

Redesigning TDS for Transparency and Compliance

A Comprehensive Discussion on Tax Design for Virtual Digital Assets in the Indian Context

May 2024

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Author Dhritiman Murti

Acknowledgement The author thanks the CoinDCX Public Policy team for their insight and support.

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Preface



As nations intensify their efforts to regulate Virtual Digital Assets (VDAs), we are at a pivotal moment in the industry's evolution. The global landscape of VDA regulation varies, reflecting the unique contexts of each country. Notably, during India's G20 presidency in September 2023, there was significant international agreement on implementing harmonized regulations by 2025, enhancing cooperation among nations and Standard Setting Bodies (SSBs).

Regulatory advancements are evident worldwide. The UAE has established the Virtual Assets Regulatory Authority (VARA) to oversee the sector, while Singapore has reinforced its position as a crypto hub through the Monetary Authority of Singapore (MAS), ensuring strict compliance with anti-money laundering directives. Japan empowers its crypto market governance through the Japan Virtual Currency Exchange Association (JVCEA), a self-regulatory organization. Additionally, Hong Kong has introduced a new licensing regime under the Hong Kong Monetary Authority (HKMA) to enhance oversight and safety for crypto traders and investors.

India, with its vibrant Web3 market, stands at a crucial juncture post-G20 presidency. The country's participation could significantly influence its economic landscape for years to come, especially given India's robust digital infrastructure, including the JAM Trinity and high mobile/digital wallet usage, positioning it to lead in this arena.

However, India faces challenges in effectively regulating VDAs, primarily around the existing taxation framework, including the Tax Deducted at Source (TDS) on VDA transactions. While initially envisioned as a transparency and compliance tool, the TDS's current application may not align with the dynamic nature of digital asset markets. With thoughtful realignment, the TDS could be a potent instrument for the government to regulate and benefit from the growing digital asset market. This white paper offers insights and recommendations to optimise the TDS framework, aiming to support sector growth while enhancing compliance and market stability.

Thank you for engaging with this analysis. We hope our recommendations will help shape a regulatory environment that meets current needs and anticipates future developments in India's digital asset landscape.





Table of Contents

Executive Summary	1
1. The Design of TDS and its Implementation in India	4
1.1. Analysing TDS Design as a Tax Evasion Problem	8
2. What is the Relationship between Tax Rates and Tax Evasion?	11
3. Key Influences on LEA's Ability to Detect VDA Evasion	14
3.1. Discussion on P2P and Circumventing URL Block	19
4. How Effective are Penalties in Reducing Tax Evasion?	22
5. Discussion on Tax Rates when TDS works like an Indirect Tax	26
6. Critical Analysis of TDS as a Sin Tax and other Prohibitive Policies	30
7. Takeaways & Recommendations	35
8. References	40
9. Endnotes	44







List of Figures

Figure 1: Crypto Taxation in India	6
Figure 2: How does TDS on VDAs Work?	7
Figure 3: Case Study on Cooperation between VASPs and FIU-IND	17
Figure 4: P2P User Flow, Order Matching & Execution	20
Figure 5: Quarterly Website Traffic by Indians to P2P platforms	21
Table 1: Indian Rankings on Chainalysis Crypto Adoption Index 2021-2023	21
Figure 6: Excess Risk Exposure on TDS Compliant VASPs	28
Figure 7: Bid-Ask Spread (BTCUSD, BPS) April-May 2024	29
Figure 8: Change in Activity on Domestic VASPs versus Global Trends	31
Table 3: Analysis of Crypto Adoption Trends Globally	33







Executive Summary

This document explores the current tax structure for Virtual Digital Assets (VDAs) in India, examining the unintended effects created by the 1% Tax Deducted at Source (TDS) applied to every VDA transaction as outlined in the Finance Act 2022. It also considers the implications of penalties introduced for evasion under the Finance Act 2023, and the impact of banning URLs associated with nine non-compliant offshore exchanges in January 2024. Our discussion sheds light on why the Government of India may not have fully achieved its three primary objectives through the imposition of TDS: enhancing transparency, streamlining income tax collection, and discouraging excessive investment in VDAs. Our insights are informed by an extensive review of pertinent literature on optimal tax policy in the context of potential evasion to form strategic recommendations for policymakers that draw upon both academic insights and practical observations from the Indian VDA ecosystem. We address the following key questions through our analysis:

- 1. Is the design of the current TDS rate and framework for VDAs in India prone to promoting tax evasion?
- 2.Can the TDS, as currently implemented for VDAs in India, effectively function as both a monitoring tool and a deterrent against investment?
- 3. Are VDAs being taxed in a manner that is consistent with the treatment of other asset classes, both within India and globally?
- 4. Could reducing the TDS rate entice users back to compliant platforms and enhance overall compliance?
- 5. What additional amendments could be introduced to improve the success of the TDS scheme for VDAs?

We delve into the economic literature, encompassing both empirical studies and theoretical models, to discuss various facets of taxation and tax enforcement. This discussion leads us to several vital recommendations. Each section tackles the following areas:

- Section 1 introduces the fundamental principles of TDS and its historical implementation in India, highlighting its effectiveness in traditional sectors while pointing out the challenges when applied indiscriminately to VDAs. This section advocates for a more nuanced approach that recognizes the difference between various VDA activities, aiming to ensure equitable taxation and enhance market efficiency. It also explores the theoretical and practical frameworks appropriate for analysing the TDS imposed on VDAs
- Section 2 investigates whether high tax rates, such as the 1% TDS on VDAs, encourage tax evasion. It integrates economic theories with global empirical evidence to argue that lower tax rates might better align with maximising compliance and traceability.

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- Section 3 examines the critical role of detecting tax evasion in VDA transactions, evaluating current mechanisms and proposing enhancements that could significantly improve tax authorities' ability to monitor and enforce compliance on VDA transactions. It also discusses how Indian users are onboarded onto offshore platforms
- Section 4 evaluates the effects and structure of penalties for evading TDS on VDAs, advocating for a balanced approach that deters circumvention without being unreasonably high. It also considers potential adjustments to penalty rates to align them more closely with effective tax administration in the case of TDS for VDAs.
- Section 5 consolidates insights from earlier sections to advocate for a more equitable TDS rate, presenting a model that estimates an optimal TDS rate that balances the need for tax revenue with the goal of maintaining a competitive market for VDAs.
- Section 6 considers the suitability of TDS as a Pigouvian tax and reviews the evidence and outcomes of restrictive policies for VDAs. It critiques the efficacy of current regulatory measures and suggests alternative strategies that could better achieve the dual goals of transparency and streamlined tax collection.
- Section 7 summarises the principal conclusions from earlier sections and proposes amendments to the existing TDS framework for VDAs.

Both the data and the literature suggest that TDS is contradictory by design (as both a tracking tool and a deterrent) and is therefore likely to lead to suboptimal outcomes. However, if the TDS is amended with the intention of promoting tracking and smooth revenue collection, it can be a powerful tool to effectively enforce other policies. For the scheme to realise its full potential, we recommend the introduction of differential treatment for different VDA transactions on par with other asset classes, clear applicability of TDS to offshore exchanges/non-compliant platforms and setting the TDS at a rate that creates a level playing field between offshore and onshore exchanges while levying an appropriate upfront income tax. A brief overview of our recommendations are presented below, and are discussed in detail in the concluding section of the report. We suggest:

- The most effective way to maximise total reported income could be to reduce the withholding tax rate to the minimum observed in other asset classes for comparable activity, e.g. to 0.01% or even 0%. For revenue collection, a tax rate of between 0.01% and 0.05% should be sufficient to collect all income tax due from market makers, while allowing market makers to maintain competitive spreads. Alternatively, a scheme can be introduced that does not provide for withholding tax on transactions, such as Annual Information Returns (AIR), which in combination with the Prevention of Money Laundering Act 2002 (PMLA) can ensure sufficient oversight.
- Building capacity to detect tax evasion is crucial. This involves not only working with industry stakeholders, but also investing in the development of technical enforcement capabilities over time. The creation of the Cryptocurrency Intelligence and Analysis Tool (CIAT) and efforts to establish mechanisms to attribute seized VDAs to specific wallets is a positive step forward. In addition, the exploration of information exchange agreements, like Double Tax Avoidance Agreements (DTAAs), can further enhance tracking capabilities as part of broader international efforts.



- If TDS is reduced, it might be more effective to leave penalty rates at their current level rather than reducing them proportionally. Alternative penalty structures, such as fixed fees for not filing the AIR based on the gross value of transactions or retrospective audits, could encourage compliance. However, it is worth noting that the penalty for evasion of TDS is already fixed at the maximum.
- It is important to raise the relative cost of non-compliance; the application of higher TDS rates and penalties for non-compliant exchanges should be considered along with clear clarification for applicability to trades on offshore platforms.
- A tax framework that reflects the diversity of VDA transactions is also recommended. The introduction of exemptions or preferential rates for TDS for compliant Virtual Asset Service Providers (VASPs) registered with FIU-IND, and the differential application of TDS to high value private or cash transactions would bring the taxation of VDA more in line with other asset classes.
- Finally, an effective licensing regime within a comprehensive regulatory framework is crucial to properly categorise VDA activities, and establish appropriate tax rates and structures that ensure parity with traditional asset classes such as securities and commodities. In the absence of a full regulatory framework, a sandbox for compliant VASPs should be explored as an interim recognition

The Design of TDS and its Implementation in India

TDS is praised for improving tax compliance and income tax collection, and has proven to be particularly effective in areas with predictable income (such as salaried employment), contributing significantly to the widening tax base in India. However, while imposing TDS on VDA transactions, a uniform rate of 1% is applied irrespective of the nature of the transaction or whether or not a particular transaction actually generated income. This is different from the treatment of other assets where different transaction types are taxed differently. The current implementation distorts traders' income and discourages trading on compliant platforms, instead driving users to non-compliant platforms. Our analysis emphasises the need for a nuanced tax approach that establishes equivalence with other asset classes and considers the unique characteristics of VDAs and their market dynamics to maintain tax fairness and market efficiency.

