official” information is not provided; if it is provided, higher audit rates generally – but not always – increase compliance. Also, knowing what one’s “neighbors” are doing affects taxpayers’ own decisions – both positively and negatively.
 - (10) *The knowledge (or understanding) that taxpayers have about the tax system affects compliance, but the overall impact is unresolved.* Given a complex and uncertain tax system, taxpayers often do not know what they should pay in taxes, and so they increasingly rely upon paid tax practitioners. Perhaps surprisingly, data indicate that noncompliance is generally higher for returns prepared by tax practitioners. Accordingly, a complicated tax system tends to increase noncompliance; conversely, a simpler tax system with better administrative services that make it easier for taxpayers to pay their taxes tends to reduce noncompliance. Even so, these effects often vary across studies.
 - (11) *Demographics matter.* There is consistent evidence that compliance may be affected by numerous demographic variables. Noncompliance tends to be higher for individuals who are younger, single, self-employed, and male; the effects of most other demographic variables are uncertain.
 - (12) *Individuals are motivated in their compliance decisions by many factors beyond narrow financial self-interest.* Individuals who are identified as expressing greater capacities for sympathy and empathy tend to be more tax compliant. Other motivations have also been found to affect compliance; for example, individuals who exhibit greater patriotism are often more tax compliant. Relatedly, there is some emerging evidence that cheating on one’s taxes creates emotional distress.

These general conclusions obscure many subtleties in the findings of the empirical literature. As only one illustration of these subtleties, consider in more detail the effects of audits, given especially its relevance for tax administrations. Again, the basic result here is that more audits generally improve compliance. However, there are

also many other empirical results that demonstrate the fragility of this basic result. For example, the empirical literature also finds that:

- More audits may increase compliance but often in a non-linear way, so that the deterrent effect diminishes as the audit rate increases.
- Simply telling individuals that they will be subject to “more scrutiny” via a message often has some impact on compliance, even if of small size and of unknown duration.
- Laboratory experiments nearly always find that there is some compliance even with no audits.
- Audits can sometimes backfire – experiencing an audit does not necessarily increase subsequent compliance, and indeed compliance may actually decline after an increase in the audit rate or the experience of an audit (e.g., the “bomb-crater effect”).
- Some studies suggest that the effect of audits on post-audit tax compliance depends on the type of the audit; that is, many taxpayers do not perceive some types of audits (in particular correspondence audits) as a “real” audit, because they do not even recall their audit experience.
- Given that information available to tax administrations is typically incomplete and imperfect, audits do not always detect tax evasion when it is present and they may even find evasion when it is not present; that is, audit “effectiveness” (or the tax administration’s capacity to detect noncompliance in an audit) and audit “fairness” (or the probability that an audit overestimates a taxpayer’s true tax liability) matter.
- There is evidence that taxpayer responses to audits depend on previous reporting behavior; that is, the same audit rate seems to affect differently taxpayers who are compliant versus taxpayers who are not compliant.
- The overall audit experience (effective or not), the audit outcome (found cheating or not), and the taxpayer reporting history (compliant or not) determine taxpayer post-audit compliance, in complicated ways.
- Experimental evidence shows clearly that, relative to a random audit selection rule, strategic audit selection (especially a “cutoff rule”) is far more effective in increasing compliance than random audit selection, even with identical overall audit rates, although some random selection seems necessary for audit schemes to work.

Most of these “subtleties” cannot be explained by the standard economics-of-crime model and its extensions, and it is only with behavioral economics considerations that explanations for these results emerge. In any event, these “subtleties” – and similar ones that have been found for the other main empirical results – indicate that much more research is needed.

Overall, the theoretical and empirical research indicates that individuals are motivated by narrowly defined, and individually based, financial considerations (e.g., audits, penalties). However, the evidence also indicates that: individuals are motivated by non-financial considerations (e.g., empathy, sympathy, guilt, shame, morality, alienation); they are motivated by social considerations (e.g., fairness, altruism, reciprocity, patriotism, social customs, social norms), along with other considerations (e.g., public goods, voting, neighbor behavior); and they are motivated by information and by the ways in which they process this information. Finally, the evidence is clear that there is great heterogeneity across individuals; that is, individuals cannot be represented by a single representative agent but must be considered a collection of different segments.

This last conclusion – on individual heterogeneity – is especially important for administrative policies to improve tax compliance. Put differently, there is no “typical” individual who responds predictably and reliably to all policies. People are complicated, motivated by many different factors, and responsive (if at all) in different ways. In this regard, Gould (1996) emphasizes that it is grossly misleading to represent a complex system by a single, so-called representative agent, who behaves in some average or typical way. Instead, most systems have incredible variety – a “full house” of individual behaviors – and the proper understanding of any system requires recognition of this basic fact. Indeed, Gould (1996) argues that the ways in which any system changes over time are attributable largely to changes in the amount of variation within the system, rather than to changes in some largely meaningless “average” behavior across its individual members.

This lesson seems especially apt for tax compliance. People exhibit a remarkable diversity in their behavior. There are individuals who always cheat and those who always comply, some who behave as if they maximize the expected utility of the tax evasion gamble, others who seem to overweight low probabilities, individuals who respond in different ways to changes in their tax burden, some who are at times cooperative and at other times free-riders, and many who seem to be guided by such things as social norms, moral sentiments, and equity. Indeed, these many findings suggest that research needs to recognize that a “theory” of taxpayer compliance must really consist of a “full house” of theories, each explaining the behavior of different individuals at different times, even the same individual at different times.

Indeed, recent research suggests that understanding the “full house” of taxpayer heterogeneity is essential in determining a “full house” of policies to control evasion. This research indicates that taxpayers may usefully be divided, or segmented, along several key dimensions, especially awareness, ability, opportunity, and motivation. Devising administrative policies for improving compliance requires recognizing the existence of these many taxpayer segments and then targeting policies appropriately.

2.2. Another brief digression: Technological innovations and tax administration

The basic issue in tax administration has always been *getting information* on taxpayers and their activities, and for much of history tax administrations have not had full, complete, and timely information. Even during much of the 20th century, especially in developing countries but even in developed countries, information has been limited, due to several factors. Many transactions were in cash, so that there was no “paper trail” that could be used to verify the accuracy of any reports. Many types of transactions were

not reported via third-party information, so again there was no paper trail of transactions. Many types of income were also not subject to source withholding, which also decreased the flow of information to the tax authorities. Many types of tax shelters were shrouded in secrecy. Many individuals (and firms) hid income and assets in offshore accounts (e.g., tax havens). Many multinationals were able to shift profits to low-tax jurisdictions via transfer prices that were largely hidden and, even when reported, that could not be independently verified.

