

# Taxing Cash

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## *Abstract*

*The cash economy enables, or at least significantly simplifies, many tax evasion schemes. This is not surprising; after all, cash transactions can go unreported and therefore remain concealed from both regulators and creditors. The tax collector operates as both a creditor and a regulator, which means that cash transactions impose negative externalities on tax collection and administration. These externalities could be corrected through a relatively simple Pigovian tax that would be imposed, prior to cash-mediated transactions, every time cash was withdrawn from the financial system. Tax authorities would not collect any tax when cash would be deposited.*

*This article argues that such a cash tax would make tax collection both easier and more accurate. If a cash tax were imposed, most of the legitimate economy would shift to non-cash exchange methods. In such a setting, cash transactions would be effectively limited to two categories: low-value transactions and transactions that benefit from the anonymity associated with cash. Transactions associated with tax evasion and other types of criminal activities likely comprise most of the latter category. Hence, because cash would comprise a relatively small portion of the formal economy's turnover, there are good reasons to believe that cash owners operating in the underground economy would be unable to roll over most of the cash-tax burden. This means that most of the cash-tax incidence would fall on those who use cash to engage in tax evasion or other forms of unreported behaviors. Such a cash tax would therefore reduce the lack-of-tax benefit associated with cash-based tax evasion along with the inequities and inefficiencies associated with it. Furthermore, it would allow policymakers to comprehensively address the externalities associated with unreported transactions in the cash economy.*

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|  |    |
|--|----|
| I. INTRODUCTION.....   | 67 |
| II. CASHING IN ON PRIVACY: TAX EVASION AND THE SHADOW AND<br>CRIMINAL ECONOMIES .....                  | 69 |
| A. Cash in Context.....  | 70 |
| B. Cash and Tax Evasion.....   | 71 |
| C. Cash, the Shadow Economy, and Criminal Activities.....  | 74 |
| III. A PIGOVIAN CASH TAX.....  | 77 |
| A. The Deadlock in Confronting Cash Based Tax Evasion.....   | 77 |
| B. Taxing the Cash Economy Through ATM Machines.....   | 78 |
| C. The Devil in the Details: Assessment of the Proposal’s Practicality .....                           | 82 |
| 1. <i>Concerns Over the Distributional Impact of the Cash Tax</i> .....                                | 83 |
| 2. <i>Concerns Over the Shift to Substitutes</i> .....   | 84 |
| 3. <i>Concerns Over Cash-Tax Windfalls</i> .....   | 87 |
| IV. BEYOND TAX ANALYSIS: DETERMINING THE CASH TAX RATE BY<br>CALIBRATING THE SOCIAL COSTS OF CASH..... | 88 |
| V. CONCLUSION .....  | 92 |

## I. INTRODUCTION

Cash is a paradox.<sup>1</sup> Why do individuals treat certain pieces of metal and paper differently from other similarly valueless objects? Despite this paradox, cash is an indispensable part of modern economies and is part of a complicated monetary regime.<sup>2</sup> Even though we take it for granted that the pieces of paper in our wallet offer a reliable representation of our consumption power, this monetary regime is anything but trivial.<sup>3</sup> Money (and cash, as a form of money) allow people to engage in complicated exchanges and to store and account for value—which is in many ways an extraordinary development.<sup>4</sup>

Cash, however, is just one form of money; unlike other forms, it has a dark side—individuals use it to conceal certain transactions from their creditors and the state. Why should governments support the use of cash? After all, cash is anything but neutral—today, in developed economies where credit and debit cards are widely available, much of the cash in the economy is used for illegitimate purposes.<sup>5</sup> Cash allows income underreporting, which is the most significant source of tax evasion,<sup>6</sup> and is also used for criminal activities.<sup>7</sup>

Policymakers and academics pay little attention to this dark side, even though the revenues lost due to evasion are gravely needed in most developed countries. These countries face dire fiscal deficits and a tax-competitive global environment that make their debts increasingly difficult to service. Furthermore, even when policymakers do address this dark side, they rarely do so in a comprehensive way: public finance literature focuses on how to detect unreported incomes in tax transactions; monetary literature focuses on the operational costs of cash as a method of exchange; and criminal law enforcement literature focuses on how to prevent money laundering. None of these literatures, however, addresses the overall social costs of cash usage.

The approach of taking cash as a given without trying to weigh its overall costs to society would have been understandable half a century ago. At that time, cash was a public good that, despite its imperfections, provided many benefits that allowed the modern industrialized economy to develop. Because cash had no real substitutes and accounted for almost all retail transactions, it made little sense to ask whether policymakers should try to assess the overall costs of cash to determine its optimal social use.<sup>8</sup>

Social reality has changed, however.<sup>9</sup> Today, cash is an inferior, formal-economy method of exchange (when compared to debit cards, for example), and the use

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<sup>1</sup> See Narayana Kocherlakota, *Money Is Memory*, 81 J. ECON. THEORY 232 (1998).

<sup>2</sup> BRUCE G. CARRUTHERS & LAURA ARIOVICH, *MONEY AND CREDIT: A SOCIOLOGICAL APPROACH* 7 (2010).

<sup>3</sup> *Id.* at 12, 24, 48.

<sup>4</sup> *Id.* at 24.

<sup>5</sup> See generally Gabriele Camera, *Dirty Money*, 47 J. MONETARY ECON. 377 (2001) (suggesting that approximately fifty percent of the cash stock is used to promote illegal activities in the shadow and criminal economies).

<sup>6</sup> Joseph Bankman, *Eight Truths About Collecting Taxes from the Cash Economy*, 117 TAX NOTES 506, \*3 (2007).

<sup>7</sup> See discussion *infra* Part I.C.

<sup>8</sup> See, e.g., David B. Humphrey, *Replacement of Cash by Cards in U.S. Consumer Payments*, 56 J. ECON. & BUS. 211, 211 (2004) (noting that 150 years ago cash accounted for almost all transactions).

<sup>9</sup> See *id.* (noting that many retail transactions have shifted to non-cash methods of exchange).

of electronic payment is widespread.<sup>10</sup> If cash no longer remains a bare necessity, maybe the time has come to ask how to use it in an optimal way, what its benefits are, and whether the advantages justify its costs.

This article confronts these questions by arguing that, even though money is a public good that is supplied by the state to support modern economic activity, the use of cash as a form of money allows market failures such as free-riding on government services. Cash allows people to make anonymous, unrecorded transactions and thus to evade tax and avoid regulatory burdens associated with economic activities. The ability to underreport tax on cash-mediated transactions imposes costs on society and therefore operates as a negative externality. Thus, from a macro-social perspective, policymakers should optimize cash usage by requiring cash buyers and sellers in the cash economy to internalize its full range of costs.

This article proposes that these costs be internalized through a cash tax imposed on cash withdrawals from any financial service institution. This cash tax would not impose a tax on using or depositing cash and would not cover any non-cash transfers or consumption activity. Instead, it would operate as a corrective-Pigovian tax<sup>11</sup> intended to have parties internalize the costs that their activities impose on society.

As a result of the cash tax, most of the legitimate, formal economy, which is not engaged in underreporting of cash transactions, would probably shift to non-cash methods of payment. This suggests that the cash-tax burden would fall primarily on participants in illegitimate cash-economy transactions who engage in underreporting to attain the benefits of tax evasion and other regulatory violations.

The justification for a cash tax stems from the difficulty of detecting illegitimate cash transactions. This inherent challenge supports the concept that the costs of using cash should be imposed on cash usage as a whole. It is important to note that the cash tax offers no magic solution for eliminating all harmful effects of cash-based income underreporting. It offers an option to supplement existing policies that is viable only in high-income, developed countries that have an advanced financial sector. Furthermore, even those regimes would require some easily implemented yet important changes before the cash tax could be operational. Nevertheless, this article's cash tax proposal provides a useful way of optimizing the scope of the cash economy by forcing cash users to internalize some of the negative externalities of tax evasion and criminal activity associated with cash usage.

This article has three main contributions. First, it departs from classic tax compliance literature with respect to the cash economy by offering an alternative practical approach to deal with cash-related evasion—one that goes beyond the classic paradigm that more audit-based enforcement reduces tax evasion. Nobody likes to pay taxes, so collecting taxes is never easy. Indeed, when it comes to cash-based transactions, collection is more difficult than in other types of transactions. While the cash economy is widely recognized as the Achilles' heel of tax collection,<sup>12</sup> the literature on this issue typically emphasizes the need to invest more resources in detecting tax-evading cash transactions. This article's proposal takes a different course by taxing the cash economy indirectly without distinguishing legitimate from illegitimate transactions. Even though this article predicts that most of those paying the cash tax

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<sup>10</sup> See *infra* notes 22–26 and accompanying text.

<sup>11</sup> For a more precise definition of corrective (Pigovian) taxes, see *infra* note 86.

<sup>12</sup> See discussion *infra* Part I.B.

would be individuals engaged in underreporting, the proposal is a rough-justice approach that does not distinguish between evaders and non-evaders. This crude approach suggests that taxing cash transactions on a fault-free basis could help minimize the revenue loss, inefficiencies, and inequities of income underreporting more effectively than existing approaches.

The second contribution relates to the cash tax's ability to calibrate the costs of cash along many margins. The use of the cash tax is not restricted to countering tax evasion costs but could be implemented more generally to reduce the negative externalities associated with cash transactions. This idea of comprehensively optimizing the costs of cash sharply contrasts the current tendency of different state agencies (tax authorities, criminal enforcement, and central banks) to deal with the cash costs from their own individual perspectives.<sup>13</sup>

The third contribution relates to the way in which the proposal is presented. Rather than offering a bright-line solution that is simple yet unreasonable, this article acknowledges that the cash tax solution offers one of an array of tools that should be used to curtail tax evasion; the suggestion is not a panacea to the complex phenomenon of income underreporting. Therefore, the analysis elaborates on which steps should be taken to implement a cash tax that would provide a reasonable and equitable policy alternative. The analysis also recognizes that realistic constraints may dictate that tax authorities could only impose theoretically suboptimal cash-tax rates.

The cash tax framework offers an important method to supplement existing policies for limiting the costs of the cash economy. It opens a new debate about the cost of cash as a discrete issue and offers a concrete and realistic reform proposal that enables policymakers to consider the many costs and benefits of using cash as a medium of exchange.

Part II briefly surveys the current literature about cash as a method of exchange and the literature dealing with the role that cash plays in facilitating tax evasion, shadow economy transactions,<sup>14</sup> and criminal activities. Part III begins by explaining current difficulties in reducing tax evasion in the cash economy. It then explains the proposal and assesses the types of modifications that are necessary to make it administratively and politically plausible in high-income, developed countries. Part IV explores the boundaries of the cash tax debate and suggests that the cash tax should be assessed in light of the wide array of externalities associated with using cash.

## II. CASHING IN ON PRIVACY: TAX EVASION AND THE SHADOW AND CRIMINAL ECONOMIES

This part briefly surveys the economic literature about cash. It emphasizes that cash provides a private, unidentifiable, and unrecorded medium of exchange.<sup>15</sup> Hence, cash provides anonymity, which is a necessary feature of income-underreporting tax-evasion transactions, shadow economy exchanges, and criminal activities. The first

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<sup>13</sup> Most of the tax policy literature views cash transactions as an audit difficulty; the monetary regulation literature typically view cash only as an administratively costly method of exchange; and the criminal enforcement literature typically tries to capture cash transactions only when they involve large-scale money laundering activities. For more information, see *infra* notes 120–122 and accompanying text.

<sup>14</sup> See discussion *infra* Part I.C.