KEY FINDINGS

- 1.TDS has proven to be a successful tax system for tax compliance and income tax collection, and is especially effective in structured environments like salaried employment, where taxes can be collected from many individuals by a single entity.
- 2.TDS generally applies to income and is not applied uniformly to all types of transactions. For example, while TDS is applicable on purchase of gold with cash, it is not applicable on trading of gold on licensed platforms.
- 3. However, TDS on VDAs applies uniformly to every VDA transaction, regardless of its type: applying a uniform 1% TDS to VDA transactions can distort traders' income as it does not consider profit margins or transaction specifics and penalises high-volume, low-margin trading.. Additionally, TDS on VDAs has a higher equivalent rate and lower thresholds than for other assets
- 4. A tax regime should be introduced that reflects the different nature of VDA transactions. For example, a TDS (or TCS) at a rate similar to that of STT/CTT should be introduced for tax compliant VASPs registered with FIU-IND, while TDS can be applied for cash or private transactions above a certain threshold, as is the case with gold.
- 5. The Indian experience with TDS/TCS on gold as well as the introduction of CTT in the commodity market provides some empirical evidence that a rate of 0.1% is above the threshold at which people will remain compliant.
- 6. Ultimately, an appropriate licensing regime is required as part of a comprehensive regulatory framework to appropriately categorise the different types of VDA activities and assign them appropriate tax rates and structures that correspond to other asset classes such as securities and commodities.
- 7. While a regulatory framework is being formed, a sandbox for FIU-IND compliant exchanges (along with other requirements as part of an application) can be introduced in the interim to serve as a recognition similar to that of a licence



What is TDS ideally suited for? As aptly stated in a 1996 NIPFP & UNDP study (NIPFP, 1996) with inputs from over two dozen tax officials from India, Indonesia, Malaysia, and the US, "the most important objective of a TDS scheme is to ensure compliance with income tax laws, and can be said in general, to be a tool to maximise revenue while minimising the cost of collection". In other words, TDS is a scheme to augment tax compliance, i.e. in the models described, TDS is both the tax rate, as well as the mechanism through which compliance is achieved. This distinction is crucial when analysing the optimal TDS design, as TDS is currently the government's primary tool for tracking VDA tax evasion. The aforementioned study recognizes that the problem of tax evasion is a fundamental reason for the existence and expansion of the scope of TDS, while also pointing out that TDS is most effective in a top-down system, i.e. where third party auditing or liability exists (i.e. a company deducting TDS from employees), as "it should be easier to deduct tax from all employees by one employer than for the tax administration to collect from each individual successfully". As a corollary to this, the paper finds that "successful implementation of the scheme of TDS would require proper listing of payers". Thus, we can conclude that TDS is most effective in top-down situations, and most relevant when applied to income, or derived income; which is why receipts from TDS are always placed under direct tax receipts.

TDS has emerged as one of the most effective tax schemes available to policymakers both in India and abroad. A large part of recent success in tax revenue collection has been attributed to TDS, which is widely recognised as an effective taxation scheme globally. The share of TDS in gross direct tax receipts has risen from 32% in FY15 to nearly 39% in FY22 (INR 6.34 trillion), data from the department showed.¹ A large part of this increase can be attributed to a demographic and cultural shift towards salaried work, where TDS can be most effective. For example, a recent SBI study² found that the tax base increased to 81.8 million in 2023, with individual taxpayers earning between Rs 5 lakh and Rs 10 lakh climbing by 295% in the assessment years (AY) 2013–14 and 2021–22, showing a positive trend of migration to a higher range of gross total income. The number of ITRs filed by people earning between Rs 10 lakh and Rs 25 lakh has also increased by nearly 3 times (291%.) during the same period. In such a scenario, TDS is undoubtedly a key tool to increase income tax collection and widen the tax base.

However, in the case of VDAs,TDS is applicable on almost every type of transaction; acting as a direct tax, an indirect tax, a transaction tax like STT/CTT, and a revenue collection scheme (as TDS doesn't generate revenue by itself). For example, when receiving VDAs as income, TDS is appropriate and does not distort final income, as the amount of income tax one would have to pay would not change. However, for traders the 1% TDS on VDAs distorts final income, as the capital that gets locked up reduces the ability of an individual to generate income through profits or recoup losses. This is generally not the case with TDS, which normally applies on income, or derived income. A cursory overview of the TDS rate chart³ reveals the same, with a few exceptions, e.g. e-commerce sales (which attracts a 1% levy on transactions above INR 5 lakh), non agricultural immovable property (above INR 50 lakh), and some specific provisions for 'hard to reach' transactions, i.e. specific transactions involving cash under a certain threshold



What is evident however, is that the way TDS has been applied to VDA transactions is unique as compared to transactions involving other types of assets.

Figure 1: Crypto Taxation in India

- Section 2(47A): Introduced into the Income Tax Act to clearly define and classify Virtual Digital Assets.
- Section 115BBH (2022 Budget): Imposes a 30% tax plus 4% cess on profits from trading cryptocurrencies or other virtual digital assets starting April 01, 2022.
- Section 194S: Levies a 1% Tax Deducted at Source on transfers of cryptocurrencies and other VDAs from July 01, 2022, for transactions exceeding INR 10,000 (up to INR 50,000 in some cases) within the same financial year.
- **TDS Applicability:** Applies to all transfers by private investors, commercial traders, and any transferor of digital assets in a financial year, irrespective of income levels and without distinction between short-term and long-term gains.
- **CBDT Guidance (June 2022)**: TDS deduction can be managed by exchanges or brokers as per official guidelines.
- Indian Exchanges: Handle TDS deduction and remit the balance to the seller, requiring no action from the buyer.

Take e-commerce for example⁴ which also has a comparable levy of 1% on sale of goods by residents (although the threshold for which TDS begins to apply is INR 5 lakh in a year instead of INR 50,000). In the case of e-commerce, transactions are typically one way – e-commerce operators sell, and customers buy; there is a clear distinction between the market participants. The vast majority of transactions in e-commerce (as well as property transactions) are income generating events. For the most part, TDS does not affect the price at which the seller or e-commerce operator acquires or manufactures the goods to be sold. On the other hand all participants on VDA exchanges likely buy and sell, and there is far less certainty that a particular trade will be profit generating (taxable). In short, trading is a fundamentally different activity than selling on an e-commerce platform. In the same vein, trading on an organised market or exchange platform is a sufficiently different activity than private transactions.

A key issue is this lack of differentiation. For example, Gold attracts a 0.1% TCS for transactions under section $206(CR)^5$, a 1% TDS for transactions with cash above INR 2 lakh, and a commodities transaction tax ranging between 0.01% and 0.1% for commodity derivatives. CBDT further clarified that the 0.1% TCS (or 1% TDS under section 194(O)) is not applicable for transactions of securities or commodities on recognized exchanges and platforms. For VDAs, 1% TDS is applied uniformly on all of the above transactions.



Figure 2: How does TDS on VDAs Work?

Starting on 1 July 2022, the Finance Act of 2022 added section 194S to the Income Tax Act, 1961, which requires a 1% Tax Deducted at Source (TDS) on the transaction value of virtual digital assets (VDAs) by the purchaser. For instance, when Rohit acquires Ethereum from Deepak, Rohit must withhold 1% tax from the payment made to Deepak. VDA transactions typically take place through exchanges, serving as intermediaries rather than direct purchasers. Although the responsibility for TDS lies with the purchaser, the involvement of exchanges adds complexity to the direct deduction of tax. To address this complexity, the CBDT released a circular on 22 June under number 13, detailing the TDS deductions via exchanges.

For example, if Suresh purchases Bitcoin valued at ₹1 lakh from Amit via platform Z, which levies a ₹1,000 fee for the transaction, platform Z is tasked with deducting the TDS from the net amount (₹99,000), which amounts to ₹990. If an exchange possesses the VDA being sold, it is obligated to ensure the TDS deduction on sales to buyers, possibly through a formal agreement to manage tax liabilities.

Engagements involving VDA exchanges further complicate matters, as illustrated by Rakesh exchanging 1 lakh units of cryptocurrency C for 2 lakh units of D with Preeti on exchange Z. In this scenario, both participants are simultaneously buyers and sellers, which requires the settlement of taxes and verification before the exchange can finalise the transaction. In situations involving non-cash considerations, platform Z might coordinate tax deductions based on contracts but encounters difficulties with non-cash exchanges. To manage this, Z could withhold 1% of the exchanged cryptocurrencies, converting them to rupees for the payment of government taxes, with no TDS applied to this conversion by Z. The exchange bears the responsibility for keeping records and meeting reporting obligations for all related transactions, ensuring adherence to section 194S.

Gold also provides an illustrative example of the impact of the imposition of a tax in terms of distorting final income as well as tax evasion. Despite the TCS rate being 1/10th of that for VDAs, it still causes significant issues for local gold traders, who are also operating on margins of 5-10 bps⁶. Of note, a recent IIM paper by Susai & Daniels (2024) estimated that over a quarter of gold imported into India is currently being smuggled. In terms of trading on organised exchanges, a CTT capped at 0.1% had significant negative effects on market activity.



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Ghosh & D'Souza (2019), who analysed daily trading data from commodities derivatives markets (MCX) in India between 2006 and 2019, found that price discovery was eroded for major commodities like gold, oil, and silver, while tax revenue from commodities trading dipped overall – reporting a 70% decrease in volumes between 2011 and 2017. The Commodity Participants Association of India (CPAI) reported that volumes on MCX dropped 60 percent from USD 2,717 billion in 2012 to USD 901 billion in 2019. On the other hand, though the revenue from CTT has increased to INR 667 crore in 2018-19 from INR 501 crore in 2013-14, it is way below the government's target of INR 2,000 crore⁷. These data points suggest that both for private trades and trades on organised exchanges, a tax of 0.1% is likely severely distortionary. It is worth reemphasizing at this stage that the tax rates for VDAs are far higher with far lower thresholds (in addition to not being able to set off losses), with a far lower cost of evasion for flight to non-compliant platforms.

SECTION 1.1: ANALYSING TDS DESIGN AS A TAX EVASION PROBLEM

We use the taxonomy of Avi-Yona (2006), which roughly divides the purpose of taxation into three categories:

- 1. To raise revenue for the government
- 2. To redistribute income
- 3. To regulate behaviour

The author also points out that there is rarely a pure tax and that taxes usually have multiple purposes. However, as we will explore, this does not necessarily mean that a single tax can achieve every policy objective. In its publication "Fundamental Principles of Taxation" (2014), the OECD has also set out some principles that should be taken into account when designing tax policy. These are neutrality, efficiency, certainty and simplicity, effectiveness and fairness, and flexibility; and provide parameters for which TDS on VDAs should be evaluated under.

Based on the above framework, we can clearly see that TDS on VDAs falls under the first of the three purposes of taxation – raising revenue (indirectly by promoting compliance and improving traceability) and the third – by regulating behaviour (as a 'Sin'/ Pigouvian tax). At this point, it is important to note that the government's objective is not to maximise revenue per se, as TDS revenue is limited to income tax revenue. Thus, commonly used revenue maximisation frameworks such as the Laffer curve are potentially inappropriate, particularly because adequate data to carry out such an exercise is unavailable, as described in studies such as those by Agell (2001) and Fullerton (1982). The tax rate has been raised from 0% to 1%, which means that there is nothing to compare against and no practical way (at the moment) to measure elasticity.



Instead, we base our analysis on the literature dealing with the regulation of behaviour through taxation and the impact of tax rates and tax structures on tax evasion. Considering that one of the objectives of the TDS was to create transparency and the main consequence of the TDS was a shift of Indian users from domestic to offshore exchanges (as seen in various studies like Gautam 2023a, 2023b and 2023c), this approach allows us to adequately analyse the key issues in the design of the TDS on VDAs.

