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ABSTRACT

Why do some individuals choose to evade taxes while others do not? In collaboration with Uruguay's national tax agency, we use unique data to address this question. Drawing on third-party reports, we measure income underreporting at the individual level as an indicator of tax evasion. We also collect novel survey data and link it to administrative records at the individual level. We then examine which metrics, if any, best predict tax evasion. Using survey questions and incentivized laboratory games, we measure traits such as honesty and selfishness. These traits exhibit little predictive power. In contrast, the behavior of former and current coworkers, as well as economic factors such as the marginal tax rate, are stronger predictors.

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A data appendix is available at http://www.nber.org/data-appendix/w28235

1 Introduction

Some individuals evade taxes, while others do not. What drives these differences in behavior? Economists typically begin with a utility maximization framework, in which individuals weigh the expected costs and benefits of evasion (Allingham and Sandmo, 1972). In this view, compliance decisions are shaped by financial incentives, such as marginal tax rates and audit probabilities (Allingham and Sandmo, 1972). However, other factors can influence compliance independently of financial considerations. These are often grouped under the umbrella term tax morale (Luttmer and Singhal, 2014). For example, some individuals may be intrinsically more honest or altruistic than others, or they may be influenced by social norms and the behavior of their peers. In this paper, we collaborate with Uruguay's tax agency to collect unique survey and administrative data linked at the individual taxpayer level. We study how three distinct factors—economic characteristics, social preferences, and peer behavior—predict which individuals are tax evaders.

The first part of the study introduces an individual-level measure of tax evasion in a high-stakes natural setting. Measuring tax evasion is inherently challenging, particularly at the individual level. With rare exceptions, governments cannot observe what individuals should have declared on their tax forms, nor can researchers (Slemrod, 2019). Our primary measure of tax evasion focuses on the underreporting of wages. Because taxpayers owe income taxes on each additional dollar of reported wages, they have an incentive to underreport to reduce their tax liability. As in most countries, individual taxpayers in Uruguay must file an annual tax return declaring their income, deductions, and withholdings. Uruguay also employs a third-party reporting system in which employers report information (e.g., wages paid) directly to the tax authority. We compare the information reported by taxpayers with that reported by employers and use discrepancies to identify which taxpayers underreport their wages and by how much. Our approach is similar to previous studies that measures the extent of evasion in personal (Best, 2025; Kumler et al., 2020) and firm (Almunia et al., 2024) taxation using a "mismatch" strategy.[1] While underreporting self-employment income might initially appear better suited than wage underreporting for studying interpersonal differences in evasion, the latter measure offers distinct advantages. In developing countries, third-party reporting enforcement is often limited (Brockmeyer and Hernandez, 2022; Carrillo et al., 2017), enabling taxpayers to evade taxes by underreporting wages despite third-party controls. Additionally, unlike self-employment income evasion, wage underreporting can be

[1] For example, Kumler et al. (2020) compares reported income from social security records with individuals' responses in household surveys to identify wage underreporting by formal firms. In contrast, we adopt a method that compares two sources of administrative records at the individual level—third-party reports and self-reported tax returns—to measure underreporting in the context of the personal income tax. Our approach is similar to that of Best (2025) in the context of Pakistan.

directly measured using administrative tax data.

We study the 151,565 taxpayers in Uruguay who received wage income and filed a tax return in 2016. We find that 15.5% of them underreported their wages. Among those who did, the average amount of evasion was approximately 17% of their tax liability—equivalent to USD 344. We provide evidence that these discrepancies are not the result of random mistakes. For instance, income underreporting is far more common than overreporting: while 15.5% of taxpayers underreport wages, only 3.9% overreport them. The disproportionate amount of mistakes in the direction that best serves the taxpayers' financial interest suggests that wage underreporting is largely intentional.

To provide additional evidence to validate this measure of tax evasion, we exploit a unique feature of the institutional context. In addition to the incentive to underreport wages, employees have incentives to misreport two other items on the tax form: tax deductions and tax withholdings. However, while wage evasion requires underreporting, evasion via deductions and withholdings requires overreporting. We find systematic overreporting of both deductions and withholdings. Specifically, 15.8% of individuals overreport deductions, compared to just 2.2% who underreport them. Similarly, 22.7% overreport withholdings, while only 2.9% underreport.[2] The fact that taxpayers underreport wages but overreport deductions and withholdings strongly suggests that the misreporting is largely intentional. We conduct several additional robustness checks. For example, we show that wage underreporting persists from one year to the next and remains substantial regardless of whether wages are stable or volatile, or whether the taxpayer has one or multiple employers.

The second part of the study introduces the measures we use to proxy the potential mechanisms that may explain differences in evasion choices across taxpayers. We begin with the measures of social preferences, which include a battery of 12 (incentivized) *laboratory games* and 12 (mostly non-incentivized) *survey questions*. Examples of the games include the dice game (measuring honesty) and the public goods game (measuring willingness to contribute to public goods). Examples of the survey questions include a standard item on stated tax morale (i.e., whether it is never, sometimes, or always justifiable to evade taxes) and a standard question on trust in government.

From the universe of 151,565 wage earners, we invited a subset of 68,208 taxpayers with valid email addresses to participate in the survey. A total of 6,078 individuals completed the survey, yielding a response rate of 8.9%. Although the sample is not perfectly representative, survey respondents are similar to non-respondents across all observable characteristics. Most importantly, respondents and non-respondents exhibit comparable rates of wage underre-

[2] For simplicity, these results on deduction and withholding misreporting are based on the subsample of taxpayers who report wages truthfully. See Section 3 for more details.

porting and overreporting of deductions and withholdings.

We use tax administrative data to construct employees' peer networks—that is, their coworkers. To do so, we follow the approach of Caldwell and Harmon (2022), in which coworker influence depends on the period during which individuals worked together. To approximate this concept, we construct two measures of peer influence. The *former coworkers underreporting* measure captures the evasion behavior of an individual's past coworkers at their current or any previous firm. In contrast, the *current coworkers underreporting* measure captures only the evasion behavior of an individual's present coworkers. Lastly, we use administrative data to proxy for some basic economic factors, such as the marginal income tax rate or the individual's income level.

In the third part of the paper, we leverage the linked survey and administrative data to examine which factors best predict who is a tax evader. We begin by documenting correlations between tax evasion and each of the three sets of factors. We find that social preferences—measured through the 24 lab and survey instruments—are largely uncorrelated with tax evasion. To illustrate this point, we can use the case of stated tax morale, which given its prominent use in the literature, we expected to have the highest correlation with *actual* tax evasion. However, the correlation coefficient between stated tax morale and wage underreporting is close to zero (-0.006), statistically insignificant (p-value = 0.613), and precisely estimated: the 95% confidence interval rules out correlations below -0.032. Specifically, 24.2% of taxpayers report that it is sometimes or always justifiable to evade taxes (i.e., they have low tax morale), while 75.8% say it is never justifiable. Yet the administrative data show similar rates of wage underreporting in both groups: 14.0% versus 13.4%, respectively. Most of the other correlations between laboratory and survey measures and tax evasion are close to zero and statistically insignificant. Even in the few cases with statistically significant correlations—such as generosity in dictator games or political ideology—the magnitude of these correlations is very small, and their signs often contradict our initial hypotheses. These conclusions hold consistently regardless of whether we use laboratory or survey measures, and remain robust after correcting for measurement error using standard approaches (Gillen et al., 2019).

Unlike lab and survey measures, peer evasion measures exhibit strong, statistically significant, and economically meaningful correlations with tax evasion. Consistent with our expectations, a higher proportion of evading coworkers is associated with a greater likelihood of underreporting wages. This correlation holds for both *current* coworkers (correlation coefficient of 0.599, p-value<0.001) and *former* coworkers (correlation coefficient of 0.462, p-value<0.001).

Finally, economic factors such as the marginal tax rate exhibit statistically significant

correlations with tax evasion, with magnitudes between those observed for social preferences and peer behavior. Higher marginal tax rates, higher incomes, and greater experience with tax filing are all associated with a higher probability of wage underreporting.

To more comprehensively assess the predictive power of these factors, we estimate regressions to predict who is a tax evader. We evaluate predictive accuracy using a standard metric: the area under the receiver operating characteristic curve (AUC).[3] Even when considered jointly, the 24 lab and survey measures perform only slightly better than chance in predicting wage underreporting (AUC = 0.575). In contrast, measures of wage underreporting by former and current coworkers have, by far, the highest predictive power (AUC = 0.899). The model based on economic factors—including marginal tax rates—performs between the other two models (AUC = 0.617). Furthermore, these findings are robust to alternative measures of evasion, different sets of controls, varying sample restrictions, and alternative definitions of the coworker network.

Taken together, these results provide important insights into which factors best predict tax evasion behavior. Social preferences exhibited little predictive value—an unexpected result. Economic factors performed somewhat better, but peer behavior emerged as the strongest predictor by a wide margin. These findings echo previous evidence that other contextual factors—such as friends, neighbors, and tax professionals—play a significant role in driving tax evasion (Chetty et al., 2013; Wilson, 2022; Drago et al., 2020; Battaglini et al., 2020; Boning et al., 2020), and highlight social influences as a key mechanism through which tax morale affects tax compliance (Luttmer and Singhal, 2014). Moreover, our findings suggest that these contextual factors merit greater attention in future research on tax evasion.

This study contributes to the literature on the role of tax morale in tax compliance. The hypothesis is that differences in tax evasion across individuals are partly driven by factors such as social preferences, beliefs about social norms, and the influence of peer behavior on tax compliance (for a recent literature review, see Luttmer and Singhal, 2014). However, there is still no consensus on the importance of tax morale in explaining tax compliance or on which of these channels plays the most significant role. Existing approaches, such as cross-country regressions (Kleven, 2014; Halla, 2012; DeBacker et al., 2015) and field experiments involving moral-suasion mailings (e.g., Slemrod et al., 2001; Blumenthal et al., 2001; Fellner et al., 2013; Castro and Scartascini, 2015; Slemrod, 2019), have significant limitations in terms

[3] This measure captures the probability that the model correctly identifies a tax evader when randomly comparing one evader and one non-evader. A value of 0.5 indicates performance no better than random guessing, while a value of 1 reflects perfectly accurate predictions.

of causal interpretation[4] and effectiveness[5]. We contribute to this literature by proposing a novel methodology that combines administrative tax evasion records with individual-level data on taxpayers' social preferences and peer networks. This unified empirical framework allows us to assess the distinct channels underlying tax morale, highlighting peer effects and social influence as particularly critical mechanisms driving tax compliance.