Overall, these factors generated several main strategies for tax evasion during much of the 20th century. Individuals (and firms) would fail to report all cash receipts and cash expenses on their tax returns; indeed, many individuals especially in developing countries would simply fail to file a tax return. Individuals would use sophisticated tax shelters that were in principle legal forms of tax avoidance but that in practice shaded heavily into illegal forms of tax evasion. Individuals would move income and wealth into hidden offshore accounts, thereby evading any taxes on the hidden income and wealth, and firms would shift profits to lower tax jurisdictions via various strategies, including the manipulation of transfer prices. The end result was predictable: tax evasion existed, persisted, and flourished in most all countries around the world, largely because tax administrations did not have the information necessary to prevent these practices.

However, technological changes have dramatically and fundamentally affected the flow of information to tax administrations. These changes are of course more concentrated in developed countries, but they are also emerging even in developing countries.

Most all of the technological changes start with “digitization”, or the transformation of information storage into digital formats (e.g., a series of binary numbers) for use by computers. Computers have opened the doors to a range of methods, all of which affect the flow of information to tax administrations, via:

- Information retrieval and storage
- Information transmission
- Information analysis.

Indeed, with the integration of digitization into most all aspects of everyday life, often termed “digitalization”, there have been numerous additional technological innovations, creating has been called the “Third Industrial Revolution”.³

Specifically, briefly, and not exhaustively, these technological innovations driven largely by digitalization include the increasing use of, or growth in, such factors as:

- Electronic “cash”
- Electronic commerce
- Public-key cryptography
- Blockchain technology
- Supply chains
- Peer-to-peer (P2P) networks
- “Apps” and the disclosure of personal information
- Biometrics
- “Big data”
- “Deep learning”, or digital forms of data analysis (e.g., data mining, machine learning, text analytics, cognitive computing, quantum computing, computational research, and artificial intelligence (AI)).

Each of these developments emerges in large part from digitization and its digitalization applications, and each requires an in-depth analysis.

In short, digitalization offers the potential – for government but also for private agents – to generate better information (e.g., more information, more timely information,

³ See Bird and Zolt (2008), Gupta et al. (2017), and Alm et al. (2020) for discussions that emphasize the role of technology in tax administration and tax compliance. For a specific focus on administrative issues, see also IMF (2019) and OECD (2020).

and more precise information), better analysis of this information (e.g., more powerful and more predictive statistical methods), and better designed systems and policies all based on this information and its analysis. Digitalization also offers the potential for abuse of this information.

Technological changes therefore open up new frontiers for tax administrations to improve tax compliance, while also presenting to private agents new opportunities for evading detection and punishment. How will these technological changes affect both the ability of tax administrations to collect taxes and of private agents to cheat on their taxes?

From the standpoint of government and its tax administration, it seems clear that these technological changes have the potential for vastly improving the ability of government to collect taxes, mainly by increasing the ability of government to track and then to analyze any and all transactions that leave some kind of electronic trail. For example, the decreasing use of cash and the increasing use of digital currencies allow the government to track increasing numbers of transactions because digital currencies create an electronic paper trail that government can use to trace and verify many dimensions of taxpayers' reporting decisions. Further, these innovations increase the ability of government to retrieve information (e.g., the Panama Papers); to transmit this information across jurisdictional borders via linked cross-agency governmental databases, linked international data bases, and expanded transparency agreements; and to analyze this information (often with artificial intelligence algorithms). Finally, these innovations allow government to expand greatly the use of tax administration improvements like electronic filing, third-party information returns, and presumptive taxes; to track transactions via P2P networks and even perhaps blockchains and supply chains; and to

monitor workers in large enterprises subject to third-party information and source withholding systems. All of these innovations give tax administrations tools that may reduce the ability of individuals and firms to evade or to avoid their tax obligations.

Of course, the same technologies for information retrieval, transmission, and analysis that are available to tax administrations are also accessible to private individuals and firms. This means that the ability of private agents to hide their income and assets from government tax administrations is enhanced by the ways in which technology makes easier profit-shifting via transfer pricing, locating intangible assets in low-tax jurisdictions, intra-group debt-shifting, treaty shopping, corporate inversions, and tax deferral. Technology also makes it easier for individuals and firms to utilize global supply chains both for locating income in tax havens and for engaging in tax evasion via money laundering. Blockchains also are seen as making money laundering easier, although it is increasingly believed that the supposed anonymity of blockchains may be overstated. Finally, the growing use of P2P transactions, many of which involve “independent contractors” and the “informal sector”, may in fact make it easier for participants to hide these transactions from the tax authorities, given the relatively small financial size of these taxpayers together with the absence of an electronic trail for many of the P2P transactions.

Which of these trends – those toward more compliance versus those toward less compliance – will dominate? It is of course impossible to predict these trends, or to predict trends that are as yet still unknown. Even so, I believe that a strong case can be made that the dominant technological trend will be toward the ability of tax administrations in all countries to access better information, to conduct better analysis of

this information, and to design better systems and policies, all of which will improve its ability to enforce the tax laws. However, this prediction depends upon two crucial conditions being met.

First, tax administrations *within each country* must be given the resources to access, analyze, and utilize this information, in order to stay ahead of those individuals wishing to cheat on their taxes. Second, tax administrations *across countries* must establish the necessary policy coordination and information exchanges to utilize these new technologies, again in order to stay ahead of those individuals who intend to evade. So my conclusion is that tax evasion will tend to decrease in the future – as long as government tax administration funding is adequate and as long as international policy coordination is achieved. It is certainly possible, even plausible, that both conditions will be met. Even so, if recent history is any guide, one cannot be too sanguine here.

2.3. An in-depth look at public-key cryptography, blockchain technology, and AI⁴

To illustrate the opportunities and the challenges of these technological innovations, consider just three of them: public-key cryptography, blockchain technology, and artificial intelligence. This discussion indicates that these new technologies do not always suggest an unambiguous positive or negative impact on tax compliance, a conclusion that generally applies as well to the other innovations.

Public-key Cryptography. Ever since the internet emerged, there have been privacy concerns (Froomkin, 2000). Such concerns have not been ill-founded. Routinely and increasingly, there have been internet privacy violations as hackers have scoured the internet and reached into users' servers to secure credit card accounts, identification numbers (like Social Security numbers), and other personal information, with associated

⁴ I am very grateful to an anonymous referee for suggesting expanded discussion of these innovations.

financial, political, and emotional costs. As a means to address these concerns, computer scientists have focused on developing various modes of cryptography to safeguard personal information, developing what is known as “public-key cryptography,” which makes the contents of exchanged information closed to anyone outside of the exchange.

The potential implications of public-key cryptography for tax administrations are vast. Currently, there are many individuals who use fake or falsified personal identification numbers to secure fraudulent tax refunds, costing the victims, as well as the government, billions of dollars. These scams are hard to detect, forcing the tax authorities to spend massive amounts in an attempt to reduce this fraud. Suppose instead that a tax administration issued a “key” to every taxpayer. Instead of utilizing a personal or an employer identification number, taxpayers would use this unique and designated key to submit their tax returns. This process would both ensure taxpayer privacy and inhibit scammers from securing tax refunds.