Models of tax evasion generally rest on the notion that individuals, who are fully or partially informed about audit rates and penalties, try to optimally decide how much of their income to declare and how much to conceal. Foundational work in this area includes studies by Allingham & Sandmo (1972), Srinivasan (1973), Yitzhaki (1987), Clotfelter (1983, empirical), Crane and Nourzad (1987, empirical), Poterba (1987), Panades (2013), and others. A relatively new approach has been driven by the use of agent-based models, as demonstrated by Bloomquist (2006), Alm (2012), Innocenti (2020), and Hokamp (2013). The key advantage of these models is their ability to study the emergence of decentralised, bottom-up decisions, which proves especially useful for analysing collective problems where agents interact and share information. Indeed, the relevant literature indicates that people are more likely to evade taxes when they perceive others doing the same, particularly when the probability of being caught is low (see, for example, Dubin (2007) and McGee (2012)).

It is worth noting that despite significant improvements in recent years, tax evasion remains an endemic problem in India. The Department of Economic Affairs' 2016-17 annual report⁸ estimated that upwards of INR 700,000 crore in taxes are evaded each year, with the tax 'gap'—the difference between the tax actually owed and tax paid—estimated to be 5% of India's GDP.⁹ Historically, India's tax-to-GDP ratio stands at 11.7% for federal taxes. In comparison, similar-sized economies in terms of GDP, such as the United Kingdom, France, and Italy, have tax-to-GDP ratios of 24.9%, 24.6%, and 24.6%, respectively, which are much higher. Even South Africa, which is a relatively smaller economy, has a tax-to-GDP ratio of 24.2%.¹⁰

The basic setup in most models analyses a representative taxpayer attempting to maximise his expected income by splitting his real income between declared and undeclared, taking a chance that he will not get caught. If he is, a penalty is imposed either on undeclared income, or on the tax not paid (as is the case with TDS). Typically the variables explored in both theoretical and empirical studies include:

- y : Income of the individual in a given time period.
- α : Fraction of income reported to tax authorities, where $0 \le \alpha \le 1$.
- τ : Tax rate on income, where $0 < \tau < 1$.
- p : Probability of audit and detecting the instance of tax evasion, where 0<p<1.
- c : Cost of conducting an audit of the individual, where c>0.
- + π : Penalty rate, can be levied on tax evaded or on income
- d : Probability of engaging in tax evasion for the individual, where 0<d<1.
- f : Frictions to evasion, i.e. exogenous cost of evasion
- N : Number of time periods under consideration.



These variables are central to both empirical and theoretical research and form the foundation of the various facets of literature explored in the subsequent sections. In addition to the variables mentioned above, early models include a few other key assumptions worth noting. The first is that traders are uniformly risk-averse,¹¹ often due to the desirable mathematical properties this assumption provides. Another assumption is that the outcome of one agent's evasion is independent of the outcomes of all others, meaning there are no network effects in these early models. Agent-based models address this by introducing information sharing within a network of tax-paying individuals. The primary findings were that the probability of audit and penalty rate are the key levers to encourage higher tax compliance, while the tax rate itself has an indeterminate effect. Empirical models that study tax evasion tend to focus on more readily available data, such as income tax returns over extended periods, as seen in Cane & Nourzad (1984), or data related to the import and export of goods, as with Fisman & Wei (2001). These various aspects are discussed in detail in the rest of this report.

2 What is the Relationship between Tax Rates and Tax Evasion?

This section examines the relationship between marginal tax rates and tax evasion, with a particular focus on the 1% TDS on Virtual Digital Assets (VDAs). It discusses how higher tax rates can discourage income reporting and increase tax evasion, especially when the likelihood of an audit is low. The analysis highlights how factors such as the type of taxation and individual risk preferences influence compliance. It also points out that the flat TDS rate could shift economic activity to less regulated or offshore platforms, making enforcement more difficult and reducing tax compliance. Our analysis suggests that the TDS rate should ideally be set at 0% or close to it.

KEY FINDINGS:

- 1.A large body of modern economic literature suggests that the marginal tax rate is inversely correlated with reported income and positively correlated with evasion, as observed with the imposition of 1% TDS on VDAs in India.
- 2. Economic literature modelling tax evasion decisions by individuals suggests that a higher marginal tax rate affects tax evasion in certain scenarios; such as when the probability of being caught evading is a function of whether the tax endogenously affects income, how many people are reporting, when individuals are facing losses, and when there is low tax morale. These scenarios all describe the current situation with TDS on VDAs in India.
- 3. Individual choices with respect to changes in the marginal tax rate do not have simple relationships; for example, empirical literature suggests taxpayers might behave differently beyond a certain tax threshold. In our case, we propose that this is the tax rate that establishes a level playing field between domestic and offshore exchanges.
- 4. As TDS is a self-reported tax often involving transactions outside the scope of INR or the Indian banking sector, for individuals who perceive themselves as low risk (low income), evasion is almost costless—multiplying the effect of a tax on evasion.
- 5. Trivially, if the act of filing TDS at any rate means the entirety of an individual's income is 'reported', and the probability of being caught is a function of overall compliance by individuals, maximising total reported income would be achieved by setting the tax rate equal to 0%. Practically, this can be set at the lowest level seen in comparable asset classes, i.e., 0.01%, or at 0%, leveraging alternative policies like Annual Information Returns (AIR) and the Prevention of Money Laundering Act (PMLA) to provide tracking.



What is the effect of tax rate on tax evasion? The short answer is unfortunately that its complex and depends on the scenario. Early conceptual models suggest that changes in the tax rate have an indeterminate effect on tax evasion. This ambiguity can be unpacked by analysing the impact of a tax rate increase on an individual's decision to declare or conceal income through substitution and income effects. A higher tax rate encourages substitution towards concealment, as it increases the relative cost of honesty when penalty rates or the likelihood of being caught do not also increase. Conversely, a higher tax rate reduces an individual's disposable income, making them more cautious about incurring fines via the income effect. Pioneering studies by Allingham and Sandmo (1972), Srinivasan (1973) confirm this through their initial analyses

However, the notion that the tax rate's effect on evasion is indeterminate conflicts with both intuitive reasoning and empirical evidence. As highlighted by the aforementioned authors, much of this discrepancy arises from assumptions about risk aversion, population homogeneity, enforcement costs, and the endogeneity of audit probabilities relative to aggregate compliance levels. Furthermore, many empirical studies challenge these early theoretical findings; for instance, Clotfelter (1983) observed that tax evasion was sensitive to the marginal tax rate based on data from the United States IRS, suggesting that tax cuts could significantly increase reported incomes. This was further supported by Crane and Nourzad (1984), who demonstrated that a one percentage point reduction in the tax rate could increase reported income by more than USD 900 million over a 30-year period.¹² These findings imply that if the government's goal is not solely revenue optimization but maximising reported income, reducing tax rates can be an effective strategy.

Similarly, Fisman and Wei (2001) measured the 'evasion gap'—the difference between reported imports in China and reported exports from Hong Kong—and found that a 1 percent increase in the tariff rate results in a 3 percent increase in evasion. A notable result of their study was that the relationship between tax rates and evasion is non-linear, with evasion being more pronounced at higher tax levels. Their study showed that while importers could tolerate relatively low tax rates, they resisted when these rates became excessive. Panadés (2013) summarised these observations, finding a negative correlation between tax rates and tax compliance across various empirical studies. Therefore, despite initial models suggesting an ambiguous effect of tax rates on evasion, subsequent empirical evidence clearly indicates the opposite.

This controversial theoretical result relies heavily on assumptions made about consumer behaviour. For example, Bernasconi (2004) addressed this issue by exploring the concept of loss aversion; that is, a person who is in 'loss'¹³ may be willing to accept more risks than if they were in the gain domain. This mirrors how people aggressively try to avoid losses and prematurely sell gains.¹⁴ In such scenarios, individuals are more likely to evade when facing increasing losses, and more likely to comply when facing increasing gains. The same result was found by Dhami (2006), who points out that the particular framework in question (prospect theory) has been used to solve several other similar economic 'puzzles'.¹⁶



This is particularly relevant in the case of TDS for VDAs, where its imposition coincided with a larger market downturn, meaning that individuals were facing significant losses, as seen in Gautam (2023b). Additionally, when the model is expanded to include heterogeneous agents¹⁷ with varying risk preferences, this result often breaks down; for example, Hokamp (2010) found that an increase in the tax on declared income has a negative impact on aggregate reported income.

Another key result is from Yitzhaki (1987), who built upon the initial models of Allingham & Sandmo (1972) and Srinivasan (1973). He found that tax evasion is influenced by the marginal tax rate, specifically when the probability of being caught is related to undeclared income. As per his conceptual framework, even in situations where a larger amount of undeclared income increases the likelihood of detection, higher marginal tax rates still lead to more evasion. However, while Yitzhaki (1987) suggests that as income increases, the probability of getting caught also increases, we propose the opposite for VDAs at an aggregate level; namely, that if more VDA-related income and transactions are undeclared at an aggregate level, it will impede the government's ability to detect tax evasion. This is discussed in detail in the next section

Finally, the positive effect of an increase in marginal tax rates, as found in early models, is based on their reliance on portfolio analysis, i.e., focusing on assets or income already possessed by an individual. When the model is expanded to allow the tax rate to directly affect income by presenting an individual's choice as formal versus informal employment, as in Kesselman (1989), this result is reversed. Specifically, Kesselman shows that an increase in the tax rate shifts capital out of less efficient sectors (i.e., those that are taxed) to sectors that are not taxed as the rate increases. This scenario more closely reflects the situation discussed in this paper, as the TDS on VDA transactions facilitates a shift of 'employment' from taxed avenues (domestic exchanges) to non-taxed avenues (offshore exchanges that have not registered with FIU-IND).

S Key Influences on LEA's Ability to Detect VDA Evasion

In this section, we discuss the impact of the probability of detecting evasion on tax evasion and the proportion of income that goes unreported. Our analysis suggests that this is the most important variable, with the literature indicating that this is where the greatest focus should be placed. As VDA activities and transactions form a network, we present evidence that maximising compliance and redirecting users through compliant platforms can significantly improve policymakers' ability to detect tax evasion for current and future assessments.

KEY FINDINGS:

- 1. Across the literature, the ability to detect tax evasion has an unambiguously positive effect on tax compliance. TDS can be an effective tool for monitoring and improving tax compliance if the tax rates and structure are such that citizens are indifferent between compliant domestic and non-compliant offshore VDA platforms.
- 2. If the probability of detecting tax evasion is endogenous to the model, a higher tax rate reduces the probability of detection if a relatively larger number of people committing tax evasion makes enforcement more difficult. This is based on the premise discussed in the previous section that higher tax rates can encourage tax evasion.
- 3. There are two reasons for this: firstly, moving investors out of domestic platforms will increase liquidity in offshore/informal markets and force many users to become non-compliant; secondly, diverting funds and users through compliant platforms will greatly enhance the government's ability to detect tax evasion.
- 4. This is supported by existing data on VDA activities of Indians on offshore platforms, literature on blockchain analytics and digital forensics, and agent-based tax evasion modelling frameworks.
- 5. This reveals a key insight—if domestic exchanges are forced to shut down due to a lack of competitiveness relative to their non-compliant competitors, the government will lose perhaps the most effective avenue to enforce policies.
- 6. Double taxation agreements (DTAAs) or similar treaties should be considered as the basis for countries with high Indian VDA trade volumes, such as the UAE for international information sharing. A similar agreement has already been put in place between Indonesia and Australia.
- 7. The focus of resources dedicated to the monitoring and detection of tax evasion by both tax authorities and local exchanges should be shifted to external withdrawals of crypto assets to ensure enhanced due diligence for individuals wishing to conduct transactions with private wallets.
- 8. This can be achieved through cooperation with industry, information sharing agreements with other countries, and by investing resources to build technical enforcement capacity over time. The development of the Cryptocurrency Intelligence and Analysis Tool (CIAT) and collaboration with industry to establish wallets that attach seized VDAs are positive steps in the right direction.