Our study also contributes to the literature examining the relationship between laboratory behavior and real-world outcomes based on administrative data, motivated by ongoing debates regarding the generalizability of lab findings (Levitt and List, 2007; Camerer, 2015). Previous studies have found some predictive power of lab measures of dishonesty on real-world behaviors, such as absenteeism among nurses (Hanna and Wang, 2017), fare evasion on public transport (Dai et al., 2018), and misconduct among students (Cohn and Maréchal, 2018). We extend this literature by using large-scale administrative data on tax evasion—a high-stakes measure of real-world dishonesty—and employing sample sizes substantially larger than those in previous studies, addressing concerns about publication bias (DellaVigna and Linos, 2022). Contrary to earlier findings, we show that lab measures of dishonesty and other social preferences exhibit minimal to no predictive power for real-world tax evasion, consistent with arguments that dishonest behavior is highly context-specific (Ross and Nisbett, 2011).

Finally, our study also contributes to a growing body of literature showing that social information transmitted through networks is a key driver of tax evasion. For example, Alm et al. (2017) uses a laboratory experimental approach to examine the role of peer effects on compliance behavior. Instead, we leverage rich administrative data to construct individuals' social networks and measure real-world tax evasion, providing direct evidence that peer behavior influences tax compliance decisions. This finding aligns with other studies using administrative data that identify contextual factors as key drivers of tax evasion. For instance, research shows that individuals learn evasion techniques from friends (Wilson, 2022), neighborhoods (Chetty et al., 2013; Drago et al., 2020), and tax professionals (Battaglini et al., 2020; Boning et al., 2020). Our paper contributes to this literature by focusing on a different social setting: the workplace. Although our research design does not allow us to establish causality, to the best of our knowledge, this is one of the first studies to provide evidence that tax evasion decisions vary with the extent of tax-evasion behavior among coworkers.

[4] Some attempts at causal identification include DeBacker et al. (2015), who compare the evasion behavior of U.S. firms with ownership from more and less corrupt countries, and Halla (2012), who employs an instrumental-variables approach based on immigration data.

[5] There are, however, some exceptions. Some evidence suggests that messages highlighting the provision of government services may help reduce tax evasion (Bott et al., 2020; Bergolo et al., 2023). Additionally, fairness concerns appear to influence other forms of tax compliance, such as late payments (Hallsworth et al., 2017) and tax appeals (Nathan et al., 2025).

The rest of the paper proceeds as follows. Section 2 describes the institutional context. Section 3 introduces the individual-level measure of tax evasion. Sections 4 presents the design we use to investigate the role of social preferences, peer behavior, and economic factors on tax evasion. Section 5 presents the results. The last section concludes.

2 Institutional Context and Data Sources

In this section, we present all the key features of the institutional context that are important for the analysis.

2.1 Country Context

Uruguay is a typical country in a variety of relevant metrics, such as the size of the government, the prevalence of tax evasion, and beliefs on social norms around tax evasion. Uruguay is a middle-high income country that scores low in corruption and high in human development.[6] Its tax revenue of 29.2% of the country's GDP in 2018 is similar to averages for Latin American (23.1%) and for Organisation for Economic Co-operation and Development (OECD) (34.3%) countries.[7] While cross-country comparisons of tax evasion are difficult, the available data suggests that tax evasion in Uruguay is not out of the ordinary. For example, according Gomez-Sabaini and Jimenez (2012), evasion of VATs was around 26% in 2008 in Uruguay, which is better than most Latin American countries and comparable to some OECD countries.[8] According to survey data, attitudes toward tax evasion in Uruguay are fairly typical. For example, according to the 2010–2013 wave of the World Values Survey, 77.2% of the Uruguayan respondents agree that evading taxes is never justified, compared with 68.2% for the other Latin American countries and 70.9% for the United States[9].

The main focus in our paper is on personal income tax (*Impuesto a la Renta de las Personas Físicas Categoría II*, or IRPF-II, in Spanish), specifically when applied to labor income.[10] Like in most of the world, the schedule of tax rates is progressive: individuals

[6] Uruguay's annual GDP per capita was USD 17,278 in 2018 (`https://datos.bancomundial.org/indicador/NY.GDP.PCAP.CD?locations=UY`). Transparency International ranks Uruguay 21st out of 198 countries (`https://www.transparency.org/en/cpi/2019/results`), and the United Nations Development Programme ranks Uruguay 52nd among 189 countries in terms of human development (`http://hdr.undp.org/en/content/2019-human-development-index-ranking`).

[7] `https://www.oecd.org/tax/tax-policy/global-revenue-statistics-database.htm`

[8] Gomez-Sabaini and Jimenez (2012) reports that Uruguay has the third-lowest VAT evasion rate among the nine Latin American countries included in the study. Gomez-Sabaini and Moran (2014) suggest that the corresponding rate for Italy would be about 22%.

[9] `https://www.worldvaluessurvey.org/WVSDocumentationWV6.jsp`

[10] The Labor income component we use does not include any type of capital income which is taxed in a separate schedule at proportional tax rates called IRPF-I. In addition to personal income taxes, Uruguay's

making below a minimum income have a 0% tax rate, and individuals in the highest tax bracket face a marginal tax rate of 30%. In 2016, the IRPF represented almost 13% of total tax revenue, the second-largest source of tax revenue after the VAT.[11] Like most developing countries (Jensen, 2022), personal income tax is characterized by a large income tax exemption floor. For instance, in 2016, the tax exemption threshold was set at USD 12,436.[12] As a reference, the minimum annual wage for 2016 was USD 5,931, and the median labor income was USD 11,848. Consequently, the burden of personal income tax relies mainly on individuals in the middle-upper part of the gross labor income distribution (e.g., about 34% of registered workers paid personal income tax in 2016).[13]

2.2 Tax Returns and Third-Party Reporting

Each year, individuals file an annual tax return via an electronic form (1102 form), which is comparable to the 1040 forms filed by U.S. individuals and on which individuals must declare all sorts of information. Most relevant for our analysis, individuals must report all sources of income, including wage and self-employment income, as well as tax withholding and tax deductions. Form 1102 then uses those inputs to automatically compute the taxpayer's total tax burden and generate the tax due or tax refund. Mainly due to the high tax exemption floor, most individuals are not required to file a tax return.[14] However, even the exempted individuals can still choose to file a tax return, for example, if they want to claim itemized deductions that are not reported by the firm or are not subject to third-party reporting (e.g. rent or mortgage expenses). As a result of tax filing exemptions, a minority of workers file a tax return each year, but these individuals represent a substantial portion of tax revenues: for example, in 2016, about 16% of all registered labor income earners filed a tax return, representing almost 45% of the personal income tax revenues.

As in the rest of the world, firms play an important role in individual taxation through third-party reporting. Employers must submit the electronic 1144 tax form to the tax agency. This form includes information on their employees for tax purposes (similar to form W-2 in the U.S.). It includes wage earnings, tax withheld and tax deductions, and it must be filed

tax revenues are collected through other taxes, such as VATs and corporate tax.

[11] Own calculations based on data from the Central Bank of Uruguay and from the Internal Revenue Service.

[12] This amount and all other dollar amounts discussed in the paper use the purchasing power parity (PPP)-adjusted exchange rate from 2018.

[13] This figure was extracted from technical reports by Uruguay's Tax Authority (`https://www.dgi.gub.uy/wdgi/page?2,principal,Documentos-Informes,0,es,0,`).

[14] Individuals required to file a tax return include workers earning self-employment income, and individuals with wage income from multiple jobs above a designated annual threshold. Employees with a single employer are not required to file a tax return, although they can (and often choose) to do so.

once a month.[15] Additionally, employers are required to provide their employees with an annual "income tax summary" that includes information on their total gross income, tax deductions, and tax withholdings, which employees can use to prepare their tax returns. Although this income tax summary must be provided by a deadline so that employees have enough time to prepare their tax returns, the specifics on how the information is shared are up to each firm. For example, some firms may send the information automatically to their employees, while other firms may require employees to log into a website to consult the tax summary electronically.

2.3 Tax Deductions and Tax Withholding

Personal income tax is calculated based on two components: a *tax part* and a *deduction part*. The difference between these components determines the personal income tax's total liability. The *tax part* is determined by applying a progressive schedule of tax rates on the individual's gross labor income, which includes all items related to wage and self-employment income received by a taxpayer during a fiscal year. The *deduction part* includes a relatively limited set of deductions allowed by the tax code, which are also subject to a progressive deduction rate schedule. There are two types of deductions: *itemized* and *non-itemized*. *Itemized* deductions include some personal deductions, such as child care and housing expenditures.[16] This study focuses on *non-itemized* deductions, which include all social security contributions (e.g., payroll taxes and mandatory health insurance contributions) and are proportional (i.e., a fixed rate) to the worker's gross labor income. The rate is set by law; for instance, the rate for taxpayers with dependent children is 21%.[17] Individuals who opt to file an annual tax return must report the amounts of non-itemized components to be deducted to calculate their tax liability. As previously explained, this information is available on the income tax summary provided by the employer.

Employers also play an important role in automatic income tax withholding. Employers use a pay-as-you-earn (PAYE) tax system to withhold income taxes from monthly wage earnings.[18] Amounts withheld are treated as advance payments of personal income tax due. To calculate the amounts to be withheld, the employer uses information on monthly taxable income, non-itemized deductions, and itemized deductions claimed by the employee on the

[15] The 1102 form and 1144 form reported by the employer must be completed using a unique online processing software program called PARS.

[16] *Itemized* deductions must be voluntarily claimed by the taxpayer, either indirectly through the employer using a 3100 form or directly on the annual tax return (1102 form).

[17] This 21% rate is the sum of a 15% rate for payroll taxes and 6% rate for mandatory health insurance contributions.

[18] Similar systems are used in other countries, including the U.S., Australia, New Zealand, and the United Kingdom (Slemrod, 2008).

3100 form. In practice, every month employers have to determine the employee's tax liability by computing the monthly *tax part* and *deduction part* and taking the difference between those components, as explained above. The employer is required to remit the personal income tax withholding monthly. If the annual amount withheld exceeds the annual tax liability, the worker is entitled to receive a refund, which can be received either as a deposit to their personal bank account or in cash.

2.4 Employer-Employee Matching of Administrative Data

We combine multiple sources of administrative data provided by Uruguay's Tax Authority to construct a panel of taxpayers for 2015-2016.[19] Although the dataset includes self-employed individuals, our analysis focuses on wage earners, as this group enables measuring misreporting through employers' third-party reports. The two primary datasets are individual tax returns (Form 1102) and third-party reports from employer statements (Form 1144).[20] These datasets are linked using masked national identification numbers for individuals and firms, which also facilitate integration with other administrative data sources. Consequently, we incorporate individual-level data, such as year of birth and gender, as well as firm-level information, including number of employees, sales, and industry activity codes. Furthermore, we identify taxpayers' coworkers through the firm-level identification numbers.

3 Measuring Tax Evasion at the Individual Level

3.1 Sample of Interest and Descriptive Statistics

The sample of interest consists of 151,565 taxpayers who earned their income exclusively through wages and filed a tax form in 2016.[21] For this sample, we study tax evasion by comparing the self-reported tax return to the employer's third-party report. This sample comprises 44.9% females with an average age of 45, earning USD 36,450 annually, with 31.5% working for multiple employers. Compared to all registered workers, our sample of wage earners and tax return-filers is demographically similar but substantially richer due to

[19] In the future, we may obtain data for additional years, both more recent and earlier.