<sup>15</sup> See, e.g., Matteo Ricciarelli, Transaction Privacy, Crime and Cash in the Purse: An Analysis with Household Data 2, 16 (Apr. 24, 2007) (unpublished manuscript), available at [http://www.ec.unipg.it/DEFS/uploads/ricciarelli15\\_maggio.pdf](http://www.ec.unipg.it/DEFS/uploads/ricciarelli15_maggio.pdf).

sub-part explains the legitimate function of cash and also compares the benefits and costs of using cash to other methods of payment. The second and third sub-parts explain the role that cash plays in facilitating tax evasion and other types of shadow-economy and illegal transactions.

#### A. Cash in Context

Money is essential in a modern economy because it functions as an accounting unit, a store of value, and a medium of exchange.<sup>16</sup> It has emerged as a superior method of exchange because its uniform appearance, divisibility, and fungibility means that values of services and commodities can be standardized for different individuals.<sup>17</sup>

Many objects can serve as money, and in different times and places many have—ranging from pieces of metal to sophisticatedly printed paper notes to cowrie shells.<sup>18</sup> Though cash is just one form of money, until fairly recently, money and cash were synonymous—other than barter, cash was used as a method of exchange in almost every transaction.<sup>19</sup> Today, however, money and cash are two separate things for most people living in developed countries.<sup>20</sup> Cash is a set of physical objects that represent money, but most monetary assets are now disembodied and virtual, consisting of electronic accounting entries maintained in banks' computers.<sup>21</sup>

This modern system has led to many alternative methods of exchanging money, including electronic transfers, checks, debt cards, and credit cards.<sup>22</sup> In recent years, the use of cash as a medium of exchange has been decreasing in developed countries—debit and credit cards have gradually replaced even small, everyday purchases traditionally paid for in cash.<sup>23</sup> The introduction of mobile-phone-based “e-purses” in countries like Japan suggests that this trend may even accelerate in the near future.<sup>24</sup>

<sup>16</sup> See CARRUTHERS & ARIOVICH, *supra* note 2, at 6; see generally Luis Araujo, *Social Norms and Money*, 51 J. MONETARY ECON. 241 (2004) (explaining why money is needed as a method of exchange in large economies).

<sup>17</sup> See CARRUTHERS & ARIOVICH, *supra* note 2, at 52–71.

<sup>18</sup> JOE CRIBB, *MONEY* 16 (1986); CARRUTHERS & ARIOVICH, *supra* note 2, at 7.

<sup>19</sup> Humphrey, *supra* note 8, at 211.

<sup>20</sup> CARRUTHERS & ARIOVICH, *supra* note 2, at 7.

<sup>21</sup> *Id.*

<sup>22</sup> See generally Jayasri Dutta & Martin Weale, *Consumption and the Means of Payment: An Empirical Analysis for the United Kingdom*, 68 *ECONOMICA* 293 (2001) (arguing that the demand for cash depends on the availability of credit); Humphrey, *supra* note 8, at 221–23; Charles M. Kahn et al., *Money Is Privacy*, 46 *INT'L ECON. REV.* 377, 377–78 (2005).

<sup>23</sup> See generally Ron Borzekowski et al., *Consumers' Use of Debit Cards: Patterns, Preferences, and Price Response*, 40 *J. MONEY, CREDIT & BANKING* 149, 150 (2008); Hans Brits & Carlo Winder, *Payments Are No Free Lunch 5–7* (August 2005) (unpublished manuscript), available at <http://www.cepr.org/meets/wkcn/1/1627/papers/Winder.pdf> (providing information about the growing role of card payments in the Netherlands); Daniel D. Garcia-Swartz et al., *The Economics of a Cashless Society: An Analysis of the Costs and Benefits of Payment Instruments* 81 (AEI-Brookings Joint Ctr. for Reg. Studies, Related Publication 04-24, 2004), available at [http://www.phoenixhecht.com/treasuryresources/PDF/Brookings\\_economics%20of%20a%20cashless%20society.pdf](http://www.phoenixhecht.com/treasuryresources/PDF/Brookings_economics%20of%20a%20cashless%20society.pdf); Paul De Grauwe et al., *Issues of Efficiency in the Use of Cash and Cards* 13 (March 2006) (unpublished manuscript), available at [https://www.econ.kuleuven.ac.be/ew/academic/intecon/Degrauwe/PDG-papers/Discussion\\_papers/ISSUESofEFFICIENCY.pdf](https://www.econ.kuleuven.ac.be/ew/academic/intecon/Degrauwe/PDG-papers/Discussion_papers/ISSUESofEFFICIENCY.pdf) (noting that cash usage rates differ among countries, with Italy and Spain having a more pronounced use of cash compared to other EU member states such as France and the United Kingdom); Humphrey, *supra* note 8, at 213, 216 (noting that, since the 1990s, debit and credit cards are increasingly replacing cash in retail transactions throughout the United States).

<sup>24</sup> See Ruth Halpin & Roksana Moore, *Developments in Electronic Money Regulation—the Electronic Money Directive: A Better Deal for E-Money Issuers?*, 25 *COMPUTER L. & SECURITY REV.* 563,

The reduction in cash usage is considered to be a positive development. Even though cash is often perceived as costless, it is in fact a relatively expensive method of exchange that requires central banks and other state agencies to invest resources in maintaining institutional integrity and preventing forgery.<sup>25</sup> In light of both these public costs and other private costs, there is a general agreement that alternative payment methods—primarily the use of debit cards—involve lower social costs and therefore should be encouraged.<sup>26</sup>

Nevertheless, people continue to use cash for a variety of reasons. Individuals consider cash to be an inexpensive, convenient, and private medium of exchange with a low risk of fraud and abuse. It is especially efficient for small retail purchases (those under \$20), and it allows some people to better manage their personal budgets.<sup>27</sup>

#### B. Cash and Tax Evasion

A transaction that is not reported for income- or consumption-tax purposes creates an economic advantage in the form of saved tax payments. This economic advantage potentially benefits the seller as well as the buyer, thus increasing the demand and supply for such economic activity.<sup>28</sup> Hence, parties to transactions that could easily go unreported for tax purposes have a clear incentive to not report the exchanges.

The classic modeling of tax-evasion behavior views taxpayers' decisions to evade taxes as a rational gamble, in which taxpayers weigh the probability of detection and penalty level against evasion payoffs.<sup>29</sup> The impact of penalties on taxpayers' behavior is

564–68 (2009) (describing the difference in the implementation of e-money as a mass platform in Japan and the EU, and noting that cultural issues as well as high technology and uniform standardization made the penetration of e-money in Japan much more rapid).

<sup>25</sup> See, e.g., Brits & Winder, *supra* note 23, at 8–15 (surveying the costs associated with different methods of payment); Leo Van Hove, *On the War on Cash and Its Spoils*, 1 INT'L J. ELEC. BANKING 36, 41 (2008) [hereinafter Van Hove, *War on Cash*] (arguing that the circulation of notes and coins is labor intensive and costly); Leo Van Hove, Could “Nudges” Steer Us Towards a “Less-Cash Society”? 5 (Sept. 16, 2009) (unpublished manuscript), available at <http://ssrn.com/abstract=1317360> [hereinafter Van Hove, *Less-Cash Society*] (providing estimates of these costs in different developed countries).

<sup>26</sup> See, e.g., Ron Borzekowski & Elizabeth K. Kiser, *The Choice at the Checkout: Quantifying Demand Across Payment Instruments*, 26 INT'L J. OF INDUS. ORG. 889, 890–91 (2008) (arguing that card payments have lower social costs and that merchants' reluctance to accept them instead of cash because of their private costs is welfare decreasing); Garcia-Swartz et al., *supra* note 23, at 17–18, 52–54 (surveying the literature about the relative advantages and disadvantages of card payments); CARL SCHWARTZ ET AL., RESERVE BANK OF AUSTRALIA, PAYMENT COSTS IN AUSTRALIA 127 (2007), available at <http://www.rba.gov.au/payments-system/resources/publications/payments-au/paymts-sys-rev-conf/2007/7-payment-costs.pdf>.

<sup>27</sup> See Brits & Winder, *supra* note 23, at 26–31; CARLOS ARANGO & VARYA TAYLOR, BANK OF CAN., THE ROLE OF CONVENIENCE AND RISK IN CONSUMERS' MEANS OF PAYMENT 2–3 (2009), available at <http://www.bankofcanada.ca/wp-content/uploads/2010/01/dp09-8.pdf>; Nicole Jonker, *Payment Instruments as Perceived by Consumers—A Public Survey* 9–11 (De Nederlandsche Bank, Working Paper No. 53, 2005); Ricciarelli, *supra* note 15, at 2; SCHWARTZ ET AL., *supra* note 26, at 127; Van Hove, *Less-Cash Society*, *supra* note 25, at 6–7.

<sup>28</sup> Soren Pedersen, *The Shadow Economy in Germany, Great Britain and Scandinavia: A Measurement Based on Questionnaire Surveys* 19 (Rockwool Found. Research Unit, Study No. 10, 2003), available at [http://www.rockwoolfonden.dk/files/RFF-site/Publications%20upload/Study%20Papers%20-%20uk%20site/The%20Shadow%20Economy%20in%20Germany.%20Great%20Britain%20and%20Scandinavia.study\\_10.pdf](http://www.rockwoolfonden.dk/files/RFF-site/Publications%20upload/Study%20Papers%20-%20uk%20site/The%20Shadow%20Economy%20in%20Germany.%20Great%20Britain%20and%20Scandinavia.study_10.pdf).

<sup>29</sup> See generally Michael G. Allingham & Agnar Sandmo, *Income Tax Evasion: A Theoretical Analysis*, 1 J. PUB. ECON. 323 (1972); see also Susan Cleary Morse et al., *Cash Businesses and Tax Evasion*, 20 STAN. L. & POL'Y REV. 37, 38 (2009); Joel Slemrod, *Cheating Ourselves: The Economics of Tax Evasion*, 21 J. ECON. PERSP. 25, 35–36 (2007).

mixed, and there is no consistent evidence that imposing higher penalties significantly reduces instances of tax evasion.<sup>30</sup> In contrast, the probability of detection is undoubtedly the most significant factor in motivating tax compliance—payments that are easily traceable and subject to third-party reporting requirements or third-party withholding are typically reported accurately.<sup>31</sup>

It is difficult to characterize tax evasion because it comes in many forms and shapes and occurs in almost every type of profession; it may be done by otherwise legal businesses or by unlicensed or illegal ones. There are, however, two main tax-evasion methods: underreporting income and overreporting deductible or creditable expenses.<sup>32</sup>

This sub-part focuses on the income underreporting of the “hard-to-tax” cash sector.<sup>33</sup> This sector typically contains small businesses with low to medium incomes that sell primarily at the retail level and often receive and make payments in cash.<sup>34</sup> This can include self-employed taxpayers, such as professionals providing services (e.g., electricians); restaurants; sole proprietors; farmers; and other small business owners.<sup>35</sup> The agency costs of these businesses are small, so there are minimal non-tax business incentives for maintaining adequate accounts.<sup>36</sup> The large number of taxpayers in this sector, and the relatively low income many of them have, render it inefficient to use expensive and intrusive audits to scrutinize more than a small fraction of them.<sup>37</sup> Income underreporting relies on low-visibility transactions, and the revenues generated from cash transactions represent the most difficult-to-trace source of income.<sup>38</sup>

Undoubtedly, the understanding of tax evasion as a social phenomenon is multilayered and complex, requiring explanations based on history, culture, and behavioral psychology.<sup>39</sup> However, it is important to note that despite the great variations among societies, taxpayers, and evasion techniques, the ability to avoid detection by tax authorities offers the key factor in explaining why and how people evade taxes.<sup>40</sup> Because the only major difference between cash and non-cash income is how easy it is to

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<sup>30</sup> See Slemrod, *supra* note 29, at 38. This is partly because risk aversion and cultures of compliance among groups and individuals differ and partly because sporadic anti-evasion enforcement makes it legally and politically difficult to impose high penalties on those few evaders caught. See VITO TANZI, POLICIES, INSTITUTIONS AND THE DARK SIDE OF ECONOMICS 173–74 (2000).