Throughout the literature, two consistent conclusions emerge: both the penalty rate and the probability of detecting evasion are the key variables in achieving tax compliance. This is evident in the original models by Allingham & Sandmo (1972) and Srinivasan (1973), as well as in more complex agent-based models such as those by Hokamp (2013), Zaklan (2018), Balle (2015), and Sapre (2019). This assertion is also supported by empirical studies, such as that by Crane & Nourzad (1984), who estimated the effects of marginal changes in the probability of conviction and the penalty rate together with the marginal tax rate. As measured across a 30-year sample, they find that a one percentage point increase in the probability of detection can increase reported income by nearly USD 1.5 billion, while a one percentage point increase in the penalty rate will only generate an additional USD 200 million.

In early models, enforcement capability is modelled as exogenous and cost-neutral, implying that an increase in the probability of detecting tax evasion would straightforwardly lead to a decrease in unreported income as the expected gain from tax evasion is reduced. When the probability of conviction is made endogenous, as in Yitzhaki (1987), where it functions as a factor of undeclared income, total income, etc., the marginal tax rate begins to impact the government's ability to detect tax evasion.

However, while Yitzhaki (1987) models a scenario in which it becomes more difficult to commit tax evasion as transactions and incomes increase, we argue that the opposite is true for Virtual Digital Assets (VDAs) in aggregate; that is, a relatively larger total unreported income reduces the overall likelihood of detecting tax evasion. This understanding follows from practical insights into how TDS is enforced, how tax evasion is detected, and the key tools used by law enforcement and tax authorities to detect, prosecute, and seize VDAs. It is important to note that, contrary to the general model assumption that the probability of detection is based on random audits, audits are actually based on focused, risk-based strategies—where audits are conducted based on the characteristics of individuals rather than at random. This distinction is crucial to understand how widespread non-compliance can diminish the effectiveness of tax evasion detection and subsequently increase the cost of enforcement.

As for the enforcement of TDS, it is levied on the transfer (sale) of VDAs above a certain threshold and applies to private investors, commercial dealers, and all others dealing in VDAs, requiring self-certification by individuals. According to Income Tax Circular 13, 2022, the CBDT has clarified that exchanges can deduct TDS on behalf of traders. This provision is particularly useful for crypto-to-crypto trades, which require an elaborate valuation process to determine the deductible tax for both traded assets. Therefore, domestic exchanges that have invested in legal operations in India are better equipped to deduct TDS than individuals; this is consistent with how TDS operates so effectively in other top-down scenarios.



On the other hand, for private transactions and exchanges domiciled out of India, TDS is very difficult to comply with and to enforce. Apart from an audit for non crypto related transactions, there is limited scope¹⁸ to catch evaders, particularly when transactions are occurring off-chain¹⁹ on non-compliant exchanges. A crucial point is that once an individual is trading on an offshore exchange, they are often forced to not comply with TDS, as there might not be any buyer of a particular token willing to share their PAN details. Similarly, if trading on order books (which are anonymised, as is standard practice in any exchange) with users from around the world, it is not possible to deduct TDS at the standard rate.

Without a way to drain liquidity from the informal / P2P market, individuals perceive that the probability of getting caught is close to zero unless they have an exogenously higher risk of being audited (i.e. for illegal transactions through banks), and will continue to operate through non-taxed markets. As the informal market becomes more efficient and eventually cheaper than the regulated market, more investors shift to offshore platforms once they realise the probability of getting caught evading is low. As a result, to bypass otherwise potentially unavoidable penalties and relatively high compliance costs (in terms of difficulty) for paying TDS, retail users provide crucial liquidity for money launderers to move funds out of the country

As evidenced by data presented in Gautam (2023a) and Gautum (2023c), the imposition of TDS resulted in a huge shift of users and funds to offshore exchanges, where law enforcement has no visibility²⁰ (unless registered with FIU-IND, like Binance and Kucoin as of May 2024); and have unwittingly provided billions of dollars in volume to potential money launderers. The fact that on major P2P platforms the bid (buy) side of the orderbook is several times larger than the ask (sell) side provides strong evidence for this hypothesis.²¹This dynamic describes how an increase in the marginal tax rate (in this case, the imposition of a tax) decreases the ability to detect tax evasion by shifting people to offshore platforms, which in turns strengthens informal liquidity and creates new avenues for larger illicit transactions.

While the literature on the negative effects of tax non-compliance in the case of VDAs has sparsely been explored, there is a growing body of literature supporting the hypothesis that diverting users through compliant exchanges can have significant positive benefits. This stems from the key characteristics of public blockchains through which VDAs are transferred; where the analysis of on-chain transactions is increasingly being used as a key forensic tool for law enforcement. Despite their relatively short existence, research exists that pseudonymous addresses generally do not provide sufficient anonymity, e.g. Bitcoin or Ethereum (Monaco (2015), and Moser (2013)), nor in privacy enhancing crypto assets like Monero as shown by Kumar (2017) – particularly, if certain initial information like KYC for wallet addresses is provided.²³ As a result, crypto asset investigations nowadays are supported by any number of commercial (Chainalysis, Elliptic, Coinfirm, etc.), and non-commercial tools (BlockSci)²⁴ that leverage the openness of public blockchains. In fact, a recent court case in the US established the admissibility of blockchain forensics as evidence.²⁵



Broadly, crypto asset investigations rely on two pillars: address clustering heuristics – which are meant to group multiple addresses into sets based on behaviour – and attribution tags, which are any form of context or information that can be attributed to a particular address, transaction or cluster. This could include Personal Identifiable Information (PII), phone numbers, IP address etc. As described in Frowls (2020), the strength lies in the combination of these techniques; and as shown by Kumar (2017), a tag attributed to a single address has the potential to de-anonymize a much larger number of addresses. This view is mirrored by Misra (2024)²⁶ who concludes "without attribution of transactions to natural and legal persons, even high-capacity jurisdictions might be unable to effectively tax this asset class" and "capacity development, especially in the context of developing countries, must be at the core of the strategy of tax administrations to deal with this asset class". Globally, law enforcement agencies have recognised the value of information sharing ²⁷ – including attribution tags and address clusters – to maximise results, while blockchain forensics companies largely rely on public information and attribute tags provided by LEA for their analysis.

Illustratively, FIU-IND guidelines,²⁸ already mandate VASPs collect detailed data that can be used as attribution tags, particularly when transferring to and from private wallets. Once important entities and individuals are tagged, clustering heuristics enable a higher degree of visibility, particularly if the entities in question are compelled to divulge counterparties. Currently, blockchain analytics is primarily focused on entity level analysis, where key entities or influential wallets that are more easily attributable are used as central nodes for clusters.

Figure 3: Case Study on Cooperation between VASPs and FIU-IND

The Bharat Web3 Association Report "VDA-SPs: Road to Effective Compliance Under PMLA" released in May 2024 details the journey and significant progress in integrating Virtual Digital Asset Service Providers (VDA SPs) into India's regulatory framework under the Prevention of Money Laundering Act (PMLA). It emphasises the effective collaboration between VDA SPs and the Financial Intelligence Unit of India (FIU-IND), which has been instrumental in establishing a robust compliance landscape for digital assets in India. This partnership facilitated the development of protocols for detecting and reporting suspicious transactions and mandated VDA SPs to adhere to strict compliance obligations as reporting entities. The integration has not only enhanced the operational credibility of VDA SPs but also aligned them with international standards, fostering a secure, transparent, and regulated digital asset marketplace in India.

This is precisely why framing policy to optimise compliance (e.g. through a reduction in the tax rate) is so important for VDAs; it builds a stock of information that will likely result in a real increase in probability of detecting evasion in all future assessments. Building upon the same logic, tax authorities would most likely gain the maximum transparency by diverting as many users and funds through domestic, compliant exchanges;²⁹ as exchanges are already best suited to deduct TDS, and are central to clusters.



This result is reflected in agent-based tax evasion models that incorporate uncertainty, information sharing, and imitation, such as those by Hokamp (2010), Andrei (2013), Innocenti (2020), and Sapre (2019), which illuminate the dynamics of how information can enhance enforcement and compliance. Given that the taxpaying system consists of heterogeneous actors such as taxpayers, tax preparers, and tax enforcers, and that each individual within these categories is distinct, possessing different values for income, tax rates, risk aversion, etc., models with homogeneous agents can yield inaccurate results, as demonstrated in the previous sections. Agent-based models address this by allowing for heterogeneity among agents and in their interactions, although they largely rely on simulations, as analytical solutions are often infeasible. In line with the earlier discussion, Andrei (2013) discovers through simulation that audit efforts should focus on nodes with a high degree of centrality; auditing these 'hub' nodes fosters a more honest population.

This aligns with existing evidence that Virtual Asset Service Providers (VASPs) are key partners in fostering transparency for law enforcement agencies. Consequently, it suggests that significant agents within a platform, such as larger traders and market makers, should be prioritised as they contribute the most volume and are connected to the most counterparties. Innocenti (2020) models tax evasion within a social network, where individuals might choose to evade based on their relative standing and information about their neighbours, finding through simulation that acquiring sufficient initial network information is crucial for augmenting enforcement efforts. Additionally, the author observes that there are discrete levels beyond which the ability to detect tax evasion significantly increases.

While these models were developed to broadly analyse real-world scenarios, they can be more concretely applied to VDAs. Specifically, for VDA transactions, declaring income can be likened to 'revealing' the activities of an individual's neighbours, similar to the social and informational effects modelled in the aforementioned studies, where the significance of highly central nodes is already evident. This is particularly applicable to wallet-to-wallet or private transactions, as domestic exchanges, which already deduct TDS and are registered with FIU-IND, can provide complete visibility of transactions. Our assertion is that a more lenient TDS scheme that encourages users to shift to compliant exchanges (or to comply themselves) will expand the compliance net for 'hard to reach' private wallet transactions, while the opposite occurs if users are diverted to non-compliant platforms.