[20] We merge the tax returns and employer reports to obtain comprehensive information on gross wage earnings, tax types, deductions, and income tax amounts withheld by employers. Additionally, the tax agency provides data on calculations of the *tax part*, *deduction part*, and the final tax owed or credited for each taxpayer.

[21] This sample excludes 24,607 individuals who, in addition to wage income, reported self-employed income. We exclude them because the comparison with third-party reports has limitations for this sample. We also exclude 8,556 individuals who reported wage income on the tax return but for whom the information from the third-party report is missing in our dataset. By construction, it would be impossible for us to measure misreporting for this group.

high exemption thresholds. In turn, our analysis sample aligns closely with the characteristics of the universe of tax filers. Table A.1 in Appendix A, presents descriptive statistics.

3.2 Wage Underreporting

Our first, and main, measure of income tax evasion is the underreporting of wages by employees. Taxpayers are required to pay income taxes on each additional dollar reported as wages and therefore have an incentive to underreport wages to reduce their tax liability. Third-party reporting, in contexts of high enforcement capacity, should deter employees from underreporting income for tax evasion (Kleven et al., 2011, 2016). For instance, in the United States, if an employee underreports wages relative to the employer's third-party report, the Internal Revenue Service automatically corrects the individual's tax form, updates the tax amount due, and notifies the taxpayer. Wage income subject to third-party reporting is heavily enforced in developed countries, such as the United States (Internal Revenue Service, 2016) and Denmark (Kleven et al., 2011). In developing countries, however, the effect of third-party reporting on tax compliance is constrained by weaker administrative capacity (Carrillo et al., 2017), even in the presence of tax withholding at the source (Brockmeyer and Hernandez, 2022).[22] In the country we study, Uruguay, the personal income tax was introduced recently (in 2008). Thus, the tax administration was still addressing a variety of pressing issues related to its implementation. We focus on a specific time period (2015–2016) during which the tax authority did not conduct a systematic and automatic cross-check between individual tax returns and third-party reports.[23] As a result, employees could underreport wages to evade taxes during our sample period.[24]

It is worth noting that our measure of tax evasion assumes the third-party reported wage by the employer is accurate. Since we measure the gap between the wages reported by the employer and the employee, a potential concern is that employees may report truthfully while employers are the ones misreporting. However, this alternative interpretation is rarely considered in related studies (Kleven et al., 2011; Best, 2025; Bergolo et al., 2021), likely

[22] Third-party information also has limits as a compliance mechanism, even in environments with high tax enforcement, especially if taxpayers can adjust on margins that tax authorities cannot easily verify (Slemrod et al., 2017).

[23] There was a major change in 2017, when the tax authority introduced pre-filled tax returns. On the pre-filled return, items such as labor income or personal deductions of taxpayers are pre-filled based on information from third-party reports, which may reduce this form of tax evasion by affecting the perceived probability of detection by taxpayers or by making unethical behavior more salient. Unfortunately, we do not have access to data after 2016 as of now to test this conjecture.

[24] As in other forms of tax evasion, the evasion attempt could backfire. For example, if selected for an audit, the discrepancy with the third-party report could be detected, in which case the employee would have to pay the evaded amount as well as the corresponding fines. However, audit probabilities and penalty rates tend to be quite low (Bergolo et al., 2023).

because firms face opposing incentives that discourage overreporting wages to the tax agency. While overreporting wages could reduce the firm's tax burden by inflating deductible costs from the corporate tax base, it would simultaneously increase the payroll taxes and social security contributions tied to employee wages, which likely impose a greater tax burden (Li et al., 2020). Indeed, this is the case in Uruguay's context. Firms are required to report total wages to the social security agency and pay contributions based on self-reported wages, providing some leeway to underreport the contribution base to reduce labor costs. However, the tax code allows firms to claim wages and social security contributions as labor costs deductible from the corporate tax base, counterbalancing the incentive to underreport employees' actual wages. Given this opposing set of incentives, assuming the employer-reported wage is accurate is a plausible assumption in our setting.

Figure 1.a presents the results for the discrepancies in wage reporting in 2016. Around 80.6% of wages reported by individuals coincide perfectly or almost perfectly (i.e., within 1%) with the third-party report of the employer (black bar). Around 15.5% of individuals underreport their wages (red bars), meaning that the reported wage is at least 1% lower than the employer's third-party report. Among those who underreport, the average discrepancy is 6.1%. Although these discrepancies could reflect potentially honest mistakes, we provide robust evidence to the contrary. Figure 1.a shows that income underreporting is far more prevalent than overreporting (blue bars): 15.5% of taxpayers underreport to some extent, but only 3.9% overreport their wages. The fact that taxpayers make disproportionate mistakes in the direction that best serves their financial interest suggests that underreporting is largely intentional.

That figure also shows that the significant fraction of individuals who underreport their wages do not do it excessively: the median underreporting is 4.8%, and the 25th and 75th percentiles are 3.1% and 7.0%, respectively. One potential interpretation for this behavior is that individuals engage in "motivated errors": i.e., subjects may act as if they are making a "mistake" that reduces their tax burden (Exley and Kessler, 2024). For instance, employees may be rounding down their true salary, accidentally reporting the wage from the previous year, or "forgetting" to include a bonus payment or sales commission.

To put these magnitudes in perspective, we estimate how wage misreporting affects the tax liability. To that purpose, we estimate the amount of tax misreported (i.e., the tax gap) as the difference between the individual tax liability based on actual tax returns versus what it would have been if, holding constant all the other items in the tax form, they had reported exactly the wages reported by the employer. Figure 1.b shows the distribution of the tax gap relative to the "true" tax liability. According to this analysis, 15.7% of individuals evade

taxes (i.e., they pay less in taxes than they should).[25] Moreover, conditional on evading something, they evade an average of 17% of their tax liability, which corresponds to USD 344.[26]

Finally, we can benchmark our results to other results from Pakistan presented in Best (2025) in 2007–2012. Similar to our study, Best (2025) compares third-party reports to the wages reported by the taxpayer in the tax form and classifies them as underreporters if they underreport by 0.25% or more. Best (2025) reports that 19.3% of employees from Pakistan underreport wages and, conditional on doing so, they understate them by an average of 15.6%. In comparison, using the same 0.25% threshold, we find that 18.5% of Uruguayan employees underreport wages by 5.2%, on average. The comparison between the Uruguay and Pakistan contexts has several caveats, however, including differences in institutional contexts, subject pools, and even how data is collected and processed. To the extent that tax compliance tends to be higher in more developed countries, we arguably expect tax compliance to be higher in Uruguay than in Pakistan. Thus, it is reassuring that despite all of those differences, the extent of wage underreporting reported for Uruguay is in the same order of magnitude reported by Best (2025) for Pakistan.

In contrast, the extent of wage underreporting should arguably be much lower in developed countries compared to developing countries. Factors such as automated tax filing systems (e.g., pre-populated tax returns) and automatic cross-checking mechanisms make it more difficult for employees to underreport wages relative to third-party reports. Consistent with that conjecture, evidence suggests that the degree of wage underreporting is substantially lower in some developed countries. For instance, Kleven et al. (2011) uses data from audits and finds that the fraction of wage underreporters in Denmark was 1.4% in 2006—an order of magnitude lower than the levels observed in our data for Uruguay. Similarly, wage underreporting appears to be rare in the United States (Johns and Slemrod, 2010).[27]

3.3 Deduction and Withholding Overreporting

Albeit suggestive, this evidence is not proof that individuals underreport their wage earnings to evade taxes. This underreporting instead could be due to asymmetrical mistakes (i.e., employees may be more likely to make downward errors than upwards errors). We test this hypotheses by exploiting the institutional context: although employees have incentives to underreport wages, they also have incentives to overreport tax deductions and tax withheld,

[25] We define taxpayers as tax evaders if their tax gap exceeds 1%.

[26] The median is 11% with an inter-quartile range of [6.9%, 18.4%].

[27] Johns and Slemrod (2010) uses data from a 2001 sample of audited taxpayers from the Internal Revenue Service national research program and report that wages subject to third-party reporting and tax withholding were underreported by an average of only 1%.

which are both third-party reported. In the case of deductions, our analysis focuses on the subset of non-itemized deductions (i.e., items that are proportional to the worker's gross labor income). For the sake of brevity, in the rest of the paper we refer to non-itemized deductions as just tax deductions.

Figure 1.c presents the results for deduction discrepancies. For simplicity, we focus first on individuals who report wages within 1% of the third-party report. The findings on deduction discrepancies in Figure 1.c align with those on wage discrepancies in Figure 1.a: most individuals report their deductions accurately, but those who misreport disproportionately do so in a way that reduces their tax liability. Specifically, 15.8% of individuals overreport their tax deductions, while only 2.2% underreport them. Figure 1.d examines discrepancies in tax withholdings, similar to the analysis in Figure 1.c for deductions. Like deductions—and unlike wages—individuals have an incentive to overreport tax withholdings. Figure 1.d shows that 22.7% of individuals overreport their tax withholdings, whereas only 2.9% underreport them. In summary, the evidence indicates that individuals disproportionately make "mistakes" that reduce their tax liability.

3.4 Evasion Choices Across Years

One interesting feature of our data is that we observe the same taxpayer making multiple decisions: each taxpayer must choose whether to misreport a specific item on the tax return (e.g., underreport wages) and then faces the same decision in subsequent years. Whether the decision to evade is persistent can provide suggestive evidence on the underlying determinants of tax evasion. Indeed, we find that individuals who evade taxes in one year are significantly more likely to do so in the following year. Figure 2 examines wage misreporting decisions for the same individuals over two years. This analysis focuses on the subset of taxpayers who filed tax returns and were pure wage earners in both 2015 and 2016. Figure 2.a corresponds to the subsample (79.6%) of individuals who reported wages accurately in 2015 based on third-party reports, while Figure 2.b corresponds to the subsample (10.6%) who underreported wages in 2015. The data reveal significant persistence in these behaviors. For example, among accurate reporters in 2015, 15.2% underreported wages in 2016; among underreporters, however, a substantially higher share (26.5%) underreported wages the following year. The difference between these two groups—11.3 percentage points (pp)—is large and highly statistically significant (p-value < 0.001). This persistence over time suggests that evasion choices are not purely random. Moreover, the evidence indicates that there is *some* scope for persistent individual traits, such as tax morale, to explain evasion choices across individuals.