<sup>31</sup> Slemrod, *supra* note 29, at 37.

<sup>32</sup> TANZI, *supra* note 30, at 172.

<sup>33</sup> Victor Thuronyi, *Presumptive Taxation of the Hard-to-Tax*, in TAXING THE HARD-TO-TAX: LESSONS FROM THEORY AND PRACTICE 101, 102 (James Alm et al. eds., 2004).

<sup>34</sup> Morse et al., *supra* note 29, at 49.

<sup>35</sup> U.S. DEP'T OF TREAS., OFFICE OF TAX POLICY, A COMPREHENSIVE STRATEGY FOR REDUCING THE TAX GAP 9 (2006) [hereinafter A COMPREHENSIVE STRATEGY]; INTERNAL REVENUE SERV. & U.S. DEP'T OF THE TREAS., REDUCING THE TAX GAP: A REPORT ON IMPROVING VOLUNTARY COMPLIANCE 15 (2007) [hereinafter REDUCING THE TAX GAP]; James Alm et al., *Sizing the Problem of the Hard-To-Tax*, in TAXING THE HARD-TO-TAX: LESSONS FROM THEORY AND PRACTICE, *supra* note 33, at 11, 13; Joel Slemrod, *Small Business and the Tax System*, in THE CRISIS IN TAX ADMINISTRATION 69, 90 (Henry J. Aaron & Joel Slemrod eds., 2004); TANZI, *supra* note 30, at 172.

<sup>36</sup> Alm et al., *supra* note 35, at 13.

<sup>37</sup> Thuronyi, *supra* note 33, at 102.

<sup>38</sup> REDUCING THE TAX GAP, *supra* note 35, at 15; see also Morse et al., *supra* note 29, at 39–40.

<sup>39</sup> For an example of sophisticated research on this topic, see generally Adam Forest and Erich Kirchler, *Targeting Occupations with Varying Reputations to Increase Tax Revenue*, 39 J. SOC.-ECON. 400 (2010) (analyzing anti-tax-evasion efforts in relation to social status); Erich Kirchler et al., *Effort and Aspirations in Tax Evasion: Experimental Evidence*, 58 APPLIED PSYCHOL. 488 (2009) (discussing tax evasion efforts).

<sup>40</sup> Slemrod, *supra* note 29, at 37.



conceal cash, taxpayers underreport cash payments rather than payments received through checks or other electronic payments.<sup>41</sup> Therefore, the common perception among policymakers is that the very “nature of cash means that there will always be an opportunity for tax evasion by people dealing in cash.”<sup>42</sup>

The tax-evasion practices associated with cash transactions have the following significant adverse effects.<sup>43</sup> First, they obviously have a problematic impact on governments' revenue collection.<sup>44</sup> For example, although it is difficult to estimate, businesses in the hard-to-tax cash sector in the United States are believed by some to underreport their income by fifty percent (although there is a considerable variation among different types of businesses).<sup>45</sup> Government officials and scholars estimate that income underreporting accounts for half of the revenues lost from tax evasion with respect to legal activities.<sup>46</sup> Under conservative estimates, the total amount of federal income and employment taxes evaded by the cash sector every year is at least \$100 billion, or ten percent of lost revenues—making it the biggest source of revenue loss.<sup>47</sup> In many other developed countries, this accounts for nineteen percent of lost revenues according to some measures.<sup>48</sup> The direct costs of tax evasion also impact governmental spending because the need to fight tax evasion requires additional spending on tax administration.<sup>49</sup>

The second adverse effect of cash-related tax evasion is the inefficiency associated with it.<sup>50</sup> Cash usage and, correspondingly, tax evasion are far from uniform across different sectors of the economy.<sup>51</sup> Hence, the ability to avoid costs by using cash provides taxpayers with an incentive to shift their activities into the cash economy.<sup>52</sup> This subsidy artificially inflates the cash sector without necessarily increasing the after-tax returns of those operating within it. In a competitive market, the increased incentives to work in the cash sector will increase the supply and push down the price for those activities.<sup>53</sup> In addition to the misallocation of resources between the cash and non-cash sectors, the use of cash for tax-evasion purposes imposes operational

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<sup>41</sup> This is true even though it is equally complex to report cash and non-cash transactions and, from a psychological perspective, similarly difficult to share them with the government. See Bankman, *supra* note 6, at 7; Morse et al., *supra* note 29, at 37, 40 (describing studies that show that individuals are more likely to underreport income generated from cash payments than from checks).

<sup>42</sup> AUSTRALIAN TAX OFFICE, *IMPROVING TAX COMPLIANCE IN THE CASH ECONOMY 1* (1997); see also TANZI, *supra* note 30, at 172 (suggesting that cash evasion is a phenomenon that relates to the economic structure of the economy and is more prevalent in small businesses).

<sup>43</sup> Slemrod, *supra* note 29, at 41.

<sup>44</sup> Glen Hepburn, *Estimates of Cash-Based Income Tax Evasion in Australia*, 25 AUSTL. ECON. REV. 54, 60 (1992).

<sup>45</sup> Morse et al., *supra* note 29, at 39; Slemrod, *supra* note 29, at 29.

<sup>46</sup> Morse et al., *supra* note 29, at 37–38; Eric Toder, *What Is the Tax Gap?*, 117 TAX NOTES 367, 376–77 (2007) (explaining how the tax gap estimates are generated, their strengths, and their weaknesses). The United States is considered to have high tax compliance, so one can expect that these estimates would also be true for other developed countries.

<sup>47</sup> Joseph Bankman, *Tax Enforcement: Tax Shelters, the Cash Economy, and Compliance Costs*, 31 OHIO N.U. L. REV. 1, 7 (2005).

<sup>48</sup> Alm et al., *supra* note 35, at 29 (noting also that the revenue loss due to the cash economy in developing countries accounts for fifty-seven percent of revenues).

<sup>49</sup> *Id.* at 26.

<sup>50</sup> *Id.* at 33 (summarizing the different inefficiencies associated with tax evasion); Bankman, *supra* note 6, at 1–2.

<sup>51</sup> Bankman, *supra* note 47, at 8; Slemrod, *supra* note 29, at 41.

<sup>52</sup> Bankman, *supra* note 6, at 1–2.

<sup>53</sup> Bankman, *supra* note 47, at 7–8.

inefficiencies that reduce the productivity within the cash sector. These include a wide array of costs ranging from anxiety and higher audit-related compliance costs to difficulties of attaining economies of scale.<sup>54</sup> Another tangible cost of underreporting income for tax purposes is the tendency to avoid depositing cash proceeds into the financial sector. This restricts the credit available for cash businesses, which forces them to rely on self-financing and also requires them to undertake costs associated with storing and spending the cash.<sup>55</sup>

Finally, and perhaps surprisingly, the impact of tax-evasion activities in the cash sector on issues of distributional equity is ambiguous.<sup>56</sup> On the one hand, it is clear that many of the people employed in the cash sector are low-paid workers or small businesses. On the other hand, affluent taxpayers own many of these small businesses.<sup>57</sup> Additionally, it is not clear that those working in the cash economy are the ones who capture the benefits of tax evasion, given the increased supply of labor in that sector.<sup>58</sup> Consumers in the cash economy, who tend to have higher incomes and education, share at least some of the lack-of-tax cash subsidy because they receive reduced-cost services and goods.<sup>59</sup>

Overall, tax evasion is most clearly inequitable for honest and risk-averse sellers and service providers in the cash economy who report their incomes. A housepainter or nanny who reports income cannot charge more for services than the market rate of return (which assumes cash payment and tax evasion). As a result, tax-evasion practices force otherwise honest taxpayers who operate in cash-sector activities to misreport their income to align with market practices or to seek different employment opportunities where they can compete without evasion.<sup>60</sup>

### C. Cash, the Shadow Economy, and Criminal Activities

This sub-part explains how cash transactions facilitate two additional types of illegal economic activities—shadow economy transactions and criminal transactions. The definition of the shadow economy varies and can, under different accounts, include three types of activities: unreported income from legal transactions, which are unreported mostly for tax-evasion purposes; unreported income from regulation-avoiding transactions, that aim to evade both taxes and regulation; and unreported income from criminal transactions, in which the sale of goods and services itself is considered to reduce social welfare and is therefore illegal (e.g., drugs and sexual services).<sup>61</sup> There are

<sup>54</sup> Alm et al., *supra* note 35, at 33; Slemrod, *supra* note 35, at 96.

<sup>55</sup> Morse et al., *supra* note 29, at 49, 53.

<sup>56</sup> Andrew Johns & Joel Slemrod, *The Distribution of Income Tax Noncompliance*, 63 NAT'L TAX J. 397, 410–11 (2010) (arguing that non-compliance does not have any dramatic effects on the Gini coefficient, which measures inequality of the after-tax resources, in the United States because income misreporting allows low-income taxpayers to reduce a higher percentage of their tax liabilities); Pedersen, *supra* note 28, at 96–97 (showing that the results are also mixed within high-income EU member states).

<sup>57</sup> Johns & Slemrod, *supra* note 56, at 407 (noting that many affluent taxpayers receive their revenues from small businesses that are structured as pass-through partnerships and S corporations); Slemrod, *supra* note 35, at 78.

<sup>58</sup> Alm et al., *supra* note 35, at 44–46.

<sup>59</sup> Bankman, *supra* note 6, at 4; Valerie Braithwaite et al., *Charting the Shoals of the Cash Economy*, in TAXING DEMOCRACY: UNDERSTANDING TAX AVOIDANCE AND EVASION 93, 105–06 (Valerie A. Braithwaite ed., 2005).

<sup>60</sup> Slemrod, *supra* note 29, at 42.

<sup>61</sup> TANZI, *supra* note 30, at 202–05 (providing a somewhat similar breakdown with respect to informal labor, adding an additional category of informal and casual business activity that is often too small to justify the burden of reporting and licensing).

obviously overlaps among these categories in the sense that they all involve illegal tax evasion, which carries criminal liability.<sup>62</sup> Furthermore, the evasion of income, employment, and consumption taxes is typically considered a major incentive for operating within the black market.<sup>63</sup> Nevertheless, this article addresses these categories separately.

The first category represents income-generating activity that is unreported “just” to evade taxes. The social costs associated with this activity have largely been addressed by the previous sub-part. Tax evasion results in lower revenues, increased compliance costs, major misallocation of resources, and some potential inequities. The second and third categories, which are addressed by this sub-part, represent off-the-books economic activities engaged in by unregulated businesses and criminal actors.

To avoid confusion between the different categories, this article uses the term “shadow economy” to refer only to the sale of (legal) goods and services that is unreported to avoid non-tax-related regulations. Accordingly, under this classification, if a housepainter fails to report his cash income to evade taxes, it would be considered a tax-evasion transaction, not a shadow economy transaction. But a gardener who does not report his income because he is hiring illegal immigrants and paying them less than minimum wage would be considered part of the shadow economy—because in this setting cash facilitates both tax evasion and regulatory avoidance. Illegal drug dealing would be considered an illegal transaction and not part of the shadow economy—even if the drug dealer hires illegal immigrants and even if he pays them less than minimum wage. While evading taxes and violating minimum wage and immigration laws may all be subject to criminal penalties, the distinction between those activities and selling drugs is the legality of the commercial activity itself. Selling drugs is illegal per se, whereas house painting and gardening are legal activities, so that the illegality of the above examples stems from the way that these activities are conducted and underreported.