SECTION 3.1: DISCUSSION ON P2P AND CIRCUMVENTING URL BLOCK

Tech-savvy users have effectively bypassed the government's IP blocking of offshore trading platforms by using alternative website addresses, desktop applications, and pre-downloaded mobile apps. This access is further facilitated by unblocked application programming interfaces (APIs) crucial for app functionality, allowing continuous access to subdomains. Major exchanges have enabled users to download app APK files directly from their websites, circumventing app store restrictions. This loophole has allowed offshore platforms to not only continue operations but also aggressively market their services in India. These measures facilitated a seamless and cost-free transition for users from blocked to accessible sites, undermining efforts to ensure regulatory compliance with the Financial Intelligence Unit (FIU) and the Prevention of Money Laundering Act (PMLA). Importantly, although nine exchanges were blocked, there are still dozens of offshore exchanges that actively market to Indian customers. However, this does not address how users are actually being onboarded on offshore platforms without bank accounts or physical presence in India.

While users can deposit Virtual Digital Assets (VDAs) acquired elsewhere directly into offshore platforms and purchase VDAs with international credit cards, the simplest (and currently most popular) method is via an offering known as P2P Escrow. 'P2P Escrow' refers to an escrow service that offshore VDA platforms offer—providing a convenient, low-cost avenue to onboard and offboard customers from any jurisdiction where users can directly transfer INR to each other's bank accounts, while the platform provides escrow services only for custody and transfer of the VDA leg of transactions. P2P Escrow has proven incredibly useful for onboarding users from various countries without requiring a local bank account or presence. P2P Escrow is extremely cheap and quick to set up, allowing platforms to churn out P2P escrow offerings in a few months at minimal cost. As of May 2024, 7 out of the top 10 VDA exchanges by volume offer P2P Escrow³¹ with India ranking in the top 5 for Weekly Active Users and Monthly Active Users on most platforms.

It is important to note that these platforms are not new (in the VDA space or larger digital commerce industry), with existing platforms like Paxful³² launching as early as 2015. And while India has had a P2P market (presumably due to policy frictions between 2018 and 2020), it has grown exponentially in recent years, largely in response to the imposition of TDS.



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Figure 4: P2P User Flow, Order Matching & Execution



This is illustrated by the graph below, which shows the quarterly Indian web visitors to p2p.binance.com (Binance's P2P website) from July 2020 to April 2024.



Figure 5: Quarterly Website Traffic by Indians to p2p.binance.com

As compared to the first quarter of 2021, Indian website visitors to p2p.binance.com increased by more than 2700%, and increased by over 200% post the announcement of TDS on VDAs in February 2022. In October 2022, Coin Dance, a community-driven Bitcoin statistics and services platform, revealed that P2P trading volume had nearly doubled following the implementation of TDS³³

Table 1: Indian Rankings on Chainalysis Crypto A	Adoption Index 2021-2023
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	Overall Ranking	Centralised Service Recvd.	P2P Exchange Trade	DeFi Received	Value Received (USD)
2021	2	2	72	N/A	N/A
2022	4	1	82	1	\$172bn
2023	1	1	5	1	\$270bn

Source: <u>https://www.chainalysis.com/blog/2023-global-crypto-adoption-index/</u>

The recent Chainalysis Crypto Adoption rankings index (measured from July 2022 to July 2023) shows that India, in addition to ranking first overall and in terms of value sent to centralised exchanges—the same as those focused on in this brief—jumped 77 places to rank 5 in terms of P2P exchange trade volume. This provides strong evidence that INR P2P markets have consolidated post the implementation of TDS and likely did not exist before 2021 (where they presumably formed in response to a possible ban).

Source: semrush.com, May 13th 2024

How effective are Penalties in reducing Tax Evasion?

This section discusses the impact of penalties on the proportion of unreported income. The main issues are the relationship between the level of penalties and enforcement costs, and the appropriateness of penalties as a proxy for the ability to detect tax evasion. Our review of the literature suggests that while penalties are an important tool and should be kept appropriately high to deter tax evasion, there is a ceiling, particularly in the short term, and penalties are not an adequate substitute for enforcement capability. Nevertheless, we recommend that penalties should not be reduced in proportion to tax cuts, and that penalties for non-compliant activities should be kept high to increase the relative cost of tax evasion compared to tax compliance.

KEY FINDINGS:

- 1. The significance and inverse relationship between the required level of punishment and the likelihood of conviction for a given level of compliance is documented. Logically, the higher the level of punishment, the lower the probability of being caught required to deter a rational person from evading taxes.
- 2. This leads to the superficial conclusion that if enforcement is costly, penalties should be kept as high as possible to minimise costs.
- 3. However, this approach has practical limits. We argue that the penalty rate is "sticky" and has an upper limit in the short to medium term; it cannot be set arbitrarily high and likely cannot be increased significantly in the short term. Additionally, the penalty rate is positively related to the cost of enforcement.
- 4. The large number of pending tax disputes (and the resulting blocked tax revenues) suggests that unreasonably high penalties will attract unnecessary litigation and legal costs.
- 5. Currently, the penalty for evasion of TDS in VDA transactions is already at the maximum rate. An important consequence is that the penalty rate can no longer be used as leverage in the short term, as it is already at the upper limit.
- 6. However, if the TDS is reduced from 1% to 0.01%, the penalty rate would be proportionally lower in absolute terms. We therefore propose to introduce a penalty structure based on the value of the transactions for which the TDS has been filed, or a structure similar to that for non-filing of annual information returns under section 285BA of the Income Tax Act, 1961, i.e., with a flat initial penalty followed by a daily penalty, or a penalty on the value of the transaction for which the TDS has been filed.
- 7. Alternative penalty structures, such as audits for transactions from previous assessment periods, can also be extremely effective instruments for increasing the effectiveness of a particular penalty.
- 8. If the objective of sanctions is to increase the relative cost of dishonesty, the applicability of TDS and related sanctions to non-compliant exchanges should be prioritised at a higher rate.



How effective are penalties in discouraging evasion, and what are the best penalty structures for this scenario? The general theme that emerges from the available literature on tax policy design is that the key variables influencing an individual's decision to not comply are tax structures or rates, the effectiveness of tax administration (and consequently the probability of detecting evasion), and the penalty structure. While the previous sections covered the former two, this section focuses on penalties, which have been established as a crucial tool for combating evasion. Additionally, much of the literature explores the relationship and substitutability between conviction rates and penalty rates.

This raises the critical question of what the ideal combination of penalty rate and probability of detecting evasion is, particularly if enforcement is a costly endeavour. If the government is constrained by costs, logic suggests that maximising the penalty rate will minimise the government's cost while simultaneously keeping overall compliance high—coined the Becker Proposition, after the seminal work of Becker (1968) which created an analytical framework to analyse non-compliance in an economic context. However, this does not align with intuition, experience, or empirical evidence. For example, bankruptcy constraints limit the maximum feasible fine, and as pointed out by Sapre (2019), penalty rates for tax evasion in India are usually capped at 2-5 times the evaded amount. Additionally, he finds that in a multi-period agent model with costly enforcement, an individual's decision to evade is determined by the perceived probability of audit and penalty rate, although his illustrative model suggests that penalties would have to be very high to overcome a very low probability of detection.

Crucially, we contend that elevating the penalty rate would likely raise the cost of conviction because of the potential for errors in conviction. Errors in conviction, including both the failure to convict the guilty and the wrongful conviction of the innocent, bring about considerable societal costs, particularly in the context of harsh punishment regimes. Furthermore, severe penalties tend to encourage excessive legal spending, thereby diminishing economic efficiency. This is especially relevant in civil cases, which can extend over several years.

This is certainly the case in India³⁴; as reported by the Central Board of Direct Taxes (CBDT), as of April 1, 2021, there were 500,030 appeals awaiting resolution at the Commissioner of Income Tax (Appeals). Moreover, across 30 locations in India, 63 Tribunal benches were handling 53,000 pending appeals. Despite the introduction of the Vivad se Vishwas scheme in 2020 and adjustments in the budget, litigation levels and revenue tied up in appeals have continued to rise, with INR 10,576,390 million (USD 135,595 million) in disputed corporate and income taxes recorded at the close of the 2020-21 fiscal year, as stated in the Receipt Budget 2022-23. The Economic Survey 2018 points out that approximately INR 7,580,000 million (USD 97,179 million) of tax revenue, which represents 4.7% of India's total GDP and includes both direct and indirect taxes, was locked in litigation across various levels of the judiciary.



Excessively steep fines can also foster rent-seeking behaviours, driven by the risks of false convictions and the prevalence of out-of-court settlements. This encourages defendants to heavily invest in legal defence or engage in corrupt practices to avoid conviction. Such behaviour contradicts the economic assumption that raising fines is less expensive than increasing the likelihood of conviction. This result is corroborated by Crane & Nourzad (1984), who estimated that an increase in the penalty rate was less than 25% as effective as an increase in the probability of getting caught. Similarly, Webley et al. (1991) found that the probability of an audit affects tax compliance, and the amount of fines has no significant impact, but Alm et al. (1992) observed a very weak effect of fines.

Building on the Allingham-Sandmo model and Srinivasan (1971), Singh (1972) expanded the literature by exploring the relationship between penalty rate and probability of detection through a simple illustrative simulation. The main result of the paper was that the key threshold for evasion is primarily dependent on the penalty rate and probability of conviction, i.e., a higher penalty rate affords a lower probability of detection. However, like with Sapre (2019), his numerical simulations suggest that penalty rates would have to be increased significantly to compensate for the lack of detection, instead suggesting a progressive tax structure.

Additionally, Dhani (2006) – using the example of running red lights – points out that the basic premise that people are uniformly risk-averse and likely to react to penalties in the same way is mistaken; also using prospect theory to solve the paradox presented by the Becker proposition. Slemrod (2019) points out that there is also a paucity of empirical data on the effect of penalty rate changes; as it is, regulators are rarely experimental when it comes to enforcement. In summary, we can consider penalty rates as *sticky*³⁵ inversely related to the likelihood (as well as cost) of conviction, and with an upper limit. Thus, an appropriate strategy (as with tax rate) is to use existing precedents and penalty schemes for comparable offences in comparable scenarios.

In terms of penalty structure, the early works of Allingham & Sandmo (1972) and Srinivasan (1973) establish that penalties should ideally be related to the amount of tax evaded rather than taxable income. When modelled this way, an increase in the tax rate increases the penalty rate, as opposed to when the penalty rate is based on underlying income. When penalties are charged on the evaded tax amount rather than income, an increase in the tax rate has a corresponding increase in the penalty rate, so the relative cost of being honest versus dishonest remains the same. If individuals are uniformly risk-averse (as is the case in early models), an increase in the tax rate will actually increase compliance.

On the other hand, there is an argument to be made that in the current scenario, a reduction in the tax rate might induce more non-compliance because the penalty for tax evasion would be set so low. This makes intuitive sense; if the TDS rate is reduced from 1% to 0.01%, the penalty for evasion would also be 1/100th, making it very inexpensive to evade.



Thus, we suggest that in a tax cut scenario, the penalty rate should be set independently of the tax rate, or at least at a level that preserves the current penalty. For example, instead of basing the penalty on the tax evaded, it could be a flat percentage of the value of the transaction for which the TDS was filed. If there are practical difficulties in implementing this due to the lack of a precedent, an appropriate alternative penalty structure could be that of Annual Information Returns (AIR), where a flat penalty is charged for failure to file, followed by a daily penalty. Other changes in structure that could significantly affect compliance include introducing lapse of time effects, which have been shown to have a greater impact on compliance than increasing penalty rates, as demonstrated in Hokamp (2013).