3.5 Other Robustness Checks

For some employees, wages can increase or decrease from one year to the next. For other employees, wages can remain the same. It is possible that these wage changes play a role in the wage misreporting. For example, perhaps employees are underreporting wages because they forget, conveniently or accidentally, to update their reported wage to reflect recent raises. Or perhaps employees who have stable incomes do not misreport because there is less room for "mistakes." Figure 3 presents a simple analysis to explore whether wage changes play a role in wage misreporting. Each bar represents the average rate of wage underreporting in 2016 for a different group of employees. The employees are divided in groups (as listed on the x-axis) according to the change in their third-party reported wages from 2015 to 2016.[28] For example, the leftmost group corresponds to employees whose wages declined by 20% or more, while the rightmost group corresponds to employees whose wages increased by 20% or more. Some interesting findings emerge from this figure. First, the order of magnitude in rates of wage underreporting is similar across groups, regardless of the direction of wage changes. Furthermore, misreporting remains significant even when wages remain stable year over year, suggesting that while wage changes may play a role, they cannot be the whole story. Second, although the overall magnitude of wage misreporting appears similar across groups, there are notable differences in evasion depending on the direction of wage changes. Specifically, misreporting tends to be higher when the magnitude of the wage change is larger. One possible explanation for the higher underreporting associated with positive wage growth is "lazy" reporting behavior, which may lead to more accidental underreporting by those with a wage increase. However, this explanation does not hold up for wage decreases, where underreporting also increases. This pattern suggests that those experiencing a decline in income may attempt to compensate for their losses through increased tax evasion. Moreover, the fact that underreporting increases more in response to wage decreases than to increases lends additional support to this interpretation.

Just like wage volatility could create more room for misreporting, it is possible that having multiple employers could be conducive to underreporting. Perhaps taxpayers are reporting truthfully the wages from their main employer and failing to report the income from secondary employers. Or perhaps taxpayers have a harder time keeping track of their wages when they have multiple employers. To explore this mechanism, we split the sample into taxpayers who have a single employer vs. taxpayers with more than one employer. We find that the underreporting rates are on the same order of magnitude for both groups (see results in Appendix A.1). This evidence indicates that having multiple employers may

[28] As in the analysis of persistence shown above, this sample is based on the subset of individuals who filed tax returns and were pure wage earners in both 2015 and 2016.

influence underreporting, but its role appears to be minor.

A potential concern with our measure of evasion as wage underreporting is that employers may, for instance, overreport their wage bill rather than employees underreporting their wages. As discussed in Section 3, this alternative interpretation is unlikely in our setting because firms face opposing incentives to overreport wages to the tax agency. Nonetheless, we have provided direct evidence against this potential confounding factor by focusing on misreporting deductions instead of wage misreporting. We interpret the discrepancies between the deductions reported by employees and those reported by employers as evidence that employees are strategically overreporting deductions to evade taxes. The alternative interpretation—that employers are underreporting their employees' deductions—is implausible because firms have no incentive to underreport employee deductions: the tax deductions claimed by employees do not impact the taxes owed by their employers.

Finally, it is important to note that our measure of tax evasion is not the only form of tax evasion related to wages and thus constitutes a lower bound to tax evasion. Most importantly, employers and employees may collude to have part of the compensation off the books, and thus reduce the burden of payroll taxes or social security contributions linked to their employee's wages (and presumably split the savings between the two). There is some recent evidence that this type of collusion may take place, especially in small firms (Bjørneby et al., 2021; Bíró et al., 2020). Our measure of tax evasion takes the third-party reported wage for the employer as given, and then studies the choice of the employee to report that same amount or something different. As a result, our wage underreporting measures the amount of tax evasion above and beyond any additional evasion that may (or may not) take place through collusion.

4 Measuring Social Preferences, Peer Behavior, and Economic Factors

The previous section presented evidence of individual, real-world tax evasion in Uruguay using comprehensive administrative records. This section presents the design we use to investigate whether variations in taxpayers' evasion decisions are influenced by social preferences, peer behavior, and economic factors.

Specifically, this section first provides a summarized overview of the incentivized lab games and survey questions designed to assess social preferences. Additionally, we present a descriptive analysis of the lab and survey measures for our sample of taxpayers. In Appendix A.3, we provide the full version of the lab games and survey questions and formulate

hypotheses regarding the expected relationships between social preferences, beliefs, and our measure of tax evasion. Second, we present the measures of peer evasion behavior. Finally, we present our measures of economic factors.

4.1 Measuring Social Preferences

Survey Design: Overview. The survey is designed to be implemented with a sample of taxpayers who recently filed a tax return. The English translation of the full survey instrument is included in Appendix C, and the original Spanish version is in Appendix E. This survey was pre-registered in the Registry for Randomized Controlled Trials operated by the American Economic Association (RCT ID #0004108). The survey starts by collecting some background and demographic information about the respondent and then elicits the lab and survey measures, described in detail in the following sections.

Lab and Survey Measures. The respondent completes a series of laboratory games implemented as a series of incentivized survey questions. Right before starting, respondents see a screen explaining how the incentives work and emphasizing the importance of answering carefully and honestly because the games offer a real financial incentive: upon completion of the study, 50 respondents will be randomly selected to have one of their choices "executed". In other words, for each participant, one of their incentivized decisions will be randomly chosen, and the payouts will be calculated based on that decision. For example, in the dictator game, if the first player chooses to split $U 1,000 equally between herself and the second player, the researchers would pay $U 500 to each of them.[29] For those who are not among the 50 chosen respondents, their decisions remain hypothetical. The method of "executing" a random sample of choices is a common feature in laboratory experiments. Moreover, there is direct evidence that the probability with which each choice is "executed" does not matter as long as it is positive (Carson and Groves, 2007; Charness et al., 2016). To make the real financial consequences more salient, the following reminder message is displayed at the bottom of the screen for each of the incentivized questions: "There is a chance that this decision will be executed and therefore your choice could have real consequences."

We use these questions to obtain measures of evasion aversion, willingness to contribute to a public good, dishonesty, altruism, attitudes toward the government, trust in others, willingness to pay to punish unfair attitudes, inequality aversion, meritocratic preferences,

[29] Most games involve two players, but some games have more than two players. In all games, one or two players make decisions that affect the final allocation to two or more players. Games for which more than one player has choices are played sequentially. In all cases, the players and their choices are anonymous. As explained below, in those games that required a previous move by another player, the choices made by students who played the same laboratory game were used as answers.

impatience and risk aversion. The incentivized survey questions are summarized in Table 1A and its full version is provided in Appendix A.3.

Additionally, we include a series of questions used in social science to measure individual preferences and beliefs that may predict the decision to evade taxes. Specifically, we use them to obtain measures of tax morale, perceptions of workers' and firms' evasion levels, trust in others, trust in government, perceptions of government efficiency, preferences for redistribution, political ideology, perceived and desired progressiveness of the tax system, perceived inequality, and the role of luck relative to effort in explaining economic outcomes. The survey questions are summarized in Table 1B and its full version is provided in Appendix A.3.

Implementation Details and Descriptive Statistics. We sent invitations by email between April 2019 and June 2019, and all responses were collected during that same time window. Invitations were sent to the email addresses that the taxpayers reported to the tax agency.[30] Appendix B includes an English translation of the invitation email, and Appendix D includes the original Spanish version. This invitation describes a short survey for academic purposes conducted by researchers from universities in Uruguay, Argentina, and the United States. The invitation mentions that the survey relates to economic opinions and attitudes but provides no specifics on the hypotheses being tested. The invitation mentions a small monetary incentive to participate in the 20-minute survey: 20 raffle prizes of USD 150 each (plus additional potential rewards from the incentivized games).[31] The invitation also emphasizes that participation in the survey is voluntary, that the responses to the questionnaire are confidential and would be used only for academic purposes. To comply with this promise, after the survey responses were linked to the administrative records of the tax agency, the individual identifiers were removed. As a result, the survey responses remained anonymous to both the tax agency and the researchers.

Table A.1 presents descriptive statistics for survey respondents and non-respondents from the wage earner tax-filer sample.[32] Out of 151,565 wage earners, 68,208 were invited (those with valid email addresses), and 6,078 completed the survey, yielding an 8.9% response

[30] Taxpayers must file their tax returns in electronic format and submit the file by e-mail or in person at an official tax office. During the analysis period, including an email address in the tax return was optional. Taxpayers were required to include only a postal address and phone number. Therefore, we collected email addresses for taxpayers who included their email address in the tax return or delivered their tax returns by email (i.e., as an attachment).

[31] The median respondent took 21.88 minutes to complete the survey.

[32] We sent invitations to individuals outside of this sample, including 21,980 taxpayers with self-employment income, 1,828 of whom completed the survey. However, we do not present the data here because so far we do not have a measure of tax evasion for the self-employed and thus they do not play a role in the current version of the study.

rate.[33, 34] Although differences in characteristics between respondents versus those invited but not responding are statistically significant due to the large sample size (e.g., gender, age, income), their magnitudes are small, suggesting that survey response is largely independent of observable characteristics. To address concerns that tax evaders might avoid surveys, Table A.1 examines tax evasion measures. The underreporting rates among respondents (13.5%) and non-respondents (13.8%) are nearly identical, indicating that survey participation is unrelated to individuals' tax evasion behavior.

Finally, we provide some direct evidence that respondents paid close attention and understood most of the survey questions. We included a question at the end of the survey to assess the clarity of the survey and 98% of the respondents reported that they understood all or almost every question of the survey. We used two methods to check whether respondents paid close attention to the instructions. First, at the end of the questionnaire, we added a long question as an attention check, asking the respondent to select a specific option among a large number of options, and 94% responded correctly. This rate is high and consistent in magnitude with other survey studies using the same question.[35] Second, we purposely included a question asking the subject's gender and then checked their responses against the administrative data. Almost all (95.9%) survey respondents reported the same gender as in the administrative records. In sum, these results indicate that subjects paid close attention to the questions and did not complete the survey quickly to be eligible for the raffle prizes.

Variation in Lab and Survey Measures. We find substantial variation in the lab and survey measures. For example, in the dictator game, 24.1% of respondents share 0%, 21% share 25%, 50.9% share half, and 4% share more than half of their endowment. The lab measure with the least variation is the inequality aversion game, in which most subjects choose an even split. We also observe substantial individual variation across survey measures. For instance, regarding tax morale, 75.8% of respondents claim that evading taxes is never justifiable, 22.7% say it is sometimes justifiable, and 1.5% consider it always jus-

[33] We excluded invalid email addresses, such as those without an "@", and e-mail addresses that appeared more than once, likely belonging to a preparer other than the taxpayer, such as a family member or accountant. In addition to the first invitation email, subjects who did not complete the survey received a reminder email, typically a week after the original email.

[34] A survey was considered complete if the respondent completed 100% of the questions. Of the 7,858 individuals who clicked on the link to the survey and advanced to the first screen, 6,078 finished the entire survey and 1,780 finished part of it. In the current version of the study, we exclude partial responses from the analysis. We do not have information on the socio-demographic characteristics of taxpayers to identify which traits may correlate with non-response. However, the available data suggest that non-response leads to an over-representation of females and individuals with higher education levels. This pattern is consistent with prior studies examining biases in online surveys (e.g., Fowler et al., 2019; Sinclair et al., 2012).