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<sup>62</sup> For a few different definitions, see REDUCING THE TAX GAP, *supra* note 35, at 8 (including illegal income within the shadow economy); Alm et al., *supra* note 35, at 15 (stating that the shadow economy includes activities that are legal but unreported); Lars P. Feld & Friedrich Schneider, *Survey on the Shadow Economy and Undeclared Earnings in OECD Countries*, 11 GERMAN ECON. REV. 109, 110–11 (2010) (providing a number of definitions); and Slemrod, *supra* note 29, at 34 (noting that the scope of the shadow economy is not precise, and offering a definition that includes some tax evasion transactions that involve income underreporting by legal and regulated businesses but that exclude illegal criminal activity).

<sup>63</sup> Feld & Schneider, *supra* note 62, at 114, 116–17, 129; Friedrich Schneider et al., *Shadow Economies All over the World: New Estimates for 162 Countries from 1999 to 2007*, at 6 (The World Bank Dev. Research Group on Poverty and Inequality, Working Paper No. 5356, 2010), available at [http://www.econ.jku.at/members/Schneider/files/publications/LatestResearch2010/SHADOWECONOMIES\\_June8\\_2010\\_FinalVersion.pdf](http://www.econ.jku.at/members/Schneider/files/publications/LatestResearch2010/SHADOWECONOMIES_June8_2010_FinalVersion.pdf).

**Table #1: Breakdown of the Article's Categories**

|                             | The commercial activity itself is illegal | The activity is typically legal but conducted in an illegal way to avoid government regulatory scrutiny | The activity typically involves illegal tax evasion <sup>64</sup> |
|-----------------------------|---|---|---|
| Tax evasion transactions    | ×   | ×   | ✓   |
| Shadow economy transactions | ×   | ✓   | ✓   |
| Criminal transactions       | ✓   | ✓   | ✓   |

The question of why individuals choose to operate in the shadow economy has been subject to a considerable amount of social science research.<sup>65</sup> Other than evading their taxes, individuals operating in the shadow economy seek to avoid a whole array of costs associated with interacting with the government. These costs can vary considerably and range from registration and license fees to payments made in order to bribe corrupt officials.<sup>66</sup> Operating in the informal shadow economy also provides flexibility with respect to a wide array of regulatory costs, including immigration restrictions and employment regulations concerning minimum wage and retirement.<sup>67</sup>

<sup>64</sup> Tax evasion is considered a criminal behavior that could be subjected to significant criminal penalties of fines and incarceration.

<sup>65</sup> Klarita Gerxhani, *The Informal Sector in Developed and Less Developed Countries: A Literature Survey*, 120 PUB. CHOICE 267, 269 (2004); see generally Eric Friedman et al., *Dodging the Grabbing Hand: The Determinants of Unofficial Activity in 69 Countries*, 76 J. PUB. ECON. 459 (2000) (arguing that the cost of government corruption is the main incentive to operate in the informal sector in many countries); Johnson Simon et al., *Regulatory Discretion and the Unofficial Economy*, 88 AM. ECON. REV. 387 (1998). For an example of recent behavioral psychology research, see Forest & Kirchler, *supra* note 39 (suggesting that different groups in society may have different levels of risk aversion based on different degrees of reputational penalties if accused of tax evasion).

<sup>66</sup> Gerxhani, *supra* note 65, at 302; Stephane Straub, *Informal Sector: The Credit Market Channel*, 78 J. DEV. ECON. 299, 300 (2005).

<sup>67</sup> Feld & Schneider, *supra* note 62, at 116; Gerxhani, *supra* note 65, at 277–79. Criminal activities generating revenues—such as drug dealing, prostitution, illegal gambling, and protection fees—are typically not counted under official measures of the shadow economy. The extreme difficulty of assessing them and the fact that many of them are welfare reducing suggest that they should not be included in the national accounts. Schneider et al., *supra* note 63, at 4–5; Pedersen, *supra* note 28, at 15–16.

As with tax evasion, in unreported cash transactions, cash is an important component of the shadow economy's attempt to hide from government regulatory scrutiny. In fact, when it comes to the shadow economy, there is an almost total reliance on cash, one of the main characteristics of this market.<sup>68</sup> Even though it is very difficult to obtain reliable information about criminal activities, it is clear that both domestic and international criminal activities rely on cash as an almost exclusive method of exchange.<sup>69</sup> As in the case of shadow-economy and tax-evasion activities, the records of non-cash payments are risky and may lead to detection and high-penalty incrimination.<sup>70</sup>

Cash as a supplier of secrecy is an important component of shadow and criminal activities. The anonymity of cash allows sellers, service providers, and buyers (in the case of criminal activities) operating in the cash economy to go undetected. Cash as an institution also provides those operating in these illegal markets with a link to the formal economy in the form of an anonymous and general consumption power.

Because almost all shadow-economy and criminal transactions are mediated through cash, and therefore easily remain unrecorded, measuring the overall size of the shadow and (even more so) criminal economies is difficult.<sup>71</sup> Nevertheless, the shadow economy is believed to account for roughly ten to twenty percent of the GDP in high-income developed countries.<sup>72</sup> Criminal activities are estimated at many billions of dollars annually in the United States alone.<sup>73</sup>

### III. A PIGOVIAN CASH TAX

#### A. The Deadlock in Confronting Cash Based Tax Evasion

The literature on tax evasion suggests that there are no silver-bullet solutions for reducing tax evasion associated with underreporting of cash transactions.<sup>74</sup> When

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<sup>68</sup> Gerxhani, *supra* note 65, at 277; Gerhard Graf, *Some Stylised Facts About Cash and Black Economies in Germany*, 32 EUR. J.L. & ECON. 51, 51–52 (2011); Kenneth Rogoff et al., *Blessing or Curse? Foreign and Underground Demand for Euro Notes*, 13 ECON. POL'Y 263, 288 (1998) (noting that the underground economy holds about fifty percent of the currency supply in EU economies); Schneider et al., *supra* note 63, at 8.

<sup>69</sup> Rogoff et al., *supra* note 68, at 263 (noting that U.S. dollars dominate the global illegal drug trade); Friedrich Schneider, *Turnover of Organized Crime and Money Laundering: Some Preliminary Empirical Findings*, 144 PUB. CHOICE 473, 478 (2010) [hereinafter Schneider, *Turnover of Organized Crime*]; Friedrich Schneider, *The Hidden Financial Flows of the Organized Crime: A Literature Review and Some Preliminary Empirical Results 3*, 7 (July 2010) (unpublished manuscript), available at [http://www.econ.jku.at/members/Schneider/files/publications/LatestResearch2010/FinancialFlowsOrgCrime\\_July.pdf](http://www.econ.jku.at/members/Schneider/files/publications/LatestResearch2010/FinancialFlowsOrgCrime_July.pdf) [hereinafter Schneider, *The Hidden Financial Flows*] (using Table 2.2 to show how cash operates as a method of money laundering).

<sup>70</sup> Camera, *supra* note 5, at 379.

<sup>71</sup> Methodologically, these type of assessments require reliance on indirect measurements and some leap-of-faith assumptions—and, as one might expect, these estimates are subject to considerable dispute among academics. For an illustration of the difficulty of estimating the overall size of the shadow economy, see Trevor Breusch, *Australia's Cash Economy: Are the Estimates Credible?*, 81 ECON. REC. 394, 402 (2005); Feld & Schneider, *supra* note 62, at 111, 133. For an illustration of the difficulty of estimating the overall size of the shadow economy, see TANZI, *supra* note 30, at 188; Schneider, *Turnover of Organized Crime*, *supra* note 69, at 479.

<sup>72</sup> Feld & Schneider, *supra* note 62, at 135; Schneider et al., *supra* note 63, at 25–26; Pedersen, *supra* note 28, at 93–94, 121. In high-income developed countries, most cash transactions are legal but involve fairly small amounts, such that most of the cash turnover is actually attributed to the purchase of illegal goods and services. Camera, *supra* note 5, at 378; David Humphrey et al., *The Future of Cash: Falling Legal Use and Implications for Government Policy*, 14 J. INT'L FIN. MARKETS, INST. & MONEY 221, 231–32 (2004).

<sup>73</sup> David A. Anderson, *The Aggregate Burden of Crime*, 42 J.L. & ECON. 611, 626, 630 (1999).

<sup>74</sup> Slemrod, *supra* note 29, at 45.

detection probabilities are low, high penalties rare, and government services universal (or at least not conditioned upon tax payment), evading taxes is rational free-riding behavior.

The key to effective tax enforcement thus requires reliable as well as readily observable and easily analyzable information. Accordingly, third-party information reporting and withholding have been the prime mechanisms through which tax authorities have successfully reduced tax-evasion activities.<sup>75</sup> In the cash economy, however, this type of third-party information reporting is very difficult to enforce—especially with respect to retail activities by the self-employed and small businesses.<sup>76</sup>

The main enforcement tools that tax authorities use to deter tax evasion by cash-based businesses are audits and the threat of criminal penalties.<sup>77</sup> However, audits are expensive and often insufficient to uncover underreporting of cash income activities.<sup>78</sup> Although audits result in increased revenues, civil and criminal penalties are rarely used against legal small businesses, so their deterrence impact is limited.<sup>79</sup> Furthermore, perhaps because audits are politically unpopular, the rate of audits and criminal prosecutions have been decreasing.<sup>80</sup>

There are some useful ways to attempt to reduce tax evasion. For example, tax authorities can invest in information technologies and try to trace certain unusual purchases (e.g., luxury goods such as vacation homes and yachts) by self-employed taxpayers that typically indicate tax-evasion activities.<sup>81</sup> Nevertheless, while these actions are probably cost-efficient, they are still likely to require expensive audits and their effectiveness will be reduced by taxpayers' behavioral adjustments to them.<sup>82</sup>

The difficulty of confronting income underreporting in the cash economy has long-lasting effects on governments' abilities to raise revenues in the future because the widespread nature of cash-based evasion practices entrenches non-compliance norms. While most people tend to obey the law because of a mixture of respect for the political process and risk aversion to penalties, non-compliance by the cash sector seems to be an exception. These non-compliance norms make it more difficult to enforce compliance with tax law.<sup>83</sup>

#### B. Taxing the Cash Economy Through ATM Machines

This article advances a proposal that would limit the revenue loss, inefficiencies, and potential inequities associated with cash-based tax evasion by imposing a tax on

<sup>75</sup> A COMPREHENSIVE STRATEGY, *supra* note 35, at 9; Toder, *supra* note 46, at 378.

<sup>76</sup> A COMPREHENSIVE STRATEGY, *supra* note 35, at 9.

<sup>77</sup> Toder, *supra* note 46, at 378 (suggesting that a 20% increase in the IRS's \$11 billion annual budget would result in \$9 to \$10 billion of additional revenues).

<sup>78</sup> Morse et al., *supra* note 29, at 64.

<sup>79</sup> *Id.* This is consistent with the prediction of criminal enforcement when an offense is relatively widespread and enforcement is sporadic. TANZI, *supra* note 30, at 175; Bankman, *supra* note 6, at 5 (noting that the prevalence of tax evasion in the cash economy makes it difficult to enforce draconian laws to punish this behavior); Slemrod, *supra* note 29, at 43.

<sup>80</sup> Slemrod, *supra* note 29, at 38; Toder, *supra* note 46, at 378 (noting that a massive increase in the tax enforcement budget is not a realistic political option).

<sup>81</sup> REDUCING THE TAX GAP, *supra* note 35, at 28; Bankman, *supra* note 47, at 7; Morse et al., *supra* note 29, at 53–54.