5 Discussion on Tax Rates when TDS works like an Indirect Tax

While the majority of literature focuses on the evasion of income tax (a direct tax), the current TDS on VDAs often functions more like a transaction tax, as evidenced by the dramatic decline in trading volumes following its imposition. We highlight that market makers are key participants in the ecosystem, as they determine the spreads and thus the costs that individuals face. Therefore, to incentivize individuals to shift back to domestic platforms, tax rates should be set so that market makers can feasibly offer spreads competitive with global counterparts. We argue that a tax rate of 0.01%-0.05% will allow market makers to maintain competitive spreads while simultaneously collecting all capital gains tax owed from trading.

KEY FINDINGS:

- **1.** Since TDS distorts final income through several mechanisms, it functions more like a transaction or production tax than an income tax.
- 2. Market makers pass on the costs to retail clients and higher-frequency traders, who may decide to switch to offshore platforms or stop trading due to the significantly higher trading risk associated with the 1% TDS.
- 3. For example, the 1% TDS led to a 90% drop in volumes, which would in turn imply a 90% reduction in revenue for market makers.
- 4. As a result, market makers continue to widen their spreads to compensate for the decline in trading activity and ensure they can generate sufficient returns to justify deploying capital on domestic VDA exchanges.
- 5. This, in turn, reduces liquidity, making it more difficult to enter and exit markets, resulting in more customers leaving.
- 6. An equilibrium is reached when only those customers remain who are risk-averse enough or have a propensity for compliance regardless of the tax rate. They pay a premium to the market makers, fees to the exchange, and 1% TDS on the trades.
- 7. This results in a kind of deadweight loss; where the government has less visibility due to more people using non-compliant exchanges, exchanges and market makers, and other systemically important players cannot feasibly function, and where retail investors are exposed to unnecessary trading risk.
- 8. The decisive tax rate is therefore the one at which exchanges, brokers, and market makers can offer their customers competitive spreads and at the same time achieve a sufficient return on their capital to justify not using it on a non-compliant exchange.
- 9. Based on industry estimates of the margins and capital rotation frequency with which market makers operate, the government can set the TDS at 0.01%-0.05% and still collect the entire income tax due.



One of the main issues with the current 1% TDS on VDAs is that although it is levied as a direct tax, it functions more like an indirect or transaction tax. Typically, TDS is applied to income,³⁹ i.e., income or payments on which tax is already payable, such as salaries and contracts. However, in the case of VDAs, the tax has an endogenous effect on income, as both the number of trades and trading volumes have plummeted following the introduction of TDS.

The exclusion of the endogenous effects of tax on income is a feature (and key drawback) of most tax evasion models, including those derived from the Allingham-Sandmo (A-S) model, which use a portfolio approach where the choice of tax evasion is based on the assets already owned by an individual. Kesselman (1989) demonstrates that when the imposition of a tax affects income endogenously, the results are reversed compared to a portfolio approach. Specifically, the author shows how the imposition of a tax drives workers and capital from compliant, high-tax industries to informal, low-tax industries when there is a choice of labour - formal and informal.

Building on the work of Marrelli (1982), who studied indirect tax evasion, Das Gupta & Sen (1987) analysed the impact of indirect tax evasion on industrial concentration. Their model shows that under perfect competition, firms choose to evade taxes to a certain extent if the opportunity exists and the probability of conviction/penalty is low enough. Furthermore, the authors find that evasion can lead to increasing industrial concentration if the probability of conviction and the penalty are low enough, as part of the benefit of evasion is passed on to the final consumers. This is somewhat similar to the case of TDS on VDAs in India, where non-compliant offshore exchanges benefit by transferring the entire advantage of tax evasion to clients instead of absorbing it themselves and paying commissions.

In the case of TDS on VDA transactions, the tax rate results in a reduction in income for participants who consider trading as a source of income. Since market makers are bound to trade frequently, a 1% tax on every sale would consume most of a trader's capital within a few months. Instead, the cost is passed on to users, who must accept an additional 1% in the spreads offered by market makers on exchanges. As a result, traders face significantly higher risks when trading on domestic exchanges compared to offshore exchanges—up to 50 times more, as shown in Gautam (2023b) and in the chart below.

Consequently, traders decide to move to non-compliant offshore exchanges in search of better returns in a more efficient market, which in turn leads to a decrease in the number and volume of trades on compliant platforms. At this stage, market makers must weigh whether the capital deployed on compliant exchanges can generate the same returns as if it were safely deployed elsewhere. To compensate for the decline in trading volumes, market makers must continue to increase their spreads to enhance their returns to a level that justifies the deployment of capital on compliant exchanges. This further escalates the costs for the remaining traders. Those who are too risk-averse or genuinely inclined to comply with the rules are penalised, while non-compliant players are rewarded.





Figure 6: Excess Risk Exposure on TDS compliant VASPs

From this perspective, it becomes clear that the crucial tax rate is the one that allows market makers to offer spreads that are perceived as "competitive" by the majority of clients, taking into account the risks associated with trading on offshore platforms, such as the perceived chance of getting caught evading.

Market makers are widely recognized as essential to the functioning of exchange-based markets, as described in Grossman & Miller (1988) and Cohen et al (1979). In the case of VDA markets, market makers provide liquidity and audit trails when they are active through compliant channels. They offer liquidity for retail customers, which is a crucial aspect of consumer protection, and are essential for price discovery and overall market efficiency. While it may be difficult to determine the ideal tax rate for a general equilibrium model, exploring the optimal tax specifically for market makers, who are of systemic importance to compliance on compliant platforms, is worthwhile.

Market makers need to justify deploying their capital in VDA exchanges, benchmarked against the yield they could generate in similar endeavours. They primarily aim to make a consistent margin on every trade, with profiting from speculation being a secondary concern. This consistent margin is generated by maintaining a spread, i.e., the difference between the best buy and sell prices. A comparison of spreads on various exchanges is presented below.

Source: Gautam (2023b)





Figure 7: Bid-Ask Spread (BTCUSD, BPS) -- April-May 2024

Source: theblock.co, Kaiko, May 13th 2024: https://www.theblock.co/data/crypto-markets/spot/bid-ask-spread-btc-usd

We find that market leaders like Binance and Coinbase operate on spreads as low as 0.02%. This is feasible partly because maker fees often include rebates or are set at 0% for high volume traders, a fee structure prevalent across global leaders.⁴⁰ When expanded to second-tier platforms, the spreads rise to 0.25%. On the other hand, the average for domestic platforms is currently closer to 2%, far above the 1% extra TDS, even when accounting for commissions to exchanges. This reflects the drop in trade volume distorting the optimal spread market makers choose, as discussed earlier in this section.

Overall, as a direct result of the imposition of TDS, data suggests that spreads are now 10x-20x higher on compliant domestic exchanges compared to non-compliant offshore ones. Given that market makers rotate their capital hundreds, if not thousands, of times a year, it is likely that the imposition of a 1% tax significantly over-collects the required TDS amount, while a tax rate as low as 0.01%-0.05% is likely to be sufficient for the purpose of revenue collection.

Critical Analysis of TDS as a Sin Tax and other Prohibitive Policies

In this section, we discuss the effectiveness of a Pigouvian (sin) tax and other prohibitive measures to discourage activity in the VDA sector. We argue that TDS cannot function effectively as both a tracking mechanism and a deterrent, particularly when TDS is the primary tool for monitoring tax compliance. Our research in the literature suggests that when dealing with multiple externalities, i.e., 'bad' and 'worse', it is often optimal to subsidise the 'bad' option. As discussed in the section on the probability of detection, there are significant positive externalities for compliant VDA activities and negative externalities for non-compliant activities. Finally, we provide a cross-country comparison showing that prohibitive VDA measures have generally failed worldwide. We argue that the objectives of TDS should be refocused to create transparency and assist in revenue collection.

KEY FINDINGS:

- 1.TDS was introduced as both a tracking mechanism and a deterrent to trading and investment in VDAs. However, since individuals can turn to offshore exchanges and private sellers, TDS has inadvertently created more incentives to move to offshore platforms than it has deterred trading.
- 2.A Pigouvian tax, like TDS, requires an effective tracking and enforcement mechanism to be successful. Our literature review suggests significant efficiency losses when implementing a Pigouvian tax with inefficient tracking, as currently, TDS acts simultaneously as both a disincentive and tracking mechanism.
- 3. The 'bad' activity of trading on compliant exchanges is less harmful than the 'worse' activity on non-compliant exchanges. Subsidising the 'bad' may reduce participation in the 'worse' sector, as demonstrated in our analysis of VDAs in India and similar findings in international contexts.
- 4. Prohibitive policies to stymie growth in VDA activity locally have thus far been largely unsuccessful worldwide. For example, neither IP bans in India nor comparable taxes in Indonesia have effectively curbed VDA transactions. This highlights the resilience of VDA markets, even in countries with explicit bans like China and Saudi Arabia.
- 5. Since VDAs make national borders and conventional controls porous, policy should focus on decreasing the costs and frictions for compliance versus non-compliance. Ensuring a return of users and funds to compliant platforms is crucial for creating an effective enforcement environment.
- 6. The objectives of TDS should focus on creating transparency and assisting in revenue collection, which can be successful with a TDS set at a low rate and high coverage. As a revenue tracking/collection system and based on all available evidence, TDS is not suitable as a sin tax.



Deterring activity in the VDA sector is the implicit secondary objective of introducing TDS, alongside the 30% income tax and disallowance of losses. However, instead of serving as a deterrent, the introduction of the 1% TDS primarily resulted in users shifting to non-compliant platforms due to the negligible cost and risk of getting caught. Even at an aggregate level, TDS has had only a marginal impact in deterring VDA activity. In fact, internet traffic from Indians on VDA platforms (both domestic and international) increased by 2% between July 2022 and May 2023 compared to the global trend, as shown in the figure below:



Figure 8: Change in Activity on Domestic VASPs versus Global Trends

We argue that this suboptimal outcome stems from the contradictory intentions of the tax, asTDS is used both to improve tax compliance and as a primary tool to discourage investment in VDAs. Pigouvian taxes, like all other taxes, require an effective enforcement mechanism to be successful. Compliance with TDS, particularly on offshore platforms, has been minimal, as noted in Gautam (2023c). This issue is explored in Liu (2012), who compares the effectiveness of shifting the tax base to different activities when introducing a corporate environmental tax and finds that using hard-to-evade routes such as energy and carbon taxes leads to a significant increase in compliance compared to a labour or profit tax. This is not the case for TDS, which is a self-reported tax, particularly in the context of VDAs

Source: Gautam (2023c)



Earlier sections of this report also discuss how tax rates and aggregate compliance can be endogenous to the ability to detect evasion, as well as how the current TDS incentivizes tax evasion which reduces the enforcement capability of LEAs. Thus, in an attempt to discourage individuals from trading in VDAs, the current tax undermines the ability to detect tax evasion by shifting individuals to non-compliant offshore platforms. Policymakers must consider whether they view activity on domestic and offshore VDA platforms as equivalent in terms of impact on society. If the government aims to improve overall compliance, there is a strong argument that TDS should be lowered or removed entirely.