[35] For example, 96.4% of respondents passed this attention check in Bottan and Perez-Truglia (2022). This high accuracy is even more remarkable given that it is included at the end of the survey when respondents may be subject to survey fatigue.

tifiable. Additionally, we validate our measures by benchmarking them against those from other studies, mainly in Latin America, and find that the average behavior in our sample is largely consistent with the literature despite methodological differences. Additional details are provided in Appendix A.4.

4.2 Measuring Peer Behavior

Individuals' tax compliance may be shaped by the social context in which decisions are made, particularly through social interactions within peer groups (Luttmer and Singhal, 2014). In our context, employees may learn to underreport wages from their current or former coworkers or even from accountants at their firms. Additionally, employees' tax evasion decisions may be influenced by their coworkers' views and attitudes toward tax evasion. Moreover, if employees have an imperfect perception of the enforcement environment, their coworkers' actions could shape their beliefs about the potential consequences of evasion. Leveraging rich tax administrative data, we construct employees' coworker networks to evaluate the role of peer influence on tax evasion decisions.

Past and Current Coworkers. To proxy for the contextual factors that influence workers, we follow Caldwell and Harmon (2022) and use the idea that the influence of coworkers varies depending on the period during which they worked together. The underlying premise is that, over time, employees may become less connected to their former colleagues, thus diminishing the influence of past coworkers on their behavior. In contrast, current coworkers are more likely to shape an individual's tax evasion decisions during the present period, as they remain actively engaged in the workplace when these decisions are assessed in the data.

With this framework, we construct two measures of peer influence. The first measure captures the proportion of an individual's former coworkers who underreported wages in 2016 (i.e., the present), reflecting factors such as learning to underreport wages from former coworkers that may influence current underreporting behavior. The second measure represents the proportion of current coworkers who underreported wages in 2016, capturing social learning or other factors from current coworkers that might encourage underreporting. We can differentiate the influence of former versus current coworkers due to two sources of variation: (i) when employees switch firms, their former and current peer groups do not fully overlap, and (ii) even for employees who remain at the same firm throughout the sample period, variation arises as new coworkers join the firm over time.

It should be noted that the strategy we follow does not allow us to causally identify the effect of social interactions or isolate the specific channels through which coworkers can

influence individual evasion behavior.[36] Moreover, our peer measures may capture other contextual factors at the firm level beyond social interactions that also influence employee compliance behavior. For example, if a firm does not clearly communicate to employees that it reports their salaries to the IRS, an employee might be unaware of third-party reporting and, as a result, feel tempted to underreport their wages. In such cases, our measure of current peers may also reflect these broader contextual factors.

Coworkers Networks. The individual i's coworker network in 2016 consists of all workers her or she currently works with or has worked with in previous years. To construct the measure of *former coworkers underreporting*, we consider the complete set of coworkers the individual had at her current or any previous firm during the period 2009-2015. In contrast, the measure of *current coworkers underreporting* includes only those coworkers the individual worked with at her current firm or firms in 2016. Within each group, we consider relevant coworkers to be those who are pure wage earners and file a tax return—i.e., those who have the potential to underreport their wage income for tax evasion purposes. Accordingly, our measure of coworkers' evasion behavior is based on this subset of coworkers who meet both criteria.[37] In Appendix A.8 we include results with additional restrictions on coworker networks, such as limiting the networks to coworkers with similar earnings, or excluding very large firms from the analysis (see Table A.8).

In Table A.9, we present summary statistics of the coworker networks for our basic measures of *current* and *former* coworkers. The median size of the coworker networks for our measure of current coworkers is 1,073, while it is 4,275 for our measure of former coworkers.[38] The table also shows that the coworker networks tend to be 60% female, with an average age between 45 and 46 years. Moreover, current and former coworker networks of individuals have, on average, similar levels of evasion behavior on several different measures. For instance, the average fraction of wage underreporters is 16.5% and 16.3% for networks of current and former coworkers, respectively.

[36] Causal identification of social interactions requires addressing challenges such as reflection, correlated unobservables, and endogenous group membership (Manski, 1993).

[37] For taxpayers without coworkers in 2016 (65 taxpayers) or prior to 2016 (82 taxpayers), the corresponding *current* and *former* coworkers underreporting variables are undefined. To address this in the regression analysis in Section 5.2, we include a control variable: a dummy equal to 1 for these taxpayers and 0 otherwise.

[38] Notice that these magnitudes are relatively large for coworker networks. This is partly explained by the fact that we are not imposing many restrictions on the construction of the networks for the baseline measure. Moreover, survey respondents tend to work in large firms—many of them work in large public sector firms—and tend to have multiple jobs. In Table A.9 we check the robustness of the results once we impose additional restrictions on coworker networks.

4.3 Measuring Economic Factors

Standard economic factors may also shape tax compliance behavior. According to the canonical model of tax evasion, individuals are expected to evade more when facing higher marginal tax rates (Allingham and Sandmo, 1972). This model also suggests that income effects may influence tax evasion behavior, depending on the shape of the utility function (Allingham and Sandmo, 1972).[39] Moreover, tax evasion decisions could change with increased experience and exposure to the tax system. In our context, we utilize tax administrative data and construct three variables to account for these economic factors affecting tax compliance. First, we include a measure of the individual's marginal tax rate.[40] Second, we use a measure of third-party reported wage income. Finally, we incorporate an indicator variable identifying taxpayers who filed tax returns between 2009 and 2015. For reference, 77.4% of individuals in our sample have prior filing experience.

5 Predicting Evasion Choices

5.1 Correlation Analysis

We take advantage of the link between the survey and administrative data to examine whether the lab and survey measures, as well as the peer measures, can predict which taxpayers engage in real-world tax evasion. In this section, we analyze pairwise correlations between tax evasion and our measures of social preferences, peer behavior, and economic factors, defined in Section 4, respectively. Throughout this section, it is important to keep in mind that these are just correlations and, as such, should not be interpreted as causal relationships.

Tax Evasion and Social Preferences. Table 2 reports the pairwise correlations between the tax evasion outcome (i.e., a dummy variable that equals 1 if the individual underreported wages in 2016) and each of the 24 lab and survey measures (column (1)), jointly with the corresponding confidence intervals (column (2)) and p-values (column (3)). Because we are evaluating the significance of 24 different correlations, a natural concern is false positives due to multiple hypothesis testing. To provide an accurate assessment of the statistical significance of each correlation, while column (3) reports the p-values, column (4) reports the corresponding q-values to account for multiple hypothesis testing (Benjamini and Yekutieli, 2001). Additionally, Figures 4 and A.7 provide a complementary descriptive analysis.

[39] In Allingham and Sandmo (1972)'s model, the effect of "real" income on declared income is ambiguous and depends on assumptions about the utility function's shape.

[40] Uruguay's 2016 personal income tax schedule features seven marginal tax rates. This variable captures the marginal tax rate applicable to the individual's third-party reported wage income.

Although the survey measures exhibit slightly stronger correlations with evasion choices compared to the lab measures, most of the correlation coefficients in Table 2 are economically small and precisely estimated around zero.[41] The absolute values of these correlation coefficients range from 0 to 0.067. Furthermore, due to the large sample size, each coefficient is estimated with high precision, and the 95% confidence intervals often allow us to rule out even small correlations. In fact, for all 24 measures, the 95% confidence intervals rule out correlations larger than 0.10 (in absolute value), enabling us to confidently reject the presence of moderate to large correlations.

The most important candidate for predicting tax evasion, due to its central role in the literature, is the survey measure of tax morale. For this measure, the correlation point estimate is close to zero (-0.006), with a 95% confidence interval ranging from -0.032 to 0.019. In other words, we can confidently rule out even small correlations between the tax morale measure and the actual tax evasion decision. Figure 4.a further illustrates the weakness of this relationship. It depicts the link between this survey measure (x-axis) and the share of taxpayers who underreported their wages relative to third-party reports in 2016 (y-axis). Among individuals who state that it is never justified to evade taxes, 13.3% underreported their wages. In contrast, 14.0% of those who believe that tax evasion is sometimes or always justified underreported their wages. The difference between these two evasion rates is small (0.7 pp) and statistically insignificant (p-value = 0.503). Most importantly, the difference is precisely estimated: based on the 95% confidence interval we can rule out the possibility that individuals with low tax morale evade, on average, more than 2.69 pp above those with high tax morale.

The weak correlation between tax evasion and tax morale is also confirmed when using a lab-based measure derived from the evasion aversion game (Corr. Coef. = 0.008, p-value = 0.541). Figure 4b divides the sample into respondents with a low, medium and high aversion to tax evaders. We find that wage underreporting rates are similar across these three groups (13.3%, 13.4%, and 13.7%, respectively). These differences are precisely estimated and statistically insignificant (p-value = 0.942). Similarly, the correlation between the lab-based measure of dishonesty and tax evasion is also low (Corr. Coef. = -0.000, p-value = 0.981). Figure 4b illustrates that the share of wage underreporters is similar between individuals grouped by their reported outcome in the dice game.[42]

[41] Seven out of the 24 lab and survey measures have statistically significant correlations after accounting for multiple-hypothesis testing, defined as q-values below 0.1.

[42] This figure shows that the share of wage underreporters is similar between individuals who report numbers 1, 2, or 6 (13.3%) and those who report 3, 4, or 5 (13.7%) in the dice game, with no statistically significant difference (p-value = 0.682). Although dishonest individuals tend to be concentrated among those who report 3, 4, or 5, we do not observe a higher share of wage underreporters among those respondents. A regression analysis (detailed in Appendix A.4) indicates that a 1 pp increase in the probability of lying

The strongest correlation in Table 2 is with the perception of firms evasion, which has a correlation coefficient of 0.067 (p-value < 0.001, q-value < 0.001). Similarly, the perception of workers' evasion shows a positive and significant correlation of 0.038 (p-value $= 0.003$, q-value $= 0.0027$). The hypothesis is that employees who believe that other employees underreport their wages (or that firms evade taxes) may find it "easier" to evade taxes themselves, likely because they feel they are not violating a social norm. For these employees, it may also be easier to share information on how to evade. Our findings offer some support for this hypothesis. Figures A.7a and A.7b present the correlation between wage underreporting and the survey measures on perceived evasion behavior of firms and other workers, respectively. Both figures demonstrate that the rate of wage underreporting increases as individuals' belief in the evasion behavior of firms and other workers rises. In the case of firm evasion, the slope of the relationship suggests that for each 1 pp increase in the perceived share of wage underreporters, an individual's likelihood of wage underreporting rises by 0.07 pp (p-value $=$ 0.003). Although this effect is small, it is not negligible. These correlations suggest that the "type" of people who evade taxes tend to believe that firms and other workers also evade. This finding aligns with the results of Section 5.2, which explores the role of peers in evasion decisions.