<sup>82</sup> See generally Mirco Tonin, *Too Low to Be True: The Use of Minimum Thresholds to Fight Tax Evasion* (IZA Discussion Paper, No. 5509, 2011) (providing a telling example about how the use of industry thresholds to allocate audit resources made small businesses adjust their behavior and report income just above the threshold).

<sup>83</sup> Bankman, *supra* note 6, at 5 (arguing that these norms are also very difficult to reverse).

cash. This cash tax would be imposed every time cash is withdrawn from the financial system as a fixed percentage of the overall amount. No tax would be collected, however, when cash is deposited into the financial system.

This proposal responds to the facts that mitigating cash-based tax evasion through traditional audits is difficult, that tax is a facilitator of many tax-evasion transactions, and that much of the cash used today is directed towards illegitimate ends. Rather than discovering and punishing tax evasion, the proposal provides more of a level playing field between the formal and informal economies in developed countries. Its main theme is that, once a cash tax is imposed, taxpayers will adjust their behaviors so that cash will be used primarily for unreported transactions. If that is indeed the case, the incidence of the cash tax will fall primarily on unreported income. This sub-part explains the main attributes of the proposal. The next sub-part assesses the proposal and goes into the fine-tuning that an efficient and equitable implementation of the proposal would require. Part IV then discusses how policymakers should determine the actual tax rate.

The proposal assumes that it is neither possible nor desirable to eliminate cash-based income underreporting. Cash is an efficient payment method for small transactions or legal transactions that require privacy (e.g., to avoid identity theft). Cash would therefore probably still be used as a method of exchange even if all income underreporting were curtailed.

Cash users should nevertheless account for the fact that cash entails many social costs associated with income underreporting.<sup>84</sup> Hence, since the use of cash is not free, to truly optimize the use of cash, its users should internalize the social costs associated with underreporting. Currently, cash is offered to consumers for its par value—without carrying the price of its externalities. Naturally, without a clear price signal on its true cost, consumers inefficiently overuse cash.

The use of cash for unreported (i.e., tax-evading) transactions is not incidental— one could expect that many cash transactions within the legal economy are deliberately designed to attain tax-evasion benefits. Additionally, as mentioned,<sup>85</sup> most of the currency stock in developed countries is used to purchase shadow economy or criminal goods and services. Those attributes that make cash attractive—fungibility, divisibility, and anonymity—are precisely those that prevent tax authorities from identifying cash transactions that are part of an underreporting scheme. Hence, while cash is a legitimate method of exchange, a Pigovian tax on cash would optimize its usage.<sup>86</sup> This tax would not be as precise as income, employment, or consumption taxes in assessing taxpayers' economic well-being, but it would use an indirect means to ascertain tax liability by cash usage—which would roughly aim to capture the taxes lost due to cash-based tax evasion.

With some qualifications, which will be elaborated upon in the next sub-part, implementing the proposal would be relatively simple. The cash tax would be a withholding tax imposed at the point of entry—when cash is withdrawn from any bank or other regulated financial institution (including debit-based cash-back services, mutual

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<sup>84</sup> See *supra* Part I.

<sup>85</sup> See *supra* Part I.C.

<sup>86</sup> A Pigovian tax is a corrective measure imposed on markets that create negative externalities.

This tax is named after the British economist who first suggested using it in the 1930s. HARVEY S. ROSEN & TED GAYER, PUBLIC FINANCE 82–83 (2008).

funds, money services, etc.).<sup>87</sup> Cash deposited in the financial sector would not be subject to any type of tax. The cash tax would therefore operate as a presumptive tax—realistically assuming that much of this cash is probably withdrawn to generate unreported income.

In essence, the proposal puts significant emphasis on the role of the financial sector. The operating assumption is that tax authorities have access to transactions made through financial intermediaries. In the formal economy, financial intermediaries play a crucial role in providing revenue agencies with information about transactions made and assets held by taxpayers. The growing number of information-reporting requirements that tax authorities in developed countries impose upon financial institutions (e.g., reporting income derived from financial investments) suggests this is, indeed, the case.<sup>88</sup> The relatively low level of underreporting with respect to income subject to third-party information reporting suggests that taxpayers have internalized this indirect regulatory function of financial institutions.

This article argues that, when financial intermediaries cannot operate as information providers because they supply their consumers with difficult-to-trace cash, they should operate instead as tax withholders. This proposal meshes well with the tax-administration experience, which suggests that third-party information reporting and withholding are the most successful methods of inducing tax compliance.<sup>89</sup> That the cash tax would be an indirect withholding tax also highlights a limitation—namely that it should be a fixed rate and not vary according to the amount withdrawn or the taxpayer's income. Withholding taxes is an effective tax enforcement mechanism when it is crudely enforced because the tax withholder does not have sufficient information about the taxpayer. Accordingly, as the next sub-part demonstrates, to the extent that the cash tax has undesirable distributional effects, it will likely be corrected by other means.

To some, the use of a presumptive Pigovian tax may seem awkward—after all, a certain cash note can circulate multiple times. Some of these transactions may not involve tax evasion and therefore bear no negative externality—indeed some cash transactions probably even have certain positive externalities.<sup>90</sup> This type of critique suggests that Pigovian taxes should usually be laid only in those cases in which the harm is directly correlated with the activity. For example, every gallon of gasoline one uses inflicts a cost on the environment, in terms of greenhouse gas emissions, which is directly correlated with the amount of gasoline used.

However, Pigovian taxes are also employed when the harm is not directly correlated with the usage. For example, many countries apply such taxes with respect to alcohol and tobacco consumption—even though consumption at low levels does not result in negative externalities. While excessive alcohol and tobacco consumption may indeed have significant negative externalities, the same indirect Pigovian tax rate is imposed on both light and heavy smokers and drinkers. Therefore, the observation that a

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<sup>87</sup> The financial industry is comprised of only a few types of regulated institutions, which suggests that tax authorities can expect almost full compliance when imposing the cash-tax withholding requirement upon them.

<sup>88</sup> See, e.g., ORG. FOR ECON. CO-OPERATION AND DEV., USING THIRD PARTY INFORMATION REPORTS TO ASSIST TAXPAYERS MEET THEIR RETURN FILING OBLIGATIONS 10, 19 (2006), available at <http://www.oecd.org/tax/taxadministration/36280368.pdf>; Leandra Lederman, *Statutory Speed Bumps: The Roles Third Parties Play in Tax Compliance*, 60 STAN. L. REV 695, 697–99 (2007).

<sup>89</sup> See *supra* note 30 and accompanying text.

<sup>90</sup> See *infra* Part III.



Pigovian tax on cash is inappropriate because some cash transactions have positive externalities serves merely as an example of why the perfect theory is often the worst enemy of a sound policy. Cash is fungible and anonymous, and tax authorities cannot distinguish among its uses at a reasonable cost—which is exactly why there is a need for a blunt instrument like the cash tax. As with tobacco, alcohol, and many other Pigovian taxes, policymakers would impose the cash tax to control the aggregated amount of externalities rather than try to trace the externalities associated with each individual transaction. A determination of this aggregated level derives from two factors: the extent to which cash is misused and the extent to which the cash tax would shift “legitimate” transactions out of the cash economy and the costs associated with that shift. The previous part elaborated on the first factor; the following paragraphs elaborate on the second factor. Taken together, these two factors suggest that the indirect cash tax on withdrawals would more closely resemble an indirect Pigovian consumption tax on petrol than a similar tax on alcohol or tobacco because it would apply almost entirely to cash transactions that have negative externalities.

Such a highly visible and salient cash tax would trigger two opposite behavioral responses. The first response would be by taxpayers who use cash in legitimate transactions, which include legal transactions in the formal economy where the consumer is not (knowingly or implicitly) part of an income-underreporting scheme. The crux of the matter is that once a cash tax is imposed, the amount of cash used to facilitate legitimate transactions would significantly drop. This would mean that most of the remaining cash transactions would involve some type of illegitimate underreporting objective. An example of such a transaction would be payment of cash at the supermarket or any other type of (typically large) business that accepts cash and other methods of payment without offering a cash discount. Consumers in these transactions would limit the use of cash to very small purchases where the convenience value of using cash was greater than the costs imposed by the cash tax. With respect to all other transactions, these consumers would try to shift to other methods of payment—assuming that such methods are cheap and widely available—to avoid the cash tax. Even relatively low tax rates would result in most legitimate transactions in the formal economy to shift away from cash. This is important because it suggests that, at least technically, the cash tax would be paid mostly by those participating in the shadow economy. The next sub-part elaborates on how to ensure this type of availability, but for now it is enough to assume that buyers and sellers in the fully reported formal economy would not want to absorb the cash tax on top of other tax liabilities.

The other behavioral response would be to avoid depositing cash in the financial sector by shifting to cash substitutes. Given that cash that enters the financial sector would be subject to the cash tax upon withdrawal, non-deposited cash would be worth more than deposited cash. At moderate levels of cash-tax rates, this second response has its limits, however, because holding a large amount of cash assets entails considerable storage and security costs.<sup>91</sup> The next sub-part addresses this issue in greater detail and considers various low-cost and practical ways to limit the negative impact of these behavioral tendencies on the effectiveness of the cash-tax.

These two behavioral responses highlight why the proposal could only be successfully implemented in high-income developed countries. These countries have advanced financial and communication services that allow for other forms of payment,

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<sup>91</sup> JACK WEATHERFORD, *THE HISTORY OF MONEY* 216–217 (1997).

such as checks and cards. For example, big employers in these economies, and indeed their governments, typically use monetary transfers to pay their suppliers and employees. The financial sectors in these countries offer valuable credit and financial services that allow businesses to expand. Hence, legitimate businesses and taxpayers have incentives not to maintain cash but to channel payments through the financial sector—because it is cheap, safe, and reliable and makes them credit-worthy.

Another reason why the cash tax could only be implemented in high-income developed countries relates to the relatively low magnitude of the cash economy in these countries. As mentioned, in high-income countries cash economies represent a significant part of the GDP, but most economic activity takes place in the formal reported economy.<sup>92</sup> Members of the cash economy who want to use their cash purchasing power would have to use a substantial amount of it in the formal economy, which in turn would provide incentives to deposit or invest at least most of that cash in the financial sector.

The above analysis suggests that the cash-tax incidence would fall primarily on those taxpayers who participate in cash transactions that involve some type of underreporting. If the legitimate economy shifts to non-taxed money transfers, cash holders would be primarily those participating in underreported transactions. Given that the size of the cash economy is relatively small, cash users would not be able to significantly affect marginal prices. This means that, rather than rolling the tax burden to the legitimate economy, cash users would have to internalize it.

Consider a bartender who receives most of her salary as tips paid in cash, which she does not report as income and which she does not deposit. When that bartender decides to purchase goods and services in the legitimate economy (e.g., a new car, daycare services, or prescription drugs) she will not be able to ask for a discount for paying in cash. The vast majority of consumers would use non-cash payments, and the car dealer, nursery, and pharmacy would prefer to sell those consumers the goods and services than to give the bartender a discount. Accordingly, the effect of the cash tax on the price equilibrium in the formal economy is likely to be small. Put differently, if a high-income developed country implemented the cash tax, cash economy participants, who rely on the anonymity of cash to avoid reporting their (essentially free-riding) economic activities, would not have sufficient market power to roll over the tax burden to the legitimate economy.

Theoretically, the appropriate cash-tax rate should, at the very least, attempt to mimic the amount of revenues lost due to unreported transactions. The cash tax is assumed to be a rough approximation of the income, consumption, and employment taxes that would have been levied if all transactions were reported. Hence, the cash-tax burden should aim to reduce the non-compliance benefits of using cash so as to reduce the inefficiencies and potential inequities of the cash economy.