Jaqua (2016) examines this problem, analysing a scenario where a Pigouvian tax is set in the face of multiple externalities (both bad and worse). The author finds that subsidising a harmful activity may be optimal if the constraints prevent taxing a more harmful substitute, if taxing a more harmful substitute entails significant administrative costs, or if a lower level of production involves a mix of activities that are more harmful than those at a higher level of production. All these scenarios are at least partially applicable to the TDS on VDA transactions – due to monetary and non-monetary feasibility constraints on enforcement, costly administration, and the potential for non-compliant platforms to fill gaps left by regulated exchanges. Without adequate enforcement capabilities and acknowledgment of the difference between VDA activities on compliant and non-compliant platforms, prohibitive measures such as outright bans, transaction taxes, and unrealistic reporting requirements are likely to fail.

This conclusion is supported by a cross-country comparison using the Chainalysis Global Adoption Index (2023), which indicates that all the countries who have attempted to ban crypto assets have failed – and remain in the top 20 globally in terms of grassroots adoption. The case of Indonesia is instructive; Indonesia's VDA tax revenue fell 63% in 2023 as compared to 2022 as a result of a 0.1% income tax, a 0.11% VAT, and a 0.02% contribution to the national crypto bourse.

Why do these bans not work? Part of the reason is tax morale, as argued by Tyler (2006) – citizens are more likely to be law-abiding if they view legal authorities as legitimate, and the degree of legitimacy may itself be a function of the level of enforcement. When enforcement measures are explicitly weak (for instance, infrequent audits), legitimacy can decline, diminishing the natural inclination of taxpayers to adhere to the law. Individuals may choose to comply with a law because they view it as just, regardless of their opinions about the government's authority to enforce it. In a similar vein, VDAs are already taxed far more harshly than other asset classes (as described in the first section of this report); illustratively, even gambling is allowed offset of losses.Tax morale is a useful concept in understanding why sin taxes may backfire this way, as well as why evasion occurs in the first place. As described by Luttmer & Singhal (2014), tax morale can be thought of as non pecuniary factors that cause individuals to make decisions that may divert from utility optimization, particularly for voluntary compliance with tax laws and creating a social norm of compliance.



Source: Gautam (2023c)

		Tab	ile 2: Analysi	s of Crypto Add	option Trends G	lobally ⁴²	
Country	Chainalysis Ranking 21/22/23	Existing Ban?	Existing Regulator?	Mobile Wallet Penetration%	Bank Branch/ 1000	% Pop Above 65	Type of Ban?
India	2,4,1	YES	NO	90.40	14.58	6.9	1% TDS , Shadow Banking Ban
Nigeria	6,15,2	YES	NO	69.20	4.28	3.0	Central Bank Ban
Vietnam	1,1,3	YES	NO	85	2.91	9.1	Payments Ban, Shadow Banking Ban
sn	8,5,4	NO	YES	49.90	28.26	17.1	NO BAN
Ukraine	4,3,5	YES	NO	-	10.39	18.8	Limited Ban
Philippines	15,2,6	NO	YES	88.40	8.99	5.4	NO BAN
Indonesia	20+,20,7	YES	YES	81.70	15.8	6.9	Payments, Spot Trading Ban
Pakistan	3,6,8	YES	NO		10.38	4.3	FULL BAN
Brazil	14,7,9	NO	YES	66	17.13	9.9	NO BAN
Thailand	12,8,10	YES	YES	92	9.65	15.2	Payments Ban
China	13,10,11	YES	NO	84	8.77	13.7	FULL BAN
Turkey	20+,20,12	YES	YES	67.20	15.01	8.6	Payments Ban
Russia	18,9,13	YES	NO	1	24.59	15.8	Payments Ban
Argentina	10,13,15	YES	NO	77.80	13.1	11.9	Central Bank Ban, 0.6% tax



This effect is well recognized; for example, the OECD (2001) noted that "the promotion of voluntary compliance should be a primary concern of revenue authorities", and has highlighted the importance of tax morale more generally in OECD (2013). Another key element is that many of these policies, particularly when applied to internet/borderless technology are simply infeasible or unreliable. as stated in OECD (2014), "...the digital economy is increasingly becoming the economy itself, it would not be feasible to ring-fence the digital economy from the rest of the economy for tax purposes".

Finally, when weighing the benefits of a sin tax for VDAs (or alternatively, the societal harm they may cause), differentiating India and the Indian VDA experience from that of other nations is crucial for correctly evaluating the perceived risks posed by VDAs. For example, although both India and Vietnam are similar in their young populations and growth stories, Vietnam was significantly dollarized in the 1990s⁴³ (continues to be to some extent) and has been implementing policies to 'de-dollarize' as recently as 2019.⁴⁴ Both Turkey⁴⁵ and Argentina⁴⁶ have gone through recent periods of hyper-inflation, although their demographics and financial infrastructure suggest crypto adoption should not be as high as it is. Nigeria, which relies on oil, for a large part of its GDP, has seen its exchange rate increase from less than 400 to a dollar, to over 1800 a dollar⁴⁷ in the last 3 years with the 'official' central bank FX rate often more than 20% less than the market rate⁴⁸ Both Russia and Ukraine, with the latter appearing increasingly high on rankings over the last two years, have either been largely cut off from the international financial system, or implemented strict capital controls because of the ongoing conflict.

Takeaways & Recommendations

This study examines the suitability of TDS in the context of its original objectives and the unique characteristics of VDAs, suggesting that shifting from deterrence to improving compliance could lead to more effective outcomes. It addresses theoretical and practical frameworks for analysing TDS on VDAs, the encouragement of tax evasion through high tax rates, and the critical role of detecting tax evasion in improving compliance. It also assesses the penalty structures associated with TDS evasion and summarises the findings to recommend a fair TDS rate that balances the need for tax revenue with competitive market benchmarks. The paper concludes by questioning the appropriateness of TDS as a Pigouvian tax, examining the effectiveness of prohibitive VDA policy, and suggesting a revised approach that better aligns with the objectives of transparency and improving compliance

SECTION 7.1: SUMMARY OF KEY TAKEAWAYS FROM REPORT

- <u>A.</u>) Does the current application of TDS meet the unique challenges of VDAs? How different is their treatment compared to other asset classes?
 - TDS has proved to be a successful tax system for compliance and revenue collection in India as well as across the world. TDS generally applies to income and is not uniformly applied to all types of transactions.
 - However, the VDA TDS applies uniformly to every VDA transaction, regardless of its type: applying a uniform 1% TDS to VDA transactions can distort traders' income as it does not take into account profit margins or transaction specifics and penalises high-volume, lowmargin trading.
 - The VDA TDS has a higher rate and lower thresholds than for other assets. Additionally, the borderless, digital nature of VDAs makes it likely that taxes will have more distortionary effects as compared to other asset classes like commodities and securities where evasion is more difficult..

• <u>B.</u>) Which framework is best suited to analyse the problems that arise when converting TDSs to VDAs?

- Taxation serves three main purposes: to raise revenue for the state, to redistribute income and to regulate behaviour. The TDS on VDA falls into the first and last
- Since the government's objective is not to maximise revenue through the TDS the tax rate itself does not directly affect tax revenue, which is a function of income tax owed – revenue optimisation frameworks such as a Laffer curve analysis may not be appropriate.
- Instead, we analyse the design of TDS in the context of frameworks that model tax evasion. We argue that this is appropriate because the main consequence after the introduction of the tax was a shift to non-compliant platforms



. <u>C.</u>) Is there evidence that high taxes encourage tax evasion? Is there also evidence to the contrary?

- Existing literature like Gautam (2023a, 2023b, 2023c) and recent Chainalysis reports highlight the impact of TDS on tax evasion by shifting users and funds from compliant to non-compliant platforms
- We show through web traffic data and an analysis of the last three Chainalysis Global Cryptocurrency Adoption Index Rankings (2021,2022,2023) to illustrate how the imposition of TDS led to an exponential increase in traffic and volume on P2P platforms. We find that web traffic by Indians to major offshore exchanges with P2P platforms rose by over 200% post the announcement and imposition of TDS
- The economic literature modelling individuals' decisions to evade tax suggests that a higher marginal tax rate affects tax evasion in certain scenarios, e.g. when the probability of being caught evading tax depends on whether the tax has an endogenous effect on income, how many individuals come forward, when individuals face losses, and when tax morale is low. These scenarios all describe the current situation of TDS on VDAs in India
- Empirical evidence from around the world confirms the hypothesis that the tax rate is inversely related to tax compliance. Evidence from India shows that the imposition of taxes in the Indian commodity markets (i.e. TCS, import duty, GST on gold, CTT on MCX transactions) has led to significant distortions and evasion (e.g. in the form of gold smuggling)
- The individual decisions with regard to changes in the marginal tax rate are not in a simple relationship to each other. For example, the empirical literature suggests that taxpayers may behave differently beyond a certain tax threshold. In our case, we suggest that this is the tax rate that creates a level playing field between domestic and offshore exchanges

• <u>D.)</u> How important is the ability to detect tax evasion in VDA transactions? What options are available to policy makers to optimise the detection of tax evasion?

- Throughout the literature, the ability to detect tax evasion has a clear positive effect on increasing tax compliance, even when more complex nuances such as the cost of enforcement are taken into account. TDS is a tool to widen the tax net and support tax collection for the government; it does not contribute directly to revenue
- If the probability of detecting tax evasion is endogenous to the model, a higher tax rate reduces the probability of detection if a relatively larger number of tax evaders makes enforcement more difficult. This arises from two levers: first, that shifting investors out of domestic platforms increases liquidity in offshore/informal markets and forces users to become non-compliant once they are registered on non-compliant platforms, and second, that diverting funds and users through compliant platforms significantly increases the government's ability to detect tax evasion in all future assessment periods.
- The focus of resources dedicated to the monitoring and detection of tax evasion by both tax authorities and local exchanges should be shifted to external withdrawals of crypto assets to ensure enhanced due diligence for individuals wishing to conduct transactions with private wallets.
- International information sharing and co-operation remains an important gap that needs to be closed for effective enforcement



• <u>E.</u>) What role do penalty rates play in ensuring tax compliance? What is the best penalty structure for TDS on VDAs?

- The significance and inverse relationship between the required level of punishment and the probability of conviction for a certain level of compliance with the law is documented. This leads to the superficial conclusion that if enforcement is costly, sentencing ranges should be kept as high as possible to minimise cost
- However, this approach has practical limits. We argue that the penalty rate is "sticky" and has an upper limit in the short to medium term, i.e. it cannot be set arbitrarily high. Furthermore, the literature suggests that the penalty rate is positively related to the cost of enforcement. The large number of pending tax disputes (and the resulting tax losses) suggests that unreasonably high penalties will attract unnecessary legal costs and litigation
- Currently, the penalty for evasion of TDS in VDA transactions is already at the maximum rate. An important consequence is therefore that the penalty rate can no longer be used as leverage in the short term, as it is already at the upper limit.
- However, if the TDS value is reduced from 1% to 0.01%, the penalty rate would be proportionally lower in absolute terms. However, alternative penalty structures may allow for the same level of penalty despite a reduction in the tax rate, which is more desirable in this situation.