Table 2 and Figures A.7c and A.7d present the results for the lab measures of generosity. Our prior hypothesis stated that more altruistic individuals would evade less, as they may be more concerned about the impact of tax evasion on others' well-being (i.e., lower provision of public goods and services). Alternatively, more altruistic individuals might think that they can use the funds more effectively to help others than the government, leading to more evasion. These two competing hypotheses reflect the classic trade-off between private and public sector solutions. Among the laboratory measures, the three related to generosity show the highest correlations: 0.040 (p-value $= 0.002$, q-value $= 0.020$), 0.046 (p-value < 0.001, q-value < 0.001), and 0.048 (p-value < 0.001, q-value < 0.001) for decisions to give to strangers, a charity and the government, respectively.[43] These results align with the alternative hypothesis that altruists prefer to allocate resources themselves rather than through the government.

in the dice game is associated with a negligible and statistically insignificant 0.07 pp decrease in wage underreporting (p-value $= 0.981$). It is important to note that our dice-based measure of dishonesty may be subject to measurement error, which could result in attenuation bias. Appendix A.7 addresses efforts to correct for this potential source of bias.

[43] The positive correlation between tax evasion and generosity contradicts the idea that more generous individuals would be less likely to evade taxes due to their concern for solving redistribution problems through the public sector. One potential confounding factor is liquidity constraints. More generous individuals may have allocated a larger portion of their income to giving, leaving them with fewer resources to pay taxes. This hypothesis aligns with the pattern shown in Figure 3, where tax evasion increases as wages decrease, possibly due to liquidity constraints. Unfortunately, our survey and data do not provide direct measures of liquidity constraints, limiting further exploration of this issue.

Table 2 and Figure 4d illustrate the correlation between tax evasion and contributions in the public goods game, and the findings are consistent with the notion that evaders may favor private solutions over public sector solutions. We observe very small differences in the shares of wage underreporters across the three groups, and these differences are precisely estimated and statistically insignificant (p-value = 0.704).[44]

An alternative interpretation is that certain personality traits are positively correlated with generosity. Although we do not have direct measures of personality traits, ideological self-identification and preferences for economic policies have been shown to be related to personality traits (Fatke, 2017). The second highest correlation in Table 2 is with the left-right political ideology, with a correlation coefficient of -0.062 (p-value < 0.001, q-value < 0.001). The third highest correlation is with preferences for tax progressiveness, with a correlation coefficient of 0.058 (p-value < 0.001, q-value < 0.001). These correlations suggest that individuals more likely to evade taxes tend to be politically left-leaning and favor more progressive taxation. However, it is important to note that these are merely correlations. For example, it could be that low-income individuals, who are more likely to face financial constraints, might (have to) evade taxes more often, and they may also be more likely to identify as left-wing.

Several concerns may arise from this analysis. First, one might doubt the stability of correlation estimates with alternative definitions of tax evasion. In Appendix A.6, we show that these results are robust to the use of alternative measures of tax evasion, such as deduction overreporting instead of wage underreporting, intensive margin instead of extensive margin, or considering evasion across multiple margins.

An additional concern is that the lack of statistical significance of lab and survey measures in predicting tax evasion (and their low correlation coefficients) may stem from low variability in these measures. To address this concern, we use the same sample and a subset of variables to assess whether they can explain the decision to become a public employee. Previous literature suggests that public employment is associated with prosocial behaviors (Buurman et al., 2012), higher preferences for redistribution (Cusack et al., 2006), and greater risk aversion (Pfeifer, 2011; Dohmen et al., 2011; Bonin et al., 2007). The available data allow us to explore these relationships, and the results, presented in Figure A.8, show that the correlations between public employment status and this subset of variables are statistically significant and consistent with our expectations, alleviating our concern.

Finally, one potential concern with the previous results is that due to measurement error

[44] Although speculative, another possible explanation for the positive relationship between generosity and wage underreporting could be that individuals who evade taxes feel guilty and seek to compensate by being more generous. Some evidence for this has been observed in laboratory settings (Gneezy et al., 2014).

in the lab measures, the correlation coefficients may be subject to attenuation bias.[45] Perhaps after accounting for attenuation bias, the correlations would be economically more significant. We use two standard strategies to show that measurement error is unlikely to change the main conclusions. We follow two standard strategies discussed in Gillen et al. (2019) to test the extent of this problem in our setting. In Appendix A.7, we show that measurement error is unlikely to change the main conclusions.

Tax Evasion and Peer Behavior. Table 2 also presents pairwise correlations between the tax evasion outcome and the two peer evasion measures: *current coworkers underreporting* and *former coworkers underreporting* (column (1)). Additionally, it presents the corresponding confidence intervals, p-values, and q-values (columns (2)-(4), respectively).

In contrast to the lab and survey measures, the peer evasion measures exhibit strong and statistically significant correlations with tax evasion, which are also economically meaningful. The correlation sign aligns with our expectations: a higher proportion of tax-evading coworkers is associated with a higher probability of underreporting wage income. This relationship holds for both current and former coworkers. Specifically, the correlation estimate for *current coworkers underreporting* is 0.599 (p-value < 0.001, q-value < 0.001), while the estimate for *former coworkers underreporting* is 0.462 (p-value < 0.001, q-value < 0.001). Furthermore, these correlations are robust to alternative measures of tax evasion. The correlation coefficients of *current* and *former* coworkers evasion behavior are all strongly correlated with other evasion measures such as overreporting of deductions and withholdings, percent of underreported wages, and indicators of presenting multiple evasion margins (see Table A.3).

Tax Evasion and Economic Factors. Finally, Table 2 also presents pairwise correlations between the tax evasion outcome and our measures of economic factors: the marginal tax rate, labor income, and an indicator of having filing experience.

The three measures present statistically significant correlations with tax evasion, although the correlation of *Log. of labor income* is not statistically significant after accounting for multiple hypothesis testing (see column 4). The marginal tax rate is the most relevant in terms of magnitude. Specifically, the correlation estimate for *MTR* is 0.092 (p-value < 0.001, q-value < 0.001), the correlation estimate for *Log. of labor income* is 0.030 (p-value $= 0.021$, q-value $= 0.161$), and that of *Experienced filer* is 0.071 (p-value < 0.001, q-value < 0.001).

Overall, these findings document that while individual traits and beliefs, as captured by the lab and survey measures, do not strongly correlate with the tax evasion outcome, peer evasion behavior does, even more than standard economic factors. This suggests that the peer channel may be particularly relevant in explaining tax-evasion behavior.

[45] A related concern is that of temporal stability. However, previous studies suggest that these measures can be relatively stable (Chuang and Schechter, 2015; Stango and Zinman, 2020).

5.2 Predictive Analysis

This section explores the explanatory power of different measures that we associated with tax morale to account for tax evasion choices. For instance, it is possible that none of the lab and survey measures have substantial predictive power individually but may exhibit significant joint explanatory power. To investigate this possibility, Table 3 presents the results of a multivariate probit regression. Each column corresponds to a separate regression, where the dependent variable is an indicator that equals 1 for individuals who, according to third-party reports, underreported their wages in 2016. The coefficients shown in the columns represent the marginal effects from the estimated probit models. At the bottom of the table, we report a common measure of predictive power for binary dependent variables: the area under the receiver operating characteristic (AUC). This metric reflects the probability that the model correctly identifies an evader when comparing a randomly selected individual who evaded with one who did not. An AUC value of 0.5 indicates that the model performs no better than chance (i.e., equivalent to flipping a coin). The closer the AUC to 1, the better the predictive power, with a value of 1 indicating 100% accuracy. Specifically, we report the out-of-sample (cross-validated) AUC.[46] For completeness, we also include an alternative goodness-of-fit measure: the pseudo-R^2.

Social Preferences. To make the coefficients more comparable, the 24 lab and survey measures used as independent variables in Table 3 are normalized to have a mean of 0 and a standard deviation of 1. In column (1) of Table 3, the independent variables consist of the 12 lab measures (definitions provided in the notes to Table 2). Only three coefficients are statistically significant, corresponding to the same three variables with the highest pairwise correlations: giving to strangers (p-value = 0.056), giving to charity (p-value = 0.002) and giving to the government (p-value < 0.001). The AUC (0.546) suggests that the lab measures perform slightly better than chance in identifying tax evaders.[47] The conclusions are comparable for the alternative goodness-of-fit measure, the pseudo-R^2 (0.008).

In column (2) of Table 3, the independent variables are the 12 survey measures (definitions provided in the notes to Table 2). Similarly to the lab measures, these 12 survey measures are standardized. Only three of the 12 have statistically significant coefficients, corresponding to the same variables with the strongest pairwise correlations: perceived evasion rate among firms (p-value < 0.001), the left-right political spectrum (p-value = 0.046), and desired progressiveness (p-value = 0.032). The sign of some coefficients may seem sur-

[46] We employ k-fold cross-validation with k=10, which divides the data into 10 folds, calculates the AUC for each fold, and takes the average AUC.

[47] These results are similar when using the traditional (i.e., "in-sample") definition of the AUC. For example, the out-of-sample AUC in column (1) is 0.546, while the corresponding in-sample AUC is 0.564.

prising, potentially indicating unobserved factors such as economic resources. For instance, low-income individuals might be more likely to evade taxes due to financial constraints and are also more likely to identify as left-wing. However, these results should be interpreted with caution for two reasons. First, these coefficients represent correlations, not causality. Second, once we control for demographics, the coefficient on desired progressiveness is no longer significant, and the coefficient on the left-right political spectrum is only significant at the 10 percent level.[48] The predictive power of the survey measures (AUC = 0.572, column (2)) is slightly higher than that of the lab measures (AUC = 0.546, column (1)), but still far from perfect. In column (3) of Table 3, the independent variables include the combination of all 24 lab and survey measures. Again, the predictive power improves slightly (AUC = 0.575, column (3)) but remains small.

The evidence thus far indicates that even when considered jointly, measures of social preferences and beliefs perform poorly in predicting which taxpayers evade taxes. However, interpreting the magnitude of goodness-of-fit can be challenging. A low goodness-of-fit, for example, may reflect that the outcome is inherently random and, as such, unpredictable using *any* type of data—not just the survey and lab measures employed in this study. To address this, we next examine the predictive power of a model that incorporates measures of peer influence as an alternative tax morale mechanism to explain tax-evasion behavior.

Peer Behavior. To proxy the influence of peers on evasion decisions, column (4) of Table 3 introduces two independent variables, following Caldwell and Harmon (2022), as discussed in Section 4.2. The first variable, *current coworkers underreporting*, represents the proportion of current coworkers who underreported wages in 2016 and captures social learning from current coworkers. The second variable, *former coworkers underreporting*, represents the proportion of an individual's former coworkers who underreported wages in 2016, as individuals may have adopted evasion behaviors from their former coworkers.