Blockchain Technology. In 2008, an individual identified only as “Satoshi Nakamoto” published *Bitcoin: A Peer-to-Peer Electronic Cash System*, which described a P2P electronic cash system known as “Bitcoin” (available online at <https://bitcoin.org/bitcoin.pdf>). Since then, the underlying architecture of Bitcoin (e.g., the “blockchain”) has become much more than an infrastructure for electronic payments. Blockchain is a decentralized ledger that records both ownership and value transfers with no need for a trusted intermediary. As such, blockchain provides a novel framework for autonomously executed transactions that traditionally required a trusted third party. Indeed, contractual arrangements (“smart contracts”) can be programmed onto the blockchain and automatically executed once a triggering event occurs. Since the

contractual execution is decentralized, neither a party to the contract nor a third party like a government can prevent execution. For example, inheritance funds can be programmed to be transferred to an heir when that heir reaches a certain age, and business profits can be programmed to be distributed once certain financial targets are met. The blockchain can even facilitate tangible transfers (e.g., the operation of a vehicle ignition can be conditioned upon complete transfer of funds from a buyer's account to a seller's account). Blockchain technology essentially creates a "private regulatory framework".

While such a system may offer some societal benefits, it also presents significant challenges to a tax administration. For example, blockchain technology offers the ability to document value transfers without the need for a trusted intermediary, such as banks, credit card companies, or other financial clearinghouses. Such *disintermediation* presents a unique challenge to any tax system because modern tax enforcement relies heavily on reporting by financial intermediaries via third-party information reporting. Indeed, empirical evidence demonstrates that tax compliance rates are significantly increased when third-party reporting is involved. Taking financial intermediaries out of the picture by blockchain technology necessarily weakens the enforcement mechanism.

Relatedly, the problem of disintermediation is exacerbated by the high level of *anonymity* that blockchain technologies accord their users. Blockchain applications can operate with no need to identify participants. Anyone can start a blockchain "wallet" at virtually no cost, without providing any identifying information. Parties do not even need to know one another for a transaction to be consummated. This anonymity makes it hard – if not impossible – for tax authorities to detect the identity of tax cheats who use a blockchain to facilitate their illicit activity. Blockchains are thus a particularly powerful

instrument in the hands of tax evaders, even in the face of recent advances in international tax enforcement. The combination of disintermediation and anonymity led to an early characterization of blockchain applications as “super tax havens” (Marian, 2013), although this view has recently been questioned (Marian, 2026).

Further, another unique aspect of blockchain technology is its *tamper resistance*; that is, once information has been recorded to a blockchain, it becomes exceptionally hard to change or delete. Transactions cannot simply be undone because undoing a transaction requires a majority of the dispersed network participants to agree to undo the transaction, a near-impossible task. When tax evasion is involved, once a transaction is executed, no one – not even government – can unwind the transaction. This means that, even if fraud is identified, no one can remedy it, thereby making the recovery of lost tax payments especially challenging even if the illicit activity is discovered.

Finally, blockchain facilitates the autonomous execution of smart contracts, so that once a malicious code is released using blockchain, the code cannot be stopped from its execution, even if someone becomes aware of the code’s existence. The execution is based on a dispersed confirmation process (e.g., *autonomy*), and governments cannot simply ask what may amount to millions of users to stop using a particular blockchain application. In fact, these autonomous systems do not need to abide by existing rules and jurisdictional constraints, and these systems can even be designed to bypass or simply ignore the laws of any particular jurisdiction. Even when tax authorities identify a blockchain-based application aimed at tax evasion, there is little that a government can do short of shutting down the internet.

These blockchain technology traits have led scholars to note the potential of blockchain technology to be used as an instrument of tax evasion (Marian, 2015; Viswanathan, 2018), and there is at least some anecdotal evidence from court cases that the technology is being used in this way.

*Artificial Intelligence.*⁵ An especially important technological development is artificial intelligence (AI), or the process by which machines attempt to duplicate and even surpass the cognitive abilities of humans. While AI has many dimensions, one of the primary ways it functions is through the use of algorithms, or a set of unambiguous instructions that a mechanical computer can execute. What differentiates the AI of today from that of previous years is that technicians have developed algorithms that can self-enhance, becoming “smarter” and also far more efficient and more effective as they receive more data.

Indeed, recent research has demonstrated that, when fed appropriate data and using various supplied algorithms and those that it may develop on its own, AI can anticipate and predict particular modes of tax evasion, and do so more effectively than human agents. In particular, machine learning models applied to administrative data can substantially improve the efficiency of audit selection, thereby modifying the effective probability of detection and having direct implications for the tax design of future reforms. For example, in an empirical exercise for Italy, Battaglini et al. (2024) show that replacing the 10 percent least productive audits with taxpayers selected by an algorithm increased detected evasion by up to 38 percent and recovered payments by up to 29

⁵ I am grateful to an anonymous referee for suggesting this expanded discussion of AI.

percent.⁶ Similarly, the OECD (2025) report on AI in tax administration argues that the adoption of algorithms requires governance frameworks, including traceability, transparency, and bias control, which introduces a new institutional chapter in tax design.

Another issue related to AI concerns considerations regarding artificial intelligence and new taxable events and their taxation. As Bastani and Waldenström (2024) point out, AI is transforming both taxable events and tax bases, as well as countries' tax administration capabilities, with significant implications for the balance between taxing labor versus capital, something that should clearly be taken into account in the design of future tax reforms.

2.4. The functions of a tax administration: Tax administration as a “production function”

As argued by Bagchi, Bird, and Das-Gupta (1995), it is helpful to view the tax administration process as a “production function”, in which “inputs” (e.g., personnel, materials, information, laws, procedures) are used to produce “outputs” (e.g., government revenue, taxpayer equity, social welfare). Consider both dimensions.

As noted earlier, a tax administration exists primarily to raise the revenues needed to finance government expenditures. This means that its basic tasks are to *assess* tax liabilities, to *collect* these taxes, and to *enforce* the tax laws in order to ensure that taxpayers comply with their obligations. In doing so, a tax administration’s more detailed functions – its “outputs” – include:

- Insuring integrity of the registered taxpayer base.
- Providing effective risk management.
- Supporting voluntary compliance.

⁶ Note that algorithms have not always been found to be more efficient than human agents. For example, Bachas et al. (2025) recently conducted a field experiment in Senegal in which half of Senegal’s annual audit program was selected by tax inspectors and the other half by a transparent risk-scoring algorithm. Perhaps surprisingly, the algorithm-selected audits were 18 percentage points less likely to be conducted, detected 89 percent less evasion, were less cost-effective, and did not reduce corruption.