### C. The Devil in the Details: Assessment of the Proposal's Practicality

The above sub-part stresses the main features of the cash tax. While the idea behind a Pigovian cash tax is relatively simple, this article does not suggest that it could currently be implemented in any high-income developed country. To make the cash tax a useful policy tool in managing the harmful effects of income underreporting, a few administrative and political concerns should first be addressed. This sub-part identifies

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<sup>92</sup> For example, in high-income developed economies, a large proportion of the economic activity is undertaken by large corporations that tend to engage in less cash-based tax evasion because of agency problems.

three major types of concerns—distributional issues, taxpayers' avoidance by use of substitute (for cash and financial institutions), and windfall to current cash holders.

### 1. *Concerns Over the Distributional Impact of the Cash Tax*

The first set of objections relates to the fact that cash usage is not uniform across society. Certain groups—e.g., low-income taxpayers, the elderly, and men—tend to use cash to purchase a higher percentage of their overall consumption.<sup>93</sup> In fact, as high-income, well-educated consumers have shifted to card payment methods, cash has gradually become identified as the method of exchange among the low-income population.<sup>94</sup> This is partly a result of convenience<sup>95</sup> but also because poor people are more likely to supply services and produce goods in the cash and shadow economies and therefore tend to have more cash available.<sup>96</sup>

Moreover, financial institutions may underinvest in providing and promoting financial services for low-income individuals and small businesses.<sup>97</sup> The relatively small amount of financial resources that low-income individuals possess, and the relatively low turnover of small businesses, make it less attractive for private providers of financial services to offer universal checking accounts and electronic transfer services. Hence, unless some actions are taken, the cash tax will have a regressive distributional impact, which would make it politically difficult to implement.

As mentioned, allowing cash-based income underreporting is a very inaccurate and inefficient method of redistribution.<sup>98</sup> Consumers of the cash economy, rather than providers of goods and services who underreport income, are the main beneficiaries of the lack-of-tax subsidy to the cash economy. Furthermore, many of the consumers in illegitimate cash transactions<sup>99</sup> (e.g., gardening and house cleaning services) are high-income, well-educated individuals who are fully aware of income underreporting by their counterparts who receive cash for their services.<sup>100</sup>

To prevent the cash tax's burden from falling on low-income individuals who are not willing parties to income underreporting transactions, the following steps should be taken. Some of the cash-tax proceeds should be diverted to creating a “public option” of low-cost financial services. Participating governments should enable every adult resident to open a free checking account to obtain a debit card and perhaps also to issue a limited number of pay-to-order personal checks (that would also be limited in amount). The government could easily and cheaply provide these services through the post office—and indeed several Western European countries (e.g., Germany) use their post offices as

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<sup>93</sup> Borzekowski et al., *supra* note 23, at 150–51; Borzekowski & Kiser, *supra* note 26, at 889–90; Jonker, *supra* note 27, at 12–14.

<sup>94</sup> WEATHERFORD, *supra* note 91, at 211–12.

<sup>95</sup> ARANGO & TAYLOR, *supra* note 27, at 5.

<sup>96</sup> Braithwaite et al., *supra* note 59, at 105–06.

<sup>97</sup> See, e.g., Michael S. Barr, *Credit Where It Counts: The Community Reinvestment Act and Its Critics* 110–30 (U. Mich. Law Sch. Program in Law and Econ., Working Paper No. 43, 2005); Alex Schwartz, *Bank Lending to Minority and Low-Income Households and Neighborhoods: Do Community Reinvestment Agreements Make a Difference?*, 20 J. URB. AFF. 269, 270–72 (1998).

<sup>98</sup> See *supra* notes 56–60 and accompanying text.

<sup>99</sup> The term “illegitimate cash transactions” refers to all three transaction categories referred to in Table 1, which include tax evasion, shadow economy and criminal.

<sup>100</sup> Braithwaite et al., *supra* note 59, at 105–106.

public banks.<sup>101</sup> Furthermore, the government should assure that low-cost electronic payment services are available for all small businesses. Additionally, transfers should be made to certain groups for whom adjusting to non-cash methods of payment would be more expensive and time-consuming (e.g., the elderly and people living in remote areas). The transfers made to these groups should gradually decrease over time, however: in the long run, a shift of consumers to non-cash methods of payment requires reasonable learning costs from most people.<sup>102</sup>

While these measures are not free of cost, they are not terribly expensive or difficult to achieve. Their overall cost should be weighed against the additional cash-tax revenues and the additional income, employment, and consumption tax revenues that would result from the increased reporting. In developed countries, many people have checking accounts, so the number of individuals who would need the public option should be relatively small. Additionally, most private-sector businesses that seek to attract middle-class consumption power are likely to already accept card payments. However, if the market for card services is not competitive, as is frequently the case,<sup>103</sup> the cash tax may increase the monopoly rents of card issuers and allow them to increase their interchange fees. While large retailers may have sufficient market power to resist such an increase, this increase may adversely affect small retailers.

The most administratively-efficient way to address this concern may be through antitrust regulation—but this type of solution may be politically difficult to implement. Hence, to the extent that card interchange fees are considered too burdensome on small to medium businesses,<sup>104</sup> providing a limited refundable tax credit for small businesses' interchange payments should operate as a carefully tailored low-cost subsidy that would substantially reduce these concerns.<sup>105</sup>

Overall, there are reasons to believe that the costs of these public option financial services and transfers would be relatively small as compared to the direct and indirect cash-tax revenue gains. Investment in providing the necessary public option and transfer payments support for the cash tax is even more justified if the cash tax would help reduce the cash economy and some of the inefficiencies associated with it.

## 2. *Concerns Over the Shift to Substitutes*

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<sup>101</sup> HANS E. BÜSCHGEN, *BANKBETRIEBSLEHRE* 67–68 (2003) (explaining the development of the Post Bank in Germany).

<sup>102</sup> Borzekowski et al., *supra* note 23, at 150 (noting that debit is becoming the most common method of payment).

<sup>103</sup> In many developed countries, only a few corporations, such as MasterCard or Visa, may control a substantial portion of the non-cash card payment services market. Hence, the cash tax may increase the monopoly profits of cash services.

<sup>104</sup> It is important to note that formal-economy businesses already have a strong incentive to accept card payments. Nevertheless, businesses with low turnover cannot bargain for low interchange fees and thus pay considerably more than big businesses. While interchange fees are deductible expenses, many small businesses are subject to a low tax rate, or none at all. As a result, these payments may put them at a competitive disadvantage.

<sup>105</sup> A carefully designed refundable tax credit for small business would provide a low-cost direct subsidy to counter this problem. The tax credit should be limited in its overall amount (e.g., \$2000–5000), provide only a percentage of the interchange cost (e.g., 15–30%, to maintain small businesses' incentive to lower their interchange fees), and phase out as income increases. Of course, while a tax credit may address some of the distributional concerns over the cash tax's impact on small businesses, some of the tax credit subsidy is almost certainly bound to “leak” to the credit card companies, which would be able to charge higher interchange rates.

The other concern that should be addressed is how to curtail the attempts of taxpayers to avoid the cash tax, either by using cash substitutes or by substituting domestic financial services with other forms of financial services. There are many substitutes to cash as a method of payment, such as barter, foreign currencies, and transferable checks. At the outset, it is clear that there are no perfect substitutes for domestic currencies—barter transactions would be limited in a cash-tax environment as they are today, foreign currencies carry foreign exchange risk, and anonymous checks carry considerable credit risks and legal enforcement risks resulting from the high possibility of fraud. Nevertheless, the cash-tax regime should try to limit the scope of abuse by taking a few simple steps: taxing foreign cash withdrawals from domestic financial institutions;<sup>106</sup> requiring that all personal checks by default be made-to-order, so that they are paid only to the named payee;<sup>107</sup> and/or stipulating that non-order checks be subject to the cash tax when refunded or deposited.

The cash tax cannot prevent some of the more sophisticated barter transactions. However, as the following examples illustrate, the scope of this manipulation is costly and limited. Consider a lawyer operating in the non-cash economy who can purchase groceries on behalf of his housekeeper using his debit card. This transaction would be subject to consumption tax, but would still allow the housekeeper's income to remain unreported. This type of manipulation is unavoidable, but it also has some serious limitations. The transaction may involve substantial time-related transaction costs to the lawyer and may not account for some of the housekeeper's most substantial expenses, such as mortgage payments. Therefore, the lawyer is probably unable to afford to engage in such a transaction with most of his service providers, with whom he may have little acquaintance, or when large amounts of money are involved. Perhaps most importantly, the payment in this transaction severely limits the circulation of cash because the money is immediately deposited in the non-cash economy. The housekeeper can avoid reporting income but cannot then use that income to further engage in unreported cash transactions.

Alternatively, the lawyer may pay his housekeeper with gift cards. By buying these gift cards with his debit card, he would pay the consumption taxes associated with this purchase. The benefit of this transaction is that the housekeeper can then use those gift cards as cash equivalents to make tax-free purchases in the cash economy. While it is possible to eliminate this avenue of abuse by forcing some type of identification requirement for purchasing and subsequently using the gift cards,<sup>108</sup> this type of strategy may involve non-trivial regulatory costs.<sup>109</sup> However, it is important to bear in mind that

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<sup>106</sup> This move may impose an unintended implicit tax on people who need foreign currency for their stay abroad. Although international card payments are available today in most countries around the world, they often involve substantial interchange and conversion costs. While one may consider compensating for these costs, this article considers such a move unnecessary for two reasons. First, most of the people who travel abroad frequently are relatively affluent. The cash tax is not likely to impose a substantial burden on them or to distort their behavior, so that its expected revenue surplus may be used to promote other more efficient and/or distributionally worthy ends (e.g., reducing marginal tax rates). Second, given that this group of taxpayers is an attractive consumer base, which is highly coveted by financial institutions, one would expect the market to respond to the cash tax by providing cheap non-cash credit or debit card payments abroad.

<sup>107</sup> In some countries this would require that a payee-only notice would be printed between two parallel vertical lines in the center of the check.

<sup>108</sup> As in the case of personal checks, this would require the card issuer either to designate the name of the authorized user or to levy an additional cash tax if the purchaser wishes to buy an anonymous card.

<sup>109</sup> Such costs could result from the relatively high number of potential participants that would be subject to the regulation. There are many large service providers and retailers that can issue these cards.

these costs may not be necessary because of the natural limitations of such a strategy. As in the previous example, the housekeeper may be unable to pay for all expenses using gift cards, and there could be a problem in verification that would make these exchanges unpractical when there is no personal acquaintance or when large amounts of money are involved. Evidence suggests that there may be a market for cash substitutes (e.g., food stamps) but that these are typically sold at a significant discount, and rational taxpayers would therefore prefer to pay the (probably) lower cash-tax rate.<sup>110</sup>

Cash taxpayers may also seek to avoid the cash tax by looking for substitutes in the domestic financial sector. Because cash accumulation is a low-yield yet risky investment strategy, many taxpayers may seek to either continuously spend their cash or deposit it in foreign banks. It is important to note that individuals operating in the cash economy already engage in this type of behavior.<sup>111</sup> Accordingly, to provide a *better* (rather than a perfect) policy alternative, the proposal should not be concerned with tax accumulation per se but should try only to make sure that participants in the formal economy do not also begin to engage in this type of behavior. For example, consider service providers in a family business who underreport their cash earnings and avoid depositing them. As long as they store or (more likely) spend the money, the probability of detection is negligible, and the possibility that they will face substantial penalties is practically non-existent. The important challenge, therefore, is not to get them to deposit their cash proceeds but to get those businesses in which they subsequently spend their cash to deposit most of that cash. Meeting this challenge is plausible because, in developed economies, a substantial portion of the economic activity is undertaken by big firms, the government, and other formal-economy businesses. Hence, the service providers would find it difficult to realize the consumption power of their cash assets solely within the cash economy.