The results in column (4) indicate that a 1 pp increase in the share of current coworkers who underreport wages is associated with a 0.47 pp increase in the probability of underreporting (p-value < 0.001). Similarly, a 1 pp increase in the share of former coworkers who underreport wages corresponds to a 0.164 pp increase in the likelihood of underreporting (p-value < 0.001). Furthermore, this model, which incorporates taxpayers' peers' behavior, significantly outperforms random chance in identifying tax evaders, with an AUC of 0.899 (column (4)).

Economic Factors. Column (5) of Table 3 presents the results of a model based on standard economic factors. It includes as an independent variable the marginal tax rate applicable to

[48] See column (2) of Appendix Table A.6 for details.

the individual's third-party reported wage income. To account for income effects that may influence tax-evasion behavior, Column (5) also includes the logarithm of the third-party reported wage income. Additionally, to capture the possibility that tax evasion decisions may change with experience with the tax system, column (5) includes an indicator variable equal to one if the individual filed a tax return between 2009 and 2015.

The coefficients for the three variables in column (5) have the expected signs, are large in magnitude, and are statistically significant. Specifically, a 1 pp increase in the marginal tax rate is associated with a 0.919 pp increase in the probability of wage underreporting. A 10% increase in income is associated with a 6.6 pp decrease in the probability of wage underreporting, suggesting that wealthier individuals are less likely to underreport wages when holding the marginal tax rate constant. Furthermore, individuals with prior filing experience are 5 pp more likely to underreport their wage income. However, the predictive power of this model improves only a bit (AUC = 0.617, column (5)) compared to the model that incorporates laboratory and survey measures.

Overall, the findings in Table 3 highlight significant differences in the predictive power of the models. While the model incorporating all 24 lab and survey measures of social preferences demonstrates some predictive ability, the model based on coworkers' underreporting behavior performs substantially better. Moreover, while the simpler model based on standard economic factors shows greater predictive power than the model focused on social preferences, it largely underperforms relative to the model that incorporates peer behavior.

Robustness. We conduct several robustness checks, detailed in Appendix A.8, to ensure the consistency of our results. Specifically, we show that the findings remain robust under alternative measures of evasion, including using the intensive rather than the extensive margin, considering deductions and withholdings overreporting instead of wage underreporting, and employing an indicator variable for evasion across multiple margins. Additionally, we demonstrate that the results are unaffected by the inclusion of different sets of control variables in the regressions.[49] Finally, we show that the results from the model capturing the taxpayer's context and peers' influence remain stable under various set of controls, sample restrictions and definitions to construct the coworker network.

[49] For example, in Table A.6, we include a set of dummies for income changes as control variables and show that the estimated coefficients and the model's predictive power are similar to those in the main specification.

6 Conclusions

Why do some individuals choose to evade taxes while others do not? In collaboration with Uruguay's national tax agency, we leverage unique data to shed light on this question. Using third-party reports, we construct a measure of income underreporting at the individual level as an indicator of tax evasion. We then assess which types of metrics, if any, best predict who evades taxes. To this end, we conduct a horse race comparing the predictive power of three categories of factors: social preferences, contextual variables, and economic characteristics. Social preferences exhibit little predictive value; economic factors perform modestly better; but peer behavior stands out as the strongest predictor of tax evasion by a wide margin. This finding underscores the role of peer effects and social influences as a relevant mechanism through which tax morale affects tax compliance (Luttmer and Singhal, 2014).

Strikingly, some measures that are widely believed to be central to tax compliance decisions—such as survey-based tax morale, commonly used in the literature as a proxy for evasion—have no power in predicting individual-level tax evasion. While individual traits do not explain who evades taxes, they appear more informative at the aggregate level. For example, in our lab-in-the-field dice game, 11% of participants misreported their roll—closely mirroring the 15.5% wage underreporting rate observed in the administrative tax records. Moreover, consistent with prior findings (Fischbacher and Föllmi-Heusi, 2013), even those who lied rarely reported the maximum possible value.

A limitation of our study concerns external validity. While we focus on wage underreporting despite third-party reporting, this behavior may be driven by specific factors—such as risk preferences, perceived enforcement, or limited awareness of reporting systems—that may differ across evasion contexts. As such, our findings may not generalize to all forms of tax evasion or to other settings.

Our results raise several questions for future research. First, our evidence comes from underreporting a taxable activity subject to third-party information. Taxpayers may choose this form of evasion for various reasons, including low risk aversion, a perception of weak enforcement of the paper trail, or a lack of awareness of the third-party reporting system. These factors may also influence other forms of tax evasion. Future research could build on our approach by incorporating audit data to test whether differences in evasion behavior—such as underreporting earnings from self-employment—are driven by individual preferences and beliefs or by taxpayers' contextual factors. Second, our findings are derived from a specific setting. Future studies could apply our survey design to explore similar questions in different contexts of tax enforcement, tax morale, and tax evasion. Lastly, the emergence of peer behavior as a key factor in explaining variation in tax evasion raises the question of

whether this correlation reflects a causal link and what mechanisms underlie it.

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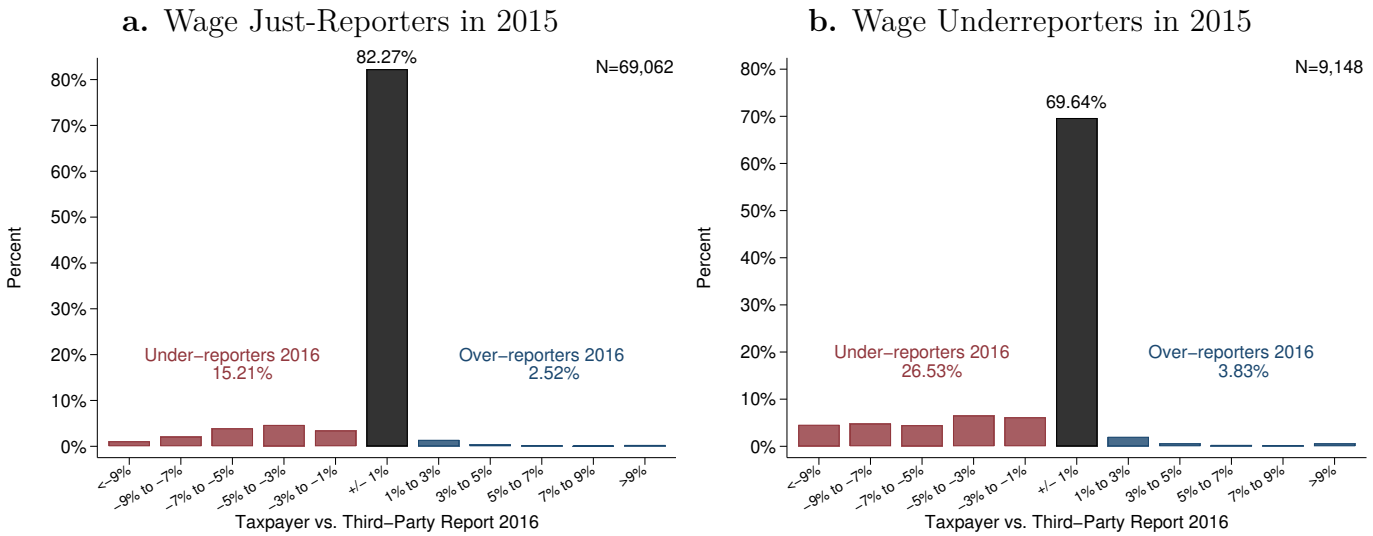
Figure 1: Measures of Tax Evasion

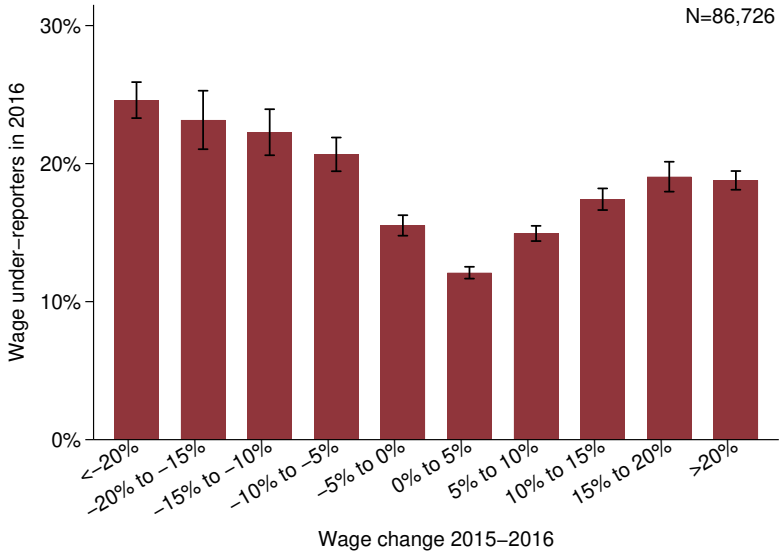
Notes: Panel (a): discrepancies between the wages reported in the taxpayer's tax return versus the employer's third-party report (as the percentage of third-party wage income). Results based on the sample of taxpayers who were pure wage earners and filed a tax return in 2016. Panel (b): discrepancies between the effective tax liability (net of deductions) of the taxpayers and the counterfactual tax liability they would face if they had reported wages equal to the third-party report (as a percentage of the latter). We must restrict the sample to taxpayers with positive counterfactual tax amounts (to avoid dividing by zero). Panel (c): discrepancies between the automatic deductions reported in the taxpayer's tax return versus the employer's third-party report (as a percentage of the latter). Results based on the subsample of taxpayers who reported their wages within 1% of their third-party reports (i.e., wage just-reporters). Panel (d): discrepancies between the tax withholdings reported in the taxpayer's tax return versus the employer's third-party report (as a percentage of the latter). Results based on the subsample of taxpayers who reported their wages within 1% of their third-party reports (i.e., wage just-reporters).