- Encouraging on-time filling of declarations and returns
- Insuring on-time payment of taxes.
- Assisting accurate reporting in declarations and returns
- Providing mechanisms for effective dispute resolution
- Fostering efficient revenue management (e.g., accounting for revenue collections, monitoring budgets, forecasting revenues, paying legitimate tax refunds).
- Promoting accountability, transparency, and trust.

An even broader perspective suggests that “outputs” might include higher tax effort, greater compliance rates, lower compliance costs, more political acceptance, less official corruption, greater economic growth, more macroeconomic stability, more equitable distribution of tax burdens, higher social welfare, and so on.

As for “inputs”, the most basic input is information, as emphasized earlier. More specific inputs clearly include labor, capital, and information inputs, including the ways in which technology affects the transformation of inputs into outputs. On a practical, measurement level, these inputs encompass the size and composition of the labor force (e.g., clerical, maintenance and janitorial, audit, client account management, information technology, debt collection, corporate management, and all other), measured by the number of employees or in salaries. Inputs also include capital inputs, again broken down by the specific function of the capital stock, as well as information on taxpayers’ activities. Inputs can also be measured by such metrics as the number of audits completed, additional assessments from these audits, the time required to complete these audits, the number of appeals of these audits, the number of taxpayer phone calls that are answered, the speed with which these calls are answered, the number of tax returns that are filed

electronically, and the like. Again, technology is an important part of the entire production process.⁷

2.5. *What are the implications of this work? Three “paradigms” for tax administrations*

What does all of this work suggest about the role of a tax administration?

As discussed earlier, a tax administration’s most basic tasks consist of three main activities: the assessment, the collection, and the enforcement of taxes. What this means in practice is that the primary function of a tax administration is to ensure that taxpayers pay their legally due tax liabilities. How can a tax administration best achieve this goal?

Three “paradigms” for tax administration emerge from this research, paradigms that relate directly to the goal of ensuring compliance with the tax laws.⁸ These paradigms start with a government compliance strategy based on detection and punishment. However, these paradigms also go well-beyond one that emphasizes only enforcement to include a range of additional policies for which there is now emerging much theoretical and empirical support.

Under a first paradigm – what has been termed the traditional *Enforcement Paradigm* – the emphasis is exclusively on repression of illegal behavior through frequent audits and stiff penalties. This has been the conventional paradigm of tax administrations throughout history, and it fits well the standard portfolio model of tax evasion based upon the economics-of-crime theory.

However, research also suggests a second paradigm, one that acknowledges the role of enforcement but also recognizes the role of tax administration as a facilitator and a provider of

⁷ For a recent attempt to define precisely and to quantify accurately administrative inputs and outputs across countries, see the Tax Administration Diagnostic Assessment Tool (TADAT) of the International Monetary Fund (IMF) (2019). For an empirical application of this production function approach, see Alm and Duncan (2014).

⁸ See Alm and Martinez-Vazquez (2003), Alm and Torgler (2011), and Alm (2019) for extended discussions of these paradigms. See also Dom et al. (2022) for a very similar perspective on these paradigms, which has provided the foundation for much recent field work on compliance by the World Bank.

services to taxpayers-citizens, in order to assist taxpayers in every step of their filing returns and paying taxes. This new *Service Paradigm* for tax administration fits squarely with the perspective that emphasizes the role of government-provided services as a consideration in the individual tax compliance decision; it is also one that fits easily into the “cooperative compliance” approach that is increasingly used in tax administrations around the world. Indeed, the most recent literature on tax administration reform has emphasized this new paradigm for tax administration as a facilitator and a provider of services to taxpayer-citizens, and many recent administrative reforms around the world have embraced this new paradigm with great success.

A third paradigm is also suggested by recent work, especially the emerging work that sees the taxpayer as a member of a larger group, as a social creature whose behavior depends upon his or her own moral values (and those of others) and also upon his or her perception of the quality, credibility, and reliability of the tax administration. This approach is called the *Trust Paradigm*. It is consistent with the role of various behavioral economics factors like social norms broadly defined in the compliance decision. It is based on the notion that individuals are more likely to respond either to enforcement or to services if they believe that the government generally and the tax administration specifically are honest, and if they believe that other individuals are similarly motivated; that is, “trust” in the authorities – and in other individuals – can have a positive impact on compliance.

The implications of these paradigms for tax administration reform are discussed later.

3. Tax reform

3.1. *Why reform taxes?*

Countries differ considerably in their motivations for tax reform.⁹ Even so, the basic issues that motivate tax reform are often quite similar across countries.

The tax system does not generate adequate tax revenues. Most all countries around the world are facing large, persistent, and growing fiscal deficits. It is often believed – or hoped – that tax reform will address these deficits, or at least reduce them.

Relatedly, *there is a narrow and shrinking tax base.* A reduced tax base requires higher tax rates on what remains, and higher tax rates generate larger distortions in behavior.

In addition, *there are often large amounts of potential tax revenues that are not collected due to (illegal) tax evasion and (legal) tax avoidance.* Evasion and avoidance both reduce the revenue and the elasticity of the tax system. They necessarily undermine the horizontal and vertical equity of the tax system, since equals are no longer taxed equally and the well-to-do are generally more successful in exploiting opportunities for evasion and avoidance. In the presence of evasion and avoidance, the actual allocative effects of the tax system are likely to differ significantly from those implied by the statutes.

There is widespread use of special tax incentives. There is little doubt that incentives – including place-based tax incentives – can generate benefits for an economy, including increases in investment, gains from industrialization, the creation of jobs for persons who otherwise would be unemployed or unemployed at lower wages, the transfer of technology and training, and increases in revenues from (other) taxes due to any

⁹ There is an enormous literature on tax reform around the world. For a representative and comprehensive discussion, see Alm, Martinez-Vazquez, and Rider (2006).

increase in economic activity. Further, a common argument is that, without fiscal incentives, domestic firms simply cannot compete in the world economy, especially firms in the manufacturing and the tourism sectors. However, incentives also come with some costs, including most obviously the loss of revenue, distortions in investment behavior leading to social unproductive investments, administrative complications, political discord generated by favors to foreign-owned corporations, and discrimination against smaller firms that lack the resources and/or the influence to apply for incentives. In the few instances in which benefits and costs have been objectively and rigorously quantified, the analyses show that the benefits are positive but small, and smaller than their costs.

Relatedly, *there is often a claim that taxes can be used to generate economic growth*. Closely related to the issue of tax incentives is the notion that the tax system can be used to encourage economic growth. There is a large literature that attempts to demonstrate the possible linkage between taxation and economic growth. Much of this literature is somewhat inconclusive, but most recent work finds that, although there are some connections between policy variables and economic growth, these results are very fragile.