To further prevent a situation of never-deposited cash proceeds, a government can impose a requirement that a certain amount of cash business receipts be deposited. For example, such a requirement can say that every business should deposit any cash received as business proceeds that exceeds the higher amount of either four thousand dollars or five percent of annual gross receipts. While this requirement is likely to have no impact on sellers in the cash economy, it can provide members of the formal economy with an additional incentive to deposit cash received. Put differently, such a requirement would not induce the drug lord to deposit cash, but it could affect the behaviors of his lawyer and accountant. It would likely assure that the manager of the department store where the drug lord does his shopping deposits the cash received.

Another way to limit cash accumulation behavior is to require employers to pay wages via pay-to-order checks or by direct deposits. Furthermore, tax authorities could deny part or all of the deduction of certain large business expenses paid in cash. These suggestions do not aim to eliminate cash storage entirely but rather to ensure that the formal economy deposits most of its cash proceeds.

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This differs from the situation of the financial markets where there are only a limited number of relatively homogeneously regulated players. Therefore, unlike with the financial sector, policymakers cannot expect nearly full compliance unless they establish a strong regulatory regime.

<sup>110</sup> Diane Whitmore, *What Are Food Stamps Worth?* (Princeton Univ. Indus. Relations Section, Working Paper No. 468, 2002), available at <https://www.msu.edu/~dickerc/301f06/whatarefoodstampsworth.pdf>.

<sup>111</sup> Morse et al., *supra* note 29, at 49.

The ability of taxpayers to substitute foreign financial institutions (which presumably do not impose a cash tax) for domestic ones creates a serious concern for policymakers. Even though tax-related information-sharing technologies, practices, and agreements have seriously developed over the course of the last ten years,<sup>112</sup> foreign financial institutions have no information-reporting or -withholding obligations. Hence, taxpayers can deposit and withdraw cash from those institutions and use it back home.

Although this state of affairs is unlikely to change in the near future, channeling cash abroad involves considerable transaction costs. While managing a foreign bank account through the Internet is relatively easy, depositing and withdrawing cash on a regular basis is not. Because most individuals do not live within a reasonable distance of an open border, withdrawing cash in a foreign country would be a tax-avoidance scheme with prohibitive transaction costs. To be effective in the EU, the single currency and open borders may require that the cash tax be imposed by all the major member states.<sup>113</sup> Alternatively, a single EU country can impose the cash tax unilaterally as long as there are strong information-sharing mechanisms in neighboring countries that would report large cash deposits, transfers, and withdrawals by its residents.<sup>114</sup> Nevertheless, taxpayers with considerable amounts of cash would seek to channel large amounts of funds to foreign banks in offshore financial centers with low tax rates and bank-secrecy laws. Cash channeling abroad is already taking place and is potentially a risky practice subject to criminal penalty.<sup>115</sup> The cash tax should not be expected to solve all problems—and this set of problems is probably better dealt with through money-laundering legislation.

### 3. *Concerns Over Cash-Tax Windfalls*

A cash tax would result in a windfall to existing cash holders. While taxpayers with deposited funds would have to pay a tax upon withdrawing the cash, existing cash holders would have their cash assets tax-free. This concern may not be substantial in the case of typical households, where cash is generally held in relatively small amounts. However, this windfall may turn out to be significant in the case of certain cash economy participants, particularly those involved in criminal transactions such as the drug trade.<sup>116</sup> In this context, the cash-tax windfall may increase political resistance to the tax. Policymakers can address this problem via two policies: demonetize existing cash assets and inflate deposited amounts. However, the cash tax would still offer a superior alternative to the current regime even if policymakers tried to implement the tax without addressing the windfall problem.

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<sup>112</sup> Jane G. Gravelle, *Tax Havens: International Tax Avoidance and Evasion*, 62 NAT'L TAX J. 727, 740–41, 746–49 (2009) (discussing some of the features of information-sharing with respect to U.S. citizens' investments in tax havens and how the systems could be improved).

<sup>113</sup> E.g., France, Germany, Netherlands, Denmark, Belgium, Sweden, and Finland.

<sup>114</sup> Information that a specific resident is investing considerable amounts of cash in a foreign jurisdiction may offer a very useful signal to the tax authorities to investigate the source of that cash.

<sup>115</sup> Gravelle, *supra* note 112, at 741–42 (stating that U.S. individuals hold \$50 billion in unreported assets in tax haven jurisdictions, and that the worldwide annual revenue loss due to tax evasion associated with money invested in tax havens may be as high as \$255 billion); Morse et al., *supra* note 29, at 27–28 (providing information about U.S. citizens and residents with foreign accounts, and noting that individuals open these accounts because they have some type of personal connection to the location or because these locations allow for tax evasion or protection of illegally acquired assets).

<sup>116</sup> Rogoff et al., *supra* note 68, at 280.

Demonetizing requires replacing all cash assets with new ones during a given time period after which the old notes and coins would no longer be valid.<sup>117</sup> Because the replacement of cash requires depositing it or exchanging it in financial institutions, a withholding cash tax can easily be imposed. However, demonetization involves significant administrative and compliance costs, especially in the case of cash assets that are frequently used by non-residents (namely the Euro and the U.S. dollar). Additionally, trying to impose a cash tax on foreign financial institutions may prove to be a difficult move from a foreign policy perspective.

Policymakers can also choose to inflate deposited currencies to counterbalance the windfall of cash holders. In fact, unless a government wants to implement capital control measures, such a step may be necessary as a transitional policy to avoid a scenario in which large withdrawals are made prior to the introduction of the cash tax.<sup>118</sup> This, however, may increase inflation and result in problems associated with cash assets deposited by individuals and corporations in foreign institutions.

Finally, policymakers can choose to adopt partial policies (e.g., only demonetize large notes above the value of one hundred dollars, which are those typically used in drug trade) or to take no action. As noted, the cash tax is a rough-justice approach. If no adjustment is made to offset the windfall, a drug lord may indeed experience a short-term windfall. However, in the long run, when the drug lord wishes to realize his cash-based consumption power—by buying a house for example—the money would enter into the financial system and thus be subject to the cash tax.

#### IV. BEYOND TAX ANALYSIS: DETERMINING THE CASH TAX RATE BY CALIBRATING THE SOCIAL COSTS OF CASH

As demonstrated in Part II, the costs and benefits associated with tax anonymity have been recognized by different strands of economics, including the literature dealing with public finance, the shadow economy, economic crime, and monetary regulation. Interestingly, each of these literatures views the case for and against cash only from its relatively narrow perspective. This part argues that the article's Pigovian framework allows the cash tax to look beyond the tax-evasion question. Sound policymaking should determine the cash-tax rate that would optimize the use of cash. To be clear, the article does not argue that the cash tax should eliminate other cash-related practices such as the shadow economy. It does suggest, however, that when determining the cash-tax rate, policymakers should try to view the externalities of cash in a broad way and not restrict themselves to curtailing tax evasion.

The suggested approach is very different from current scholarship. With some important exceptions,<sup>119</sup> most tax policy literature focuses on the costs of tax evasion and offers traditional mechanisms of more information reporting and audit-based enforcement

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<sup>117</sup> Countries typically undertake this process after periods of rapid inflation. The most recent case of demonetization occurred when the major EU member states introduced the Euro to replace certain national European currencies.

<sup>118</sup> Although a very gradual increase of the tax, along with a set of capital control measures, could be sufficient to address much of this problem.

<sup>119</sup> Bankman, *supra* note 47, at 8–10 (suggesting cross-checks of income tax returns with real property records and compensation of innocent taxpayers who are hurt by excessive audit burdens); Bankman, *supra* note 6, at 7–8 (raising the possibility of subsidizing the use of credit and debit cards); Morse et al., *supra* note 29, at 54 (suggesting that governments look for taxpayers with low reported income who make expensive purchases).



to reduce it without considering alternative anti-evasion methods.<sup>120</sup> Similarly, monetary regulation literature typically offers solutions that only aim to reduce the cost of cash as an inefficient payment method when compared to debit card payments.<sup>121</sup> The literature dealing with international money laundering and economic crime examines ways to reduce the use of cash by organized crime groups but usually fails to consider other negative externalities associated with cash usage.<sup>122</sup>

While the different solutions advanced typically do not conflict with each other, they all fail to consider the social costs of cash and who should bear them. The cash-tax framework, on the other hand, allows policymakers to do precisely that—aggregate the costs of cash and suggest that the majority of those costs should be borne by cash users. As such, the cash-tax proposal can operate as an important and effective supplement to other policies that seek to limit some negative externalities associated with the usage of cash.

The starting point of the analysis is that anonymous cash transactions are an unavoidable feature of the modern economy. Moreover, as long as cash is a legal method of exchange, a great number of cash transactions will not be reported. The analysis further assumes that optimal cash policy will not require eliminating all unreported cash transactions. Instead, the problem of underreporting should be approached as a collective action problem<sup>123</sup> in which the state can promote the efficient use of cash by forcing cash users to internalize the externalities of their cash preference. The rate of this tax should aim to reflect the true costs of cash anonymity as closely as possible—it should be calibrated against many margins and not restricted to questions of tax evasion.

The direct effects of revenue loss associated with underreporting of cash transactions were discussed in the previous part.<sup>124</sup> Most of the social costs associated with cash are easy to notice but difficult to quantify. Hence, rather than trying to model the true costs of cash, this sub-part points to the full range of cash externalities that policymakers should consider when setting the cash-tax rate.

First, income underreporting makes governments' attempts to monitor their economies much more difficult.<sup>125</sup> For example, if state welfare programs are means-tested and depend on recipients' incomes, then having a cash economy can reduce their accuracy.<sup>126</sup> This would result in inefficiency because it would provide welfare

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<sup>120</sup> AUSTRALIAN TAX OFFICE, *supra* note 42, at 14; REDUCING THE TAX GAP, *supra* note 35, at 6 (noting that IRS estimates about the tax gap do not include unreported income that was produced through criminal activities); Bankman, *supra* note 6, at 12–20; Thuronyi, *supra* note 33, at 112–19 (providing a detailed account of presumptive tax methods designed to levy some cash from the hard-to-tax sector, and noting that the common characteristic of all methods described is that they view cash-based underreporting only as a tax evasion problem).

<sup>121</sup> See *supra* notes 23–26 and accompanying text. See also Van Hove, Less-Cash Society, *supra* note 25, at 5, 8–9 (assessing the costs of cash and arguing that it should be more expensive); Van Hove, *War on Cash*, *supra* note 25, at 43.

<sup>122</sup> Camera, *supra* note 5, at 378–80; Humphrey et al., *supra* note 72, at 221–22; Rogoff et al., *supra* note 68, at 287 (suggesting that large bills should be taken out of circulation because of the excessive reliance of organized crime on them, but noting that this move may not have even a “marginal effect” on tax evasion); Schneider, The Hidden Financial Flows, *supra* note 69, at 16 and table 2.2.

<sup>123</sup> Van Hove, Less-Cash Society, *supra* note 25, at 9 (noting an unsuccessful attempt by two commercial banks to increase the cost of cash withdrawals).

<sup>124</sup> These costs are not trivial because lower revenues reduce the quality and quantity of public goods. Feld & Schneider, *supra* note 62, at 118.

<sup>125</sup> BRAITHWAITE et al., *supra* note 59, at 94.