• <u>F.</u>) What is the TDS rate that restores a level playing field between domestic and offshore platforms?

- To restore a level playing field, market makers must at least be able to offer competitive spreads to entice users back to compliant platforms. As it is important to assign identifiable information to agents or nodes that are relatively important, market makers have been identified as key stakeholders for compliance.
- Since the spread faced by the individual is based on the prices quoted by the market makers, the key threshold for the tax rate is the one at which the market makers can offer competitive spreads and at the same time generate sufficient returns to justify the use of capital
- Since the TDS distorts final income through several mechanisms, it acts more like a transaction or production tax than an income tax. For example, the 1% TDS led to a 90% drop in volumes, which in turn would mean a 90% drop in income for market makers
- Given that market makers rotate their capital hundreds, if not thousands of times in a year, it is very likely that with a tax rate of 1% or even 0.1%, the government collects far more TDS than it owes in income tax, while the market maker is unable to make adequate yield to justify his investment. A rate as low as 0.01%-0.05% is likely to be sufficient for the purposes of revenue collection



• <u>G.</u>) In the current scenario, is TDS a suitable system to act as a Pigouvian tax? Is a prohibitive policy for VDAs useful or demonstrably successful?

- The TDS acts as both a control mechanism and a deterrent to trade. However, since there are offshore exchanges and private sellers that individuals can approach, the TDS has created more incentives to move to offshore platforms than it has deterred individuals from trading. This makes the current implementation contradictory in its intent and sub-optimal in its outcome
- When considering a Pigouvian tax or other prohibitive measures to discourage individuals from investing in VDAs, it is important to recognise that there are multiple externalities at play, i.e. VDA activity on compliant exchanges is less harmful than VDA activity on non-compliant exchanges
- Withholding taxes of this type have never been used for VDAs anywhere in the world. Comparable taxes, such as those used in Indonesia for VDA transactions, have also not proven successful.
- Prohibitive VDA policies, including IP bans such as those currently in place in India, have had little to no success worldwide.

SECTION 7.2: RECOMMENDATIONS

- <u>A.</u>) If the levy of TDS means that the entire income of an individual is 'reported' our analysis suggests maximisation of the total reported income would be achieved by setting the tax rate to 0.
 - $_{\circ}$ In practice, this rate can be set to the lowest level seen in comparable asset classes, i.e. 0.01%
 - When it comes to supporting tax collection, even taxes in the range of 0.01% to 0.05% are sufficient to collect the entire income tax due from a market maker through the TDS. Since market makers are the key players enabling competition, 0.01% should be the maximum TDS rate to try and restore a level playing field (given that they are operating on spreads of 10-20 bips)
 - If the policy objective is to maximise compliance, the Annual Information Returns (AIR) can be used as a template which, in combination with the PMLA, can potentially achieve the same level of tracking that the TDS currently provides, without the distorting effects of a tax.



- <u>B.)</u> If the tax is to be reduced, the penalties should be kept at the current level instead of decreasing proportionally.
 - Alternative penalty structures like that for non-filing of AIR (fixed fee), on the gross value of transactions for which TDS has been filed or retrospective audits of past periods.
 - If the objective of penalties is to increase the relative cost of dishonesty, the applicability of TDS and related penalties on non-compliant exchanges should be prioritised at a higher rate
- <u>C.</u>) A tax regime should be introduced that reflects the different nature of VDA transactions.
 - For example, a tax similar to STT or CTT should be introduced for tax compliant VASPs registered with FIU-IND, while TDS can be applied for cash or private transactions above a certain threshold.
- <u>D.</u>) Ultimately, an appropriate licensing regime is required as part of a comprehensive regulatory framework to appropriately categorise the different types of VDA activities and assign them appropriate tax rates and structures that correspond to other asset classes such as securities and commodities.
 - In the interim while a regulatory framework is set up, we suggest considering a sandbox licence for VASPs currently registered with FIU-IND and with a domestic subsidiary with a local director.



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END NOTES

[1] <u>https://www.livemint.com/news/india/income-tax-department-s-tds-collections-surge-to-39-of-gross-direct-tax-receipts-driving-compliance-11681756156736.html</u>

[2] https://pib.gov.in/PressReleasePage.aspx?PRID=1994259

[3] <u>https://cleartax.in/s/tds-rate-chart</u>

[4] Section 194O of Income Tax Act, added in 2020 https://cleartax.in/s/section-194o

[5] https://icmai.in/upload/Taxation/RATES TCS 2020 21.pdf

[6] <u>https://timesofindia.indiatimes.com/city/ahmedabad/tcs-tds-make-business-tough-for-bullion-traders/articleshow/91243975.cms</u>

[7] <u>https://www.thehindubusinessline.com/markets/budget-2023-cpai-pitches-for-abolition-or-reduction-in-ctt/article66200683.ece</u>

[8] Annual Report Department of Economic Affairs, Ministry of Finance, Government of India, 2016-2017 (p.181)

[9] <u>https://www.pwc.in/research-and-insights-hub/immersive-outlook/addressing-the-tax-gap-in-india.html</u>

[10] <u>https://www.business-standard.com/economy/news/most-states-had-less-than-a-million-itr-filers-with-non-zero-liability-123072500483_1.html</u>

[11] This is most often modelled as CRRA (constant relative risk aversion); in simple terms it means they value not getting caught over and above what the actual probability of getting caught is

[12] <u>https://www.irs.gov/pub/irs-soi/84inar.pdf</u> for reference, the official IRS annual report from 1984 on individual returns, which estimated total returns as USD 99.4 bn

[13] Based on prospect theory, i.e 'loss' and 'gain' is defined by an individual's perception of how much is the fair amount he deserves

[14] A review of this tendency can be found in the work of this of Skiba (2017) and Cremer (2015)[15] Developed by Kahnemann & Tversky (1979)

[16] Disposition effect, asymmetric price elasticities, elasticities of labour supply that are inconsistent with standard models of labour supply and the excess sensitivity of consumption to income

[17] Accounting for heterogeneity in individuals risk preference is necessary, as there is a steadystate between people trading on domestic and offshore exchanges.

[18] Although Yitzhaki (1987) proposes as income gets larger probability becomes higher, we propose the opposite is the case for VDAs. This is discussed in detail in the next section

[**19]** To be clear, auditors employ multiple strategies, including screenshots, video proof,

statements, etc. Nevertheless, we believe this observation still holds true, at least at the limit **[20]** Transactions not on the blockchain, within a private DB of a centralised exchange

[21] With the exception of law enforcement requests, entities in certain jurisdictions will not share private data in the absence of adequate justification to comply with local laws

[22] For the purpose of this exercise, individuals aiming to purchase large amounts of crypto assets relative to the amount they are selling

[23] This means that the amount of orders to buy 'on the orderbook' is far greater than to sell[24] It is important to note that this is not the case for CeFi exchanges, where transactions are happening on a private DB

CoinDCX

[25] For Monero, this has been partly mitigated through protocol upgrades including ring size increases and selection algorithm changes, but is more strongly applicable to less private VDAs like ETH and BTC

[26] BlockSci is (deprecated now) an open-source software platform for blockchain analysis <u>https://github.com/citp/BlockSci?tab=readme-ov-file</u>

[27] https://www.chainalysis.com/blog/bitcoin-fog-daubert-hearing-chainalysis/

[28] Personally published white paper by Arindam Misra, Joint Commissioner at the Tax Policy Research Unit, Department of Revenue, Government of India

[29] Interpol Innovation Centre github page <u>https://github.com/INTERPOL-Innovation-Centre/</u> TagPackConverters

[30] https://fiuindia.gov.in/pdfs/AML legislation/AMLCFTguidelines10032023.pdf

[31] Another example of this is an 'Eve-Alice-Bob-Eve' attack, whereby if there is an exchange 'Eve' intermediating transactions between two users, even if they are operating on a highly private blockchain, can be revealed <u>https://medium.com/bitdeal-co/no-ico-or-outside-investors-just-community-altruism-how-a-ph-d-4f236fdfb6b6</u>

[32] Network centrality is a key concept in the analysis of social networks that quantifies the importance or influence of a node (such as an individual or organisation) within the network. There are several measures of centrality, each highlighting different aspects of influence and prominence.

[33] Specifically those registered with FIU-IND as reporting entities under PMLA 2002

[34] <u>https://www.pwc.in/research-and-insights-hub/immersive-outlook/addressing-the-tax-gap-in-india.html</u>

[35] Not different than the usage of 'sticky wages' in basic Keynesian models

[36] The Annual Information Return (AIR) discloses high-value financial transactions carried out by assessees during the financial year. The AIR is required to be furnished under section 285BA of the Income-tax Act, 1961 by the specified persons in respect of the specialised transactions mentioned in the Act.

[37] <u>https://taxguru.in/income-tax/penalty-271fa-nonfiling-annual-information-return-air.html</u>

[38] That is, where previous assessment periods are also audited. The author uses the example of Germany, where it is typically 10 years

[39] With a few exceptions, like immovable property above INR 50L and transactions for NRIs, gold above INR 2L etc

[40] Coinbase, Binance, Bybit, Bitfinex, Kraken, etc.

[41] <u>https://www.coindesk.com/policy/2024/01/24/indonesias-crypto-tax-revenue-falls-63-in-2023-despite-bitcoins-surge/</u>

[42] Data Sources: <u>https://www.chainalysis.com/blog/2021-global-crypto-adoption-index/, https://www.chainalysis.com/blog/2022-global-crypto-adoption-index/, https://www.chainalysis.com/blog/2023-global-crypto-adoption-index/, https://databank.worldbank.org/source/world-development-indicators ,https://www.statista.com/statistics/1391056/mobile-wallet-penetration-worldwide-by-country/</u>

<u>#:~:text=Indeed%2C%20nine%20of%20the%2010,list%2C%20found%20in%20position%20nine</u>.

[43] https://www.researchgate.net/publication/5134196 Dollarization in Viet Nam



[44] <u>https://vir.com.vn/vietnam-implementing-de-dollarization-</u>

policy-71279.html#:~:text=Since%20October%2C%20Vietnamese%20and%20foreign,long%2Dte rm%20foreign%20currency%20loans.

[45] <u>https://www.euronews.com/2022/11/09/everything-is-overheating-why-is-turkeys-economy-in-such-a-mess</u>

[46] <u>https://www.reuters.com/markets/inflation-soars-argentines-say-theyve-seen-this-film-</u>before-2023-08-30/

[47] https://abokifx.com/home

[48] https://www.ngnrates.com/cbn-central-bank-of-nigeria

[49] https://www.cfr.org/cfr-sovereign-risk-tracker