The tax system is excessively and unnecessarily complex. Over time, many tax systems have been amended to raise revenue, or to respond to the wishes of some pressure groups for a more favorable tax treatment, or to promote specific activities, or to protect the poor. Each of these special treatments has the potential to complicate the tax system. Complexity in turn leads to higher administrative costs, more arbitrariness in administration, and an increasing erosion of confidence in the tax system. Taxpayers are not inclined to pay a tax that they do not understand, they shy away from full compliance

when compliance costs are high, and they are more likely to escape paying their full tax obligation when the government is given the difficult job of classifying and monitoring the compliance of taxpayers.

There are horizontal inequities in tax systems, such as:

- Some individual income taxpayers receive non-taxable allowances while others do not receive allowances or receive them at a lower rate. The result can be widely different tax burdens, even for households with the same income.
- Some consumers face very different effective excise tax rates than others, given the uneven pattern of exemptions on the consumption taxes.
- In addition to formal provisions for tax relief, there is often discretionary relief on a case-by-case basis.
- The horizontal inequity that may be the most contentious in many countries is that between workers subject to income-tax withholding and workers in the self-employed sector.

There are also vertical inequities in taxation, based on a widespread impression that many individuals – and businesses – do not pay their “fair” share of taxes, due largely to the existence of legal and illegal means to reduce tax liabilities that are seen as used primarily by higher-income individuals.

The tax system generates significant static and dynamic efficiency costs. One form of inefficiency arises from complexity and the resulting high compliance costs of taxation. Taxes also introduce a wide range of distortions in individual and business behavior. For individuals, the individual income tax creates incentives for sheltering income, for buying homes, for making charitable contributions, for working less, for saving less, for engaging in other specific tax-preferred activities, among many other decisions. For businesses, the corporate income tax affects the investment and labor choices of corporations, it creates incentives to finance investment with debt rather than equity, it leads firms to keep profits within the corporation rather than pay dividends to owners, it

influences mergers and acquisitions of corporations, it affects corporate decisions on inventory valuation, it changes corporate decisions on tax-deductible activities, it encourages firms to move jobs (and income) overseas, it encourages firms to invest enormous amounts in tax-reduction activities, and the like. In addition to these largely static distortions, taxes have been shown to have dynamic costs, due mainly to their negative effects on economic growth.

The current system is often an outdated and an ad hoc system. Most all tax systems have failed to evolve fully in ways that reflect the changing economic circumstances of governments in open economies. Most current tax systems were originally designed for a world in which production and consumption were primarily of tangible goods, in which the sale and consumption of these goods generally occurred in the same location, and in which the factors of production used to make the goods were for the most part immobile. In such a world, taxation was a fairly straightforward exercise: sales and excise taxes could be imposed by the government in the jurisdiction in which consumption (or production) occurred, income taxes could be imposed on factors where they lived and worked without fear that taxes would drive the factors elsewhere, and a government in one jurisdiction had no need to consider how its actions would affect the governments in other jurisdictions because tax bases were largely immobile. Globalization changes things, and changes them dramatically: globalization implies that tax bases are significantly more mobile; it implies that the measurement, identification, and assignment of tax bases are much more difficult; and it implies that the ability of any government to choose its tax policies independently of those in other countries is greatly curtailed. Such international issues must be incorporated in any tax reform discussion.

Finally, and of most relevance here, *there are significant limitations in tax administration*. If taxes cannot be administered efficiently and equitably and adequately, then the basic goals of taxation simply cannot be achieved.¹⁰

3.2. *What are the lessons from tax reforms?*

In my own view, there are several main lessons from tax reforms, drawn from both successful and unsuccessful reform efforts in both developed and developing countries. Each of these lessons is largely independent of specific policy details of the tax reform efforts. These lessons focus instead on broader issues in the process of tax reform, all of which also lead to my own later conclusions on when tax reform is most likely to be successful.

First, tax reforms must consider the specific circumstances of the country: there is no one-size-fits-all tax reform. Now it is the case that most reforms broaden the base and reduce the rates. Even so, the precise ways in which this is done certainly vary across the institutions, the traditions, the economic policies, and so on of the specific country. All of these factors must be considered.

Second, reform must be guided by principles; that is, reform requires a “plan”. For example, what are the main goals? What are the main priorities? When faced, inevitably, with tradeoffs, how will these tradeoffs be balanced? What is the underlying set of principles that guide the reform? These are all essential questions that must be addressed at the very start of the tax reform process. In formulating this “plan”, we need to remember that there is much that we do not now – and probably cannot – know.

¹⁰ For extensive discussions of the role, and the limitations, of tax administration, with a special focus on developing countries, see the many papers of Richard M. Bird, including: Bird (1983), Bird (1989), Bird (2004), Bird (2010), and Bird (2015).

Third, leadership is essential. Ultimately, someone must lead any tax reform effort, answering basic questions about the details of the reform, providing justification for the reasons behind these details, and mobilizing political support for the reform.

Fourth, comprehensive reforms are often better than piecemeal reforms. Now this goes somewhat against much conventional wisdom, and there are certainly risks that disaster can result when a system is shocked too much from a comprehensive reform.

Even so, under many conditions comprehensive reform can work because:

- Everyone recognizes that the system is broken.
- The government and the taxpayers need time to absorb the shock, and the time involved in the discussion of comprehensive reform often allows this.
- There is sufficient time for the tax administration to absorb the changes.

More generally, the reasons for preferring comprehensive reform to piecemeal reform include such considerations as:

- Comprehensive reforms ensure that the separate pieces of the reform fit together, so that the pieces are “right.”
- Comprehensive reforms ensure that everyone gains—and everyone loses—from some or another specific change, which increases the political likelihood of passage.
- Comprehensive reforms ensure that everyone recognizes that the system of taxation is “broken” and needs to be fixed.
- Comprehensive reforms ensure that the momentum of reform is maintained.
- Comprehensive reforms ensure that the gains (and losses) are large enough for taxpayers to actually see.

Fifth, timing is important. The best time for comprehensive reform is – again paradoxically – often in bad economic times, since this ensures that everyone’s attention is focused and that everyone recognizes the necessity of tax reform. The best time is also – not surprisingly – when there is no election looming.

Sixth, empirical analysis is often difficult but is crucial, both for determining the details of any reform and in selling any reform. Data are often problematic. Even so, it is

essential to try to quantify the effects of tax reforms. Such quantification is especially crucial in determining the distributional effects of tax reforms and in making the political case for the reform.

Seventh, tax reform should pay attention to the intergovernmental dimension. Most often, tax reform efforts focus exclusively on the central government. However, fixing things at the central government while leaving in place poor tax policies at the subnational level will often compromise the goals of tax reform. Especially in countries with a strong tradition of subnational government finance, the impact of central government tax reform on state/provincial and local/municipal taxes is a crucial consideration and one that is not typically given appropriate – or even any – consideration.