<sup>126</sup> TANZI, *supra* note 30, at 175.

recipients with incentives to remain in the inefficient cash economy. Furthermore, if the welfare system is considered inaccurate, inefficient, or unfair, then the willingness of the more affluent taxpayers operating in the formal economy to subsidize it would be reduced.

Another example of the economic monitoring difficulty associated with cash is how the cash economy distorts the structure of tax collection. The difficulty in raising revenues from the cash sector requires changing the overall tax mix so that other sources of income (e.g., wages in the formal economy) or fiscal instruments (e.g., various consumption taxes) are taxed at a higher rate.<sup>127</sup> These higher marginal tax rates (laid on the formal economy) can be very distorting—in fact, high marginal income tax rates are known to reduce work incentives.<sup>128</sup>

Second, as mentioned in Part II.C, cash provides a method of exchange for the shadow economy. In addition to being less productive than the formal economy,<sup>129</sup> the shadow economy creates efficiency costs that are very similar to those of cash-based regulated businesses that evade a significant amount of taxation.<sup>130</sup> The actual costs of the cash economy are more difficult to measure because the cost of regulation and the lack of it are both hard to assess. The unregulated shadow economy may reduce welfare if, for example, one assumes that labor regulation represents social preferences on issues of minimum wage, immigration requirements, labor safety, and product liability. However, many of the unreported and unregulated shadow economy activities are not antisocial doings but simply byproducts of the temporary and informal employment realities of low-skilled individuals that are often too small to justify reporting.<sup>131</sup> Additionally, many shadow-economy activities would not exist if taxpayers were required to comply with the costs of government taxes and labor regulations.<sup>132</sup> Some studies suggest that the size of the shadow economy is correlated with the more rapid growth in developed countries.<sup>133</sup> Cash may therefore allow governments in developed countries to engage in price discrimination—putting tax and regulatory requirements only on productive industries without hampering the existence of the less productive ones. This article does not argue that the shadow economy is good or bad, but that all these effects should be taken into consideration.

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<sup>127</sup> Alm et al., *supra* note 35, at 31; Roger Gordon & Wei Li, *Tax Structures in Developing Countries: Many Puzzles and a Possible Explanation*, 93 J. PUB. ECON. 855, 857 (2009) (stating that the large-scale cash economy, which for the most part does not contribute any revenues to the government, explains the otherwise strange tax structure of many developing economies).

<sup>128</sup> Walter Blum & Harry Kalven, *The Uneasy Case for Progressive Taxation*, 19 U. CHI. L. REV. 417, 437–39 (1952) (noting that, under a progressive tax regime, gains may be taxed at higher rates than the rates at which losses are given deductions and that the high marginal rates significantly reduce the monetary reward of the most productive workers—giving them serious disincentives to work an additional marginal hour of work). *But see* Joseph Bankman & Thomas Griffith, *Social Welfare and the Rate Structure: A New Look at Progressive Taxation*, 75 CALIF. L. REV. 1905, 1944–45 (1987) (arguing that the impact of progressive tax rates has been overstated).

<sup>129</sup> Gerxhani, *supra* note 65, at 277 (noting that shadow-economy productivity is lower than that of the formal economy).

<sup>130</sup> *See supra* notes 50–55 and accompanying text (discussing the impact of misallocation of resources to the cash economy at the expense of the formal non-cash economy and the limits on external funding and economies of scale).

<sup>131</sup> TANZI, *supra* note 30, at 202–205; WEATHERFORD, *supra* note 91, at 213–14.

<sup>132</sup> Feld & Schneider, *supra* note 62, at 121.

<sup>133</sup> Alm et al., *supra* note 35, at 34–35; Gerxhani, *supra* note 65, at 293–94.

Additionally, in weighing the employment and growth benefits of a shadow economy, policymakers should assess whether there are alternative means to promote employment and productivity among unskilled workers.<sup>134</sup> The contribution of the current proposal is that it does not take the traditional course of fighting the shadow economy through deterrence.<sup>135</sup> Instead, the article's proposal leaves it to policymakers to try to establish the optimal level of shadow-economy activities by adjusting the cash-tax rate.

Third, as noted in Part II.C, cash helps facilitate criminal activities. Estimating the overall costs of crime is a relatively new field of study,<sup>136</sup> and the costs themselves encompass a large spectrum of direct costs (e.g., law enforcement expenditures and tax revenue losses) and indirect costs (e.g., insurance costs and lost work days).<sup>137</sup> The difference between the shadow economy and criminal activities is that, in the case of criminal activities, governments should more actively seek to eliminate them, rather than to just optimize their frequency. While crime reduces welfare, attempts to eliminate it are likely to be very costly and therefore not desirable. Just as a government should not place policemen at every street corner to eliminate crime, the cash tax should not aim to make criminal activities entirely unprofitable. Instead, the cash tax should make participation in these markets less profitable and more costly, which would hopefully encourage their contraction. Policymakers should account for the fact that a non-trivial amount of the cash used in developed economies is directed towards purchasing drugs, illegal sex, and gambling services and facilitating other criminal activities.<sup>138</sup> This suggests that a Pigovian cash tax should be adjusted upwards to account for more than the estimated revenue and efficiency costs of tax evasion.

Fourth, one of the major costs of the cash economy is that it fosters norms of tax evasion by income underreporting and facilitates mistrust in the tax regime. This is a vicious cycle because tax evasion norms and fiscal mistrust make tax enforcement more challenging and are difficult to change.<sup>139</sup> While the cash tax would not eliminate the problems associated with underreporting, it would help to reduce the amount of unreported income. It would also create a more level playing field between the formal and informal economies by reducing the lack-of-tax subsidy to the cash economy.

Fifth, cash supplies anonymity for a wide range of purposes. Cash can therefore serve as a way to hide assets from non-tax-authority creditors. To the extent that this activity is considered to be an antisocial behavior that requires government intervention, policymakers may wish to take it into account as well.

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<sup>134</sup> One should at least be skeptical as to whether allowing low-income taxpayers to benefit from tax and regulatory arbitrages provides the optimal subsidy to low-skilled individuals and to small businesses. First, this type of arbitrage-seeking behavior is not limited to low-income taxpayers, so the subsidy is very inefficient. Second, operating in the cash economy involves reduced access to certain public services (e.g., the judicial system and police protection) and reduces certain benefits of operating in the formal economy (e.g., social insurance and access to credit markets).

<sup>135</sup> Feld & Schneider, *supra* note 62, at 109.

<sup>136</sup> John Walker & Brigitte Unger, *Measuring Global Money Laundering: "The Walking Gravity Model"*, 5 REV. L. & ECON. 821, 822–23 (2001) (noting that this is a relatively new field and that while a lot of effort has been put into exploring crime, little effort has been put into exploring its financial aspect).

<sup>137</sup> Anderson, *supra* note 73, at 612, 630–635.

<sup>138</sup> Rogoff et al., *supra* note 68, at 281.

<sup>139</sup> TANZI, *supra* note 30, at 17; Bankman, *supra* note 6, at 5; Lars P. Feld, *Do We Really Know Much About Tax Non-Compliance?*, in THE ECONOMICS OF ETHICS AND THE ETHICS OF ECONOMICS: VALUES, MARKETS AND THE STATE 145, 148 (Geoffrey Brennan & Giuseppe Eusepi eds., 2010); Bernard Fortin et al., *Tax Evasion and Social Interactions*, 91 J. PUB. ECON. 2089, 2090 (2007); Slemrod, *supra* note 29, at 25.

Sixth, cash assets are already subject to an implicit inflation tax. In a low-inflation environment, inflation offers a suboptimal cash-tax solution because of its low salience and the fact that it is imposed on all holders of nominal assets, many of which are not necessarily in the form of cash. Accordingly, inflation may have little effect on extensive cash-tax users who do not have significant net cash holdings.<sup>140</sup> Nevertheless, policymakers should take this implicit inflation tax into account when calibrating the cash-tax rate.

Finally, despite the negative externalities of cash, it is important to bear in mind that cash has some positive externalities as well. Apart from providing a convenient payment method for small purchases, cash can provide privacy for a wide range of legal transactions. Taxpayers may value privacy for many reasons—because they purchase discrete goods and services (e.g., legal pornography), want to avoid identity theft or providing marketing information to third parties, or want to make a private transfer to a friend. While these privacy concerns do not render the cash tax an inappropriate method for monitoring the negative externalities of cash usage, they may counterbalance some of these negative externalities. When entering this discussion, one must remember that making privacy somewhat more expensive is not necessarily equivalent to infringing on it. While the cash-tax proposal definitely makes cash-purchase-related privacy more expensive, it may be considered less intrusive than other measures to counter cash-related tax evasion, such as aggressive audits. Privacy as a social value has many dimensions—and when considering how to best balance it in light of other public values and interests, policymakers should weigh the potential effects of each policy on it.

Regardless of what the costs of cash are determined to be, it is important to remember that determining the cash-tax rate would be a process of trial and error. As a Pigovian tax, the cash tax has the objective of promoting a shift of most formal-hyphen transactions to non-cash methods of payment. Hence, while the cash tax could be raised gradually to reduce the political objections to it, it needs to ultimately be high enough to encourage this shift. On the other hand, the cash tax should not be prohibitive—if set too high, formal and informal economy participants would avoid depositing cash by shifting to cash substitutes to avoid the tax upon withdrawal. The rate of the cash tax should therefore start low (perhaps around five percent), with the notion that policymakers should determine the ultimate rate through an ongoing process that aims at setting a *wise* rather than a *correct* rate.

Ideally, policymakers would aim to set the cash-tax rate above the ordinary consumption tax rate to account for tax evasion and other negative externalities of cash. However, the ultimate goal of the cash tax is to allow a more efficient use of cash by imposing as many of the costs *as possible* that are associated with cash usage on those participating in and benefiting from the cash economy. Accordingly, a wise (and cautious) policymaker would take into account the probable market salience of the tax,<sup>141</sup> and therefore likely prefer a lower cash-tax rate to avoid an inefficient shift to cash substitutes. This suggests that many of the cash economy participants would prefer to pay the lower cash-tax than to report their activities. This result would fall short of

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<sup>140</sup> As mentioned, many of the participants in the cash economy may have little, if any, savings. Hence, while they may use cash extensively, they would consume almost all of it immediately and thus not be subject to the inflation tax.

<sup>141</sup> David S. Gamage & Darien Shanske, *Three Essays on Tax Salience: Market Salience and Political Salience*, 65 TAX L. REV. 19, 19 (2011) (defining market salience as how tax presentation affects market decisions and economic activity).

eliminating the benefits of underreporting but would result in higher revenues and greater resource allocation efficiency when compared to the zero effective tax rate currently imposed on these activities.

## V. CONCLUSION

The cash-tax proposal presented in this article asserts that, instead of focusing on finding and prosecuting the wrongdoers, tax policymakers should put more emphasis on trying to tax them.

This proposal is built on two prongs: first, cash is no longer as much of a necessary medium of exchange in developed countries and therefore could be shifted away from with relatively low social costs. Second, transactions that create negative externalities due to tax evasion, the shadow economy, or the criminal economy all involve cash. Therefore, policymakers can manipulate the supply and price of cash to control some of its negative externalities.

The article offers a Pigovian tax framework to deal with one of the oldest problems haunting human civilization—tax evasion through underreporting. Some humility is in order when approaching a phenomenon that has persistently troubled enforcement agencies since the days of the Pharaohs. The cash-tax proposal cannot, and does not aim to, eliminate tax evasion and does not argue that investment in other tax enforcement mechanisms should be abandoned. It does, however, wish to supply tax authorities with an additional fiscal tool that deviates from their current approach of more audit enforcements to deal with this issue. Adding this tool can help tax authorities gain an important advantage in the long war of attrition that they have been fighting against tax evaders operating in the cash economy.