Eighth, tax reform must recognize the impact of globalization. As noted earlier, most current tax systems were originally designed for a world in which production and consumption were primarily of tangible goods, in which the sale and consumption of these goods generally occurred in the same location, and in which the factors of production used to make the goods were for the most part immobile. Globalization implies that tax bases are significantly more mobile; it implies that the measurement, identification, and assignment of tax bases are much more difficult; and it implies that the ability of any government to choose its tax policies independently of those in other countries is greatly curtailed. These considerations must be incorporated in any tax reform discussion.

Ninth, reforms must consider transition issues. Any major tax change can involve the creation of a new administrative structure. A comprehensive reform can have massive

impacts on asset values. Any reform also creates transitional winners and losers. These transition issues cannot be ignored.

Tenth, and of most relevance for my discussion here, reforms must consider implementation issues. After all, tax reform typically involves major changes in the underlying tax structure of a country. Successful reforms require that these changes then be implemented effectively, and this almost always requires a major reform in the tax administration itself, given especially that one reason for tax reform in the first place is an ineffective tax administration. Indeed, this is the first of my two main conclusions: *a successful reform of a country's tax system requires also a concomitant and concurrent successful reform of a country's tax administration.*

However, a corollary here is also important: *While the administrative dimension is important, it is necessary first to get the policy "right" before dealing with administrative problems.* Any major tax change can involve the creation of a new administrative structure, and the implementation issues surrounding such a new administrative structure must be addressed. Indeed, a poor tax administration performance may be due in part to a poor, overly complicated tax structure, and so it may both be that the poor tax structure is driving poor administration and that fixing the tax structure (e.g., by simplification) may make fixing the administration easier to accomplish. Still, it is the formulation of the new, reformed tax policy that is the essential first step in any successful tax reform. If the tax reform leaves a "bad" tax policy still in place, the result will still be "bad" outcomes, even with an improved tax administration.

One last lesson relates to the conditions – political and economic – under which tax reform seems most likely. In my own experiences, the necessary (if not sufficient)

conditions for a reform to be enacted are several. First, the tax system must be widely seen – by most all relevant players – as “broken”. Second, there needs to be consensus on how to fix it; that is, there needs to be a “plan”, along with general agreement on this “plan”. Third, there needs to be a strong champion who can generate political support for reform.¹¹

To illustrate the role of these conditions, consider a now somewhat dated example of a successful U.S. tax reform, the Tax Reform Act of 1986 (TRA86). Without going into the details of TRA86, I think a compelling case can be made that there was a “perfect storm” surrounding its successful enactment:

- There was a consensus among most tax experts, and especially among most taxpayers and most elected officials, that the system needed fixing.
- There was also a widespread consensus on how to fix the system – cutting rates, expanding the base, and keeping an income base (e.g., the “Broad Base, Low Rate”, or BBLR approach to tax reform), so there were obvious and easy selling points (e.g., reduce tax shelters, increase the corporate tax burden, lower individual marginal tax rates), and there was also even some ambiguity/uncertainty about who would actually pay for the reform.
- There was a political leader (then U.S. President Ronald Reagan) who was popular and who was able to generate political support for reform – and he already had a track record of bipartisan legislation.

Similar “perfect storms” surrounded successful tax reforms in many other countries, like Colombia in 2000 and Jamaica in 1985, which are (not coincidentally) tax reforms on which I worked.

Consider instead a much more recent – and unsuccessful – attempt at even a small reform in U.S. tax policy. Most economists see tax expenditures as inefficient, inequitable, and costly.¹² However, recent efforts to reduce tax expenditures have gone nowhere, even in the face of huge fiscal deficits and enormous public debt. As only one

¹¹ See Alm (2026) for a recent analysis of what drives tax policy choices.

¹² For a somewhat contrary, if distinctly minority, view, see Alm (2018).

example of the failure to eliminate tax expenditures, consider the state and local tax (SALT) deduction, a tax expenditure that allows individuals to deduct their state and local taxes from adjusted gross income before calculating their individual income tax liability. The Tax Cuts and Jobs Act (TCJA) of 2017 imposed a cap on how much an individual could deduct in state and local taxes, limiting the SALT deduction to \$10,000 for both single taxpayers and those filing jointly starting in tax year 2018, with the cap expiring at the end of 2025. Despite this cap, it is clear that eliminating completely the SALT deduction is one obvious way of simplifying the tax code, improving its progressivity, and raising revenues. However, in 2025 political discussions, Democrats in high-tax states were in favor of raising (even eliminating) the cap, despite the fact that they otherwise are against “a tax cut for the wealthy”. Republicans from high-tax states also wanted to raise/eliminate the cap because many of their constituents benefit from the SALT deduction – despite the fact that Republicans otherwise claim that they want to reduce deficits and debt. So there was “no perfect storm” surrounding the elimination of tax expenditures generally and the SALT deduction specifically:

- There was no real consensus that the tax expenditure system is “broken”.
- There was no real consensus on how to “fix” tax expenditures.
- There was no political leader who was pushing for reduced tax expenditures.

The result is that the SALT deduction, along with most other deductions, remains an important tax expenditure in the U.S. individual income tax, and none of these deductions has been reformed in any significant way.

Indeed, there are many examples of “clever” tax policy reforms that have been suggested by economists over the years but have come nowhere close to actual implementation, such as: optimal tax rules, lifetime income averaging, personal

consumption taxation, random taxation, retrospective capital gains taxation, destination-based cash flow tax on international businesses, carbon taxes, and on and on. The failure of these clever policies is due to many factors, including a failure by economists to engage meaningfully in the political dialogue necessary for successful enactment of these proposals in a democratic society. Even so, the main reasons for their failure are, I believe, a lack of consensus on whether there is in fact a real “problem”, a lack of consensus on whether these proposals actually solve the “problem”, and the absence of a leader who can advocate successfully for their enactment.

4. Reforming tax administrations

Experience has demonstrated clearly that there are three key ingredients for effective tax administration in any country: the political will to implement effectively the tax administration, a clear strategy – or plan – for how to achieve this goal, and adequate resources for this task. Indeed, of these three ingredients, the single most important one for effective tax administration is clear recognition at the highest levels of the political process of the importance of the task and the willingness to support good administrative practices, even if political friends are hurt.

These three ingredients are also essential for any *reform* of a tax administration. Indeed, these three ingredients somewhat parallel the conditions for successful tax reform itself, just as many of the “lessons” of successful *tax reform* apply to successful *tax administration reform* as well. For example, it is essential in tax administration reform that the specific circumstances of the country be considered; leadership is important; comprehensive administrative reforms are usually more effective than piecemeal reforms;

reforms need to be evidence-based strategies; reforms need to consider both the central government tax administration and subnational government tax administrations, at least in countries whose subnational governments play an important role in public finances of the country; the administrative reforms need to incorporate relevant and applicable technological innovations; and so on.

Now these considerations suggest a number of specific features of tax administration reforms that have proven effective in at least some settings. However, an especially important lesson of tax administration reform – and my second main conclusion here – is that it is essential to go beyond individual, ad hoc, and piecemeal strategies to larger and more comprehensive strategies, strategies based on the recognition that the role of a tax administration in the current environment goes well beyond one based only on detection and punishment of those who do not pay all of their legally due taxes. Put differently, successful tax administration reform needs to recognize that reform cannot be limited to enforcement policies alone, especially in an era of rapidly changing technology. Indeed, I believe that there is persuasive evidence that tax administration reforms are most effective when they are based upon the three paradigms of tax administration discussed earlier: reforms need to be pursued in three main areas that work together systematically to increase the likelihood and the threat of punishment, to improve the provision of tax services, and to change the tax culture. In short, my second main conclusion here is that *successful tax administration reform needs to go well beyond changes in enforcement policies alone*. So consider each paradigm and the administrative reforms that each suggests.

First, there will always be scope for a reform in tax administration whose basic thrust is to increase detection and punishment (or the *Enforcement Paradigm*). As noted earlier, there are three main aspects of tax administration: identification and registration, assessment, and collection and enforcement. Reforms in each of these areas are feasible, all of which would enhance detection and punishment. These reforms include such actions as: increasing the number of audits and auditors; improving the effectiveness both of audits and auditors via adoption of modern audit technology, including the use of machine learning algorithms in the selection of returns for audit; increasing both the financial penalties for tax cheating and the non-financial penalties for evasion (e.g., publicizing tax evasion convictions as a form of “shaming”); expanding source-withholding and third-party information sharing arrangements; and increasing taxpayer registration and identification via the use of cross-referencing between different taxes (e.g., checking sales tax vendors against income tax returns) and different tax-related records (e.g., social security records, phone records, financial system data, and agency data bases such as driver’s licenses).

However, administrative reforms need to consider other, broader approaches. So, second, there is scope for reform in the services provided by the tax administration by becoming more “consumer-friendly”, along the lines of the *Service Paradigm* (or “cooperative compliance“ approach) for tax administration, via such actions as: promoting taxpayer education; providing taxpayer services to assist taxpayers in filing returns and paying taxes; improving phone advice service; improving the tax agency

website; simplifying taxes; simplifying the payment of taxes; and simplifying tax forms. The basic thrust here is to treat the taxpayer more as a client than as a criminal.¹³

Third, there may be scope for a governmental-led reform in the culture of paying taxes, consistent with the *Trust Paradigm*. This paradigm is probably the least understood and the least researched of the three paradigms. Even so, some recent research suggests several strategies that show promise in increasing trust, and there are several elements here that need special emphasis.

First, there is much emerging evidence that trust – and especially trust in government – is a major factor in shaping the effectiveness of public policies. When trust in government is weak, many government policies do not achieve their goals because people simply do not follow the government’s laws, regulations, and directives. Second, there is also much emerging evidence that trust is not fixed and given and immutable, mainly determined by a country’s history and culture and institutions, as was once believed. Instead, recent evidence indicates that trust can vary significantly, even over relatively short periods of time. Third, and relatedly, there is also emerging evidence that trust in government can be affected in systematic ways by systematic policy interventions.

The third element is of most importance here: trust in government can be affected in systematic ways by systematic policy interventions. This evidence comes from laboratory experiments, from field studies, and from empirical work on the drivers of trust. In many ways, the strategies available to government to improve trust reflect the standard self-help strategies that are suggested to improve trust in personal relationships. These interpersonal strategies include such standard bromides as: “Communicate

¹³ The U.S. Taxpayer Advocate Service (<https://www.irs.gov/taxpayer-advocate>) provides detailed discussions, rationales, and analyses of these and other strategies for improving taxpayer services.

effectively”, “Be transparent”, “Be honest”, “Honor your commitments”, “Admit when you are wrong”, and “Apologize”. All of this evidence suggests that governments can do some specific things to improve trust in government.

For example, there are some obvious strategies such as: using the mass media to reinforce tax compliance as the social norm – and publicize cheaters; emphasizing the link between payment of taxes and the receipt of government services; targeting certain groups (e.g., new firms or employees) in order to introduce from the start the notion that paying taxes is the social norm; enlisting other organizations to promote compliance so that it is seen (again) that paying taxes is the accepted pattern of behavior; avoiding actions that lead individuals to think cheating is “okay” – a tax amnesty is a classic example of sending the wrong signal; and addressing perceived inequities in the ways people feel that they are treated. Emphasizing the link between taxes paid and services received has shown considerable promise in many developing countries, especially as a way of improving compliance with the property tax in municipalities.

Admittedly, strategies for changing the culture of paying taxes are the most difficult to devise and are the most in need of additional research. Regardless, the general thrust of these reform strategies is to demonstrate to taxpayers that they receive something for their tax payments; that is, these reforms need both to establish and to reveal the basic elements of reciprocity that often seem absent in civic life these days, elements that are necessary to improve citizen trust in government.

Indeed, it is actual and enacted governmental policies that seem to matter the most, and the area where a government probably has the greatest ability to generate trust is in the performance of its traditional responsibilities. It is plausible that the public has lost

trust in government mainly because individuals do not believe that government contributes to the greater good, that it does not deliver on its promises, that it is not transparent, that it is not looking out for peoples' interest. These perceptions provide government with an opportunity to act, and so to demonstrate that it can support people in their desire to live better, more fulfilling, and healthier lives.

What do these very general musings suggest? There are certainly some broad national government strategies that have been shown in empirical work to affect trust:¹⁴

- Reduce inequality – inequality is one factor that shows up consistently as a driver of social and political trust, both at the national and at subnational levels across and within countries
- Reduce perceived governmental corruption or incompetence, another factor that shows up consistently
- Reduce economic and racial segregation (largely via its effects on inequality and fairness)
- Improve the social safety net (also via its effects on inequality and fairness)
- Implement policies to increase economic growth (like infrastructure investments)
- Be transparent – and accountable – in the enactment and the implementation of any policies.

These strategies try to make it obvious that the national government is working for people.¹⁵ However, these strategies are easier said than done, they are unlikely to do much in the short run, they require actions that go well beyond the traditional functions of a tax administration, and it is hard to be very optimistic that they can be implemented at

¹⁴ See especially Glaeser et al. (2000), Alesina and La Ferrara (2002), Fehr (2009), and Organisation for Economic Co-operation and Development (OECD) (2017, 2018). This research is complicated especially by the difficulty of determining cause-and-effect, making identification of the causal effect of some variable on trust quite difficult. With this qualifier, empirical work on the drivers of trust in government tends to find that trust is lower for individuals: who have a history of traumatic experiences (e.g., war, social upheaval); who belong to a group that feels historically discriminated against (e.g., Blacks, Hispanics, women); who have more exposure to the media; who have less education and less income; who live in a racially mixed community, a community with significant income disparities, and/or a community with greater immigration; who live in a society with more government corruption and/or less social safety net protection.. Individual and societal factors like age, openness, optimism, risk aversion, political affiliation, civic engagement, or religion have mixed and inconsistent impacts.

¹⁵ See especially Rothstein and Uslaner (2005), Uslaner (2008, 2012), and Keefer and Scartascini (2022). For a rigorous theoretical demonstration of the effects of reciprocity on trust in government, see Besley (2020).

the national level, fully or even in part, given the current highly partisan political environment in nearly all countries around the world.

I am much more optimistic that there are local government strategies that can work, largely because of the success of natural and controlled field experiments on tax compliance that demonstrate that individuals respond to local government initiatives led by the local tax administration itself and targeted at individual trust. These experiments have been funded by international organizations like the World Bank, the Inter-American Development Bank, and the International Centre for Tax & Development, often in partnership with outside researchers. The most relevant field experiments here are those that attempt to increase trust in government as a compliance strategy. Importantly, most all of these trust experiments occur at the local government level in developing countries, in Asia (e.g., Pakistan), Latin America (e.g., Argentina, Brazil, Colombia, Costa Rica, Guatemala, Mexico, Peru, Uruguay), and Africa (e.g., Ethiopia, Ghana, Kenya, Liberia, Malawi, Rwanda, Sierra Leone, South Africa, Tanzania, Uganda). The results vary significantly by type of strategy, but they all rely at least in large part on strategies that improve trust and so improve tax compliance, as suggested by the *Trust Paradigm*.

These strategies include such specific actions as: providing information to individuals that allows them to see more clearly the link between the taxes they pay and the local government services they receive; allowing individuals to determine the use of their taxes; improving transparency in local government expenditure provision (e.g., providing accessible information on government services, holding forums to publicize government programs, introducing participatory budgeting); improving transparency in local government taxes and in tax collection (e.g., providing simplified tax assessments,

allowing for individual appeals of tax assessments); sending information to participants about the compliance behavior of their neighbors; sending different types of messages to participants about government policies (e.g., enforcement messages, information messages, social norm messages); improving the responsiveness of local government via improved voting systems; providing improved local government infrastructure; encouraging the growth of local community organizations; and providing educational services to participants to make it easier to pay taxes. All of these strategies represent an attempt to make local government more accountable to its citizens, taking responsibility for positive – and negative – actions, and thereby improving trust in government. A common if not a universal result is that these strategies generally improve individuals’ trust in their neighbors as well as in their local government. Importantly, another common if not universal result is that these strategies improve tax compliance with local taxes, especially the local property tax.¹⁶

Overall, combining the reforms suggested by the three paradigms into an overall strategy has been shown to be a more effective strategy for tax administration reform than introducing these reforms on an individual, ad hoc, and piecemeal basis. Even so, it is not uncommon for a country to implement *only* reforms that have: implemented changes to management, governance, and human resources divisions; established large taxpayer offices that focus on improving compliance of the largest taxpayers; relied upon technological innovations, especially increased automation/computerization of many processes, the expanded use of e-filing, the implementation and the expansion of

¹⁶ For some very recent examples of these field studies, see Weigel (2020), Carrillo, Castro, and Scartascini (2021), Kresch et al. (2023), Castañeda-Rodriguez and Lisi (2024), Brockmeyer, and Prichard, Jibao, and Pillai (2025), among many others. For a more detailed discussion of these and other field studies, see Alm and Farooq (2025).

withholding systems, and greater information sharing among government, taxpayers, and businesses; invested in more effective audit systems, especially in targeting likely tax evaders like high-net-worth individuals; focused administrative reforms on specific taxes, especially the value added tax (via streamlining invoices and refunds); increased their use of presumptive methods of taxation, especially as applied to the agricultural and self-employed sectors; simplified tax forms and tax processes (including curbing the use of complicated tax incentives); and the like. These and other specific innovations in tax administration have often been shown to be effective individual tools for generating greater tax effort.

Still, to repeat what I wrote earlier, my second main conclusion is that a comprehensive tax administration reform strategy that incorporates insights from the *Enforcement*, *Service*, and *Trust* paradigms is more effective in improving tax administration than a strategy based on only one of these paradigms. Again, *successful tax administration reform needs to go well beyond changes in enforcement policies alone.*

In short, reforming tax administration requires that strategies across these three paradigms need to be developed in a coherent plan and pursued in a consistent manner. Put differently, there should be a “full house” of administrative strategies to address the “full house” of motivations for why individuals and firms pay their taxes. Indeed, all of these policies are available to tax administrations that have some independent authority and some budgetary discretion, whether in developed and developing countries, and all rely fundamentally on a tax administration taking advantage of advancing technological tools to access better information, to conduct better analysis of this information, and to design better systems and policies. Even so, the actual evidence supporting these paradigms is not always

fully compelling. Clearly, additional research is required on the potential impacts of these three paradigms, which leads to my final and concluding comments.

5. Conclusions

I believe that there is strong evidence that links *tax administration reform* with *tax reform*. Specifically, *a successful reform of a country's tax system requires also a concomitant and concurrent successful reform of a country's tax administration, and successful tax administration reform needs to go well beyond changes in enforcement policies alone.*

There are no easy fixes either in reforming tax administrations or in reforming tax systems, and there remain many unanswered – and perhaps unanswerable – questions. Research on tax evasion is notoriously difficult given measurement issues. Similarly, research on tax administration is also quite difficult, also due largely to difficulties in measuring tax administration inputs and (especially) its outputs. Even aside from specific questions surrounding tax administrations and their implementation of the three paradigms (especially about the least examined *Trust Paradigm*), there are broader and more fundamental questions that need answers. For example, can strategies that prove effective at the local government level, especially those directed at improving trust, be scaled to the entire country? What is the appropriate sequencing of the three paradigms in their implementation (e.g., does the effectiveness of, say, enforcement depend upon the prior existence of trust)? Why do policies that appear to be the same work in some country settings and not in others?

Still, I believe that we know enough to take at least initial steps to reform tax administrations, as demonstrated in large part by the success of many tax administration reforms around the world. What we do not know is how reformers can generate clear recognition at the highest levels of the political process of the importance of the reform tasks and the willingness to support good administrative practices, even if political friends are hurt. As emphasized earlier, this is the single most important issue for reforming tax administration. There is certainly evidence that efforts to generate this support have been successful in some countries at some times. Indeed, the political case for greater support seems obvious and easy to make: improving tax administrations can generate additional revenues without raising tax rates, can do so in a way that promotes a more equitable progressive distribution of tax burdens, and can at the same time reduce the distorting effects of taxes. However, for whatever reasons, these arguments do not always seem very persuasive, and recent events do not make one very confident that these efforts will continue to be successful. It is incumbent upon all of us as researchers to make these arguments more compelling, both to policy makers and to their constituents.

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