Figure 2: Persistence of Misreporting



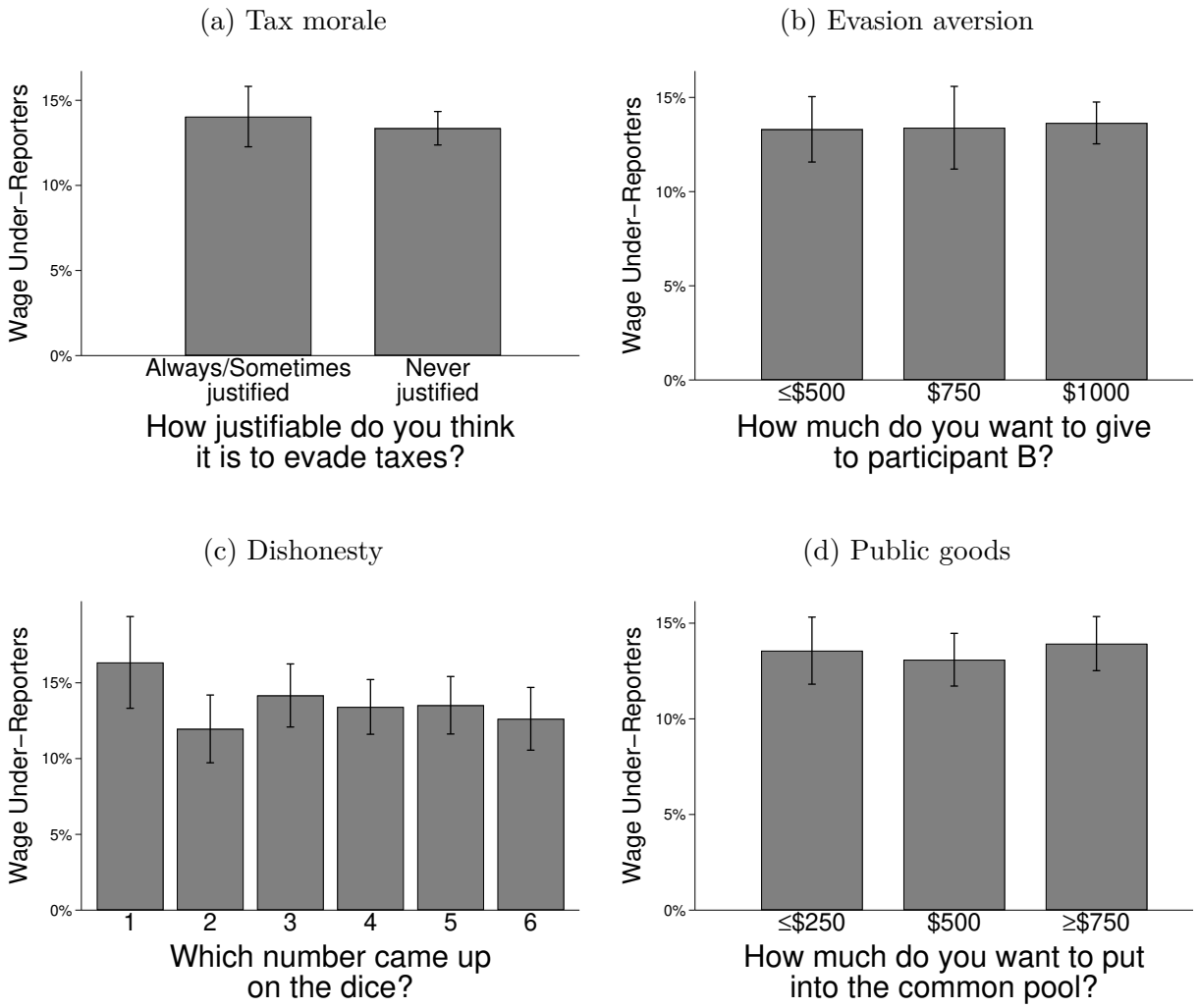
Notes: Discrepancies in wages reported in the taxpayer tax return versus the employer's third-party report. Results based on the sample of 86,749 taxpayers who were pure wage earners and filed a tax return in both 2015 and 2016. Panel (a) corresponds to the subsample of taxpayers who reported their wages within 1% of their third-party reports (i.e., just-reporters) in 2015, while panel (b) corresponds to the subsample of taxpayers who reported wages below 1% of their third-party reports (i.e., underreporters) in 2015.

Figure 3: Wage Underreporting and Wage Changes



Notes: Each bar represents the share of employees underreporting their wages in 2016 for a different group of employees. As denoted by the x-axis, the employees are grouped based on the change in their third-party reported wages from 2015 to 2016. These results are based on the sample of 86,726 taxpayers that are pure wage earners and file a tax return both in 2015 and 2016.

Figure 4: Correlation between Actual Tax Evasion Choices and Selected Social Preferences



Notes: Results based on the 6,078 survey respondents. Each bar corresponds to the share of wage underreporters (i.e., taxpayers who reported wage income below 1% of the third-party report filed by their employers), with 95% robust confidence intervals. Each panel breaks the same sample of 6,078 taxpayers into subgroups based on selected lab or survey measures: e.g., panel (a) breaks them down by the responses to the question on tax morale.

Table 1A: Summary of Laboratory-based Social Preferences

Measure	Question
Evasion aversion	Participant B thinks that it is not acceptable to evade taxes under any circumstances, while participant C thinks that avoiding taxes may be acceptable. How would you allocate $1,000 in payments between B and C?
Public good	How much of your $1,000 do you want to contribute to the pot?
Dishonesty	We ask you to roll a die once. Enter the number that you rolled.
Giving to strangers	...you receive $1,000, and player B receives $0. In this game, you have the option of either keeping the entire $1,000 or sharing part of it with participant B. How much of the money do you want to share?
Giving to charity	Your role is to decide how much of that money to keep for yourself and how much to donate to a non-governmental non-profit organization that works for the social inclusion of vulnerable children and adolescents. How would you distribute this award?
Giving to government	You are asked to decide how to distribute $1,000 worth of donations between a social program run by MIDES (Ministry of Social Development of Uruguay) and a non-governmental non-profit organization that has the same objective. How would you distribute this award?
Trust	You are asked to choose whether to invest $U1,000 in Player B, or to keep it, giving each one $U1,000. If you invest, Player B receives $U4,000 and must choose between an equal split ($U2,000 each) or keeping all $U4,000. What option do you want to choose?
Ultimatum	Participant B proposed to keep $800 and offer you $200. If you accept the offer, those would be the final payments. If you decline the offer, both of you get $0. Do you want to accept or decline the offer?
Inequality aversion	...you are participant A and two other randomly chosen survey participants are B and C. Which of the two distributions do you prefer? [$250 for B–$250 for C] or [$250 for B–$750 for C]
Meritocratic preferences	...participant B had to work at performing simple tasks on the computer for 15 minutes. Participant C did not have to do anything. How would you allocate $1,000 between B and C?
Impatience	You will choose between receiving a payment on June 1, 2019, or receiving a payment 12 months later (on June 1, 2020). We ask you to choose between different pairs of options: [Receive $1,000 in June 2019] [Receive $1,200/1,400/1,600/1,800/2,000/2,200]
Risk aversion	You are asked to choose between receiving a guaranteed payment or a payment that depends on whether the coin came up heads or tails. Among the following two options, which one would you prefer? [A guaranteed payment of $1,000] [$2,000/2,500/3,000/3,500/4,000 if heads and $0 if tails]

Notes: The table summarizes the questions used in the survey to capture the lab-based measures of social preferences. The full version of the survey questions is provided in Appendix A.3. A sample of the full survey questionnaire is attached as Appendix C.

Table 1B: Summary of Survey-based Social Preferences

Measure	Question
Tax morale	How justifiable do you think it is to evade taxes?
Workers' evasion	What do you think will be the percentage of employees who will underreport their salaries in 2019?
Firms' evasion	What do you think will be the percentage of Value Added that an average company will underreport in 2019?
Trust in others	Generally speaking, would you say that most people can be trusted, or that one can never be careful enough when dealing with others?
Trust in government	Which of the following best describes how often you believe the government can be trusted to act correctly?
Government efficiency	Do you think that the government is efficient in the way it manages public resources?
Preferences for redistribution	To what extent do you agree or disagree with the following statement? "Governments should take steps to reduce the income gap between rich and poor"
Left-right spectrum	Politics is generally viewed in terms of "left" and "right." On a scale where 0 leans the most to the "left" and 10 leans the most to the "right," where would you locate yourself?
Perceived progressiveness	In 2017, what percentage of their nominal personal income do you think that the following social groups actually paid in personal taxes, on average? [poorest 20%/middle 60%/richest 20%]
Desired progressiveness	How much do you agree with the following statement? "Tax rates should be more progressive"
Perceived inequality	What do you think about income differences between the rich and the poor in Uruguay?
Role of luck	In your opinion, which of the following reasons best explains why a person is poor/rich?

Notes: The table summarizes the questions used in the survey to capture the survey-based measures of social preferences. The full version of the survey questions is provided in Appendix A.3. A sample of the full survey questionnaire is attached as Appendix C.

Table 2: Pairwise Correlations between Tax Evasion and Different Factors

		Corr.Coef. (1)	95% CI (2)	p-value (3)	q-value (4)
Lab-Based Social Preferences	Evasion aversion	0.008	[-0.017,0.033]	0.541	0.999
	Public goods	0.003	[-0.022,0.028]	0.812	0.999
	Dishonesty	-0.000	[-0.025,0.025]	0.993	0.999
	Giving to strangers	0.040	[0.015,0.065]	0.002	0.020
	Giving to charity	0.046	[0.021,0.071]	<0.001	<0.001
	Giving to government	0.048	[0.023,0.073]	<0.001	<0.001
	Trust	-0.008	[-0.033,0.017]	0.516	0.999
	Ultimatum	0.026	[0.000,0.051]	0.046	0.321
	Inequality aversion	0.007	[-0.018,0.033]	0.560	0.999
	Inequity aversion	-0.001	[-0.026,0.024]	0.925	0.999
	Impatience	0.021	[-0.005,0.046]	0.108	0.652
	Risk aversion	0.013	[-0.012,0.038]	0.324	0.999
Survey-Based Social Preferences	Tax morale	-0.006	[-0.032,0.019]	0.613	0.999
	Workers' evasion	0.038	[0.013,0.064]	0.003	0.027
	Firms' evasion	0.067	[0.042,0.092]	<0.001	<0.001
	Trust in others	0.024	[-0.001,0.049]	0.063	0.408
	Trust in government	0.028	[0.003,0.054]	0.027	0.204
	Government efficiency	0.046	[0.021,0.071]	<0.001	<0.001
	Preferences for redistribution	0.042	[0.017,0.067]	0.001	0.011
	Left-right spectrum	-0.062	[-0.087,-0.037]	<0.001	<0.001
	Perceived progressiveness	-0.010	[-0.035,0.015]	0.445	0.999
	Desired progressiveness	0.058	[0.033,0.084]	<0.001	<0.001
	Perceived inequality	0.029	[0.003,0.054]	0.026	0.204
	Role of luck	0.047	[0.022,0.072]	<0.001	<0.001
Peer	Current coworkers under-reporting	0.599	[0.583,0.615]	<0.001	<0.001
	Former coworkers under-reporting	0.462	[0.442,0.481]	<0.001	<0.001
Economic	MTR	0.092	[0.067,0.117]	<0.001	<0.001
	Log. of labor income	0.030	[0.005,0.055]	0.021	0.161
	Experienced filer	0.071	[0.046,0.096]	<0.001	<0.001

Notes: Correlations between tax evasion (and an indicator variable that takes the value 1 if the individual underreported wages in 2016 and 0 otherwise) and each of the the lab, survey, and peer measures. Results for the 6,078 wage earners who filed a tax return in 2016 and responded to our survey. The q-values (column (4)) are based on the Yekutieli method. *Evasion aversion* is the share of the endowment given to the partner who thinks evading taxes is never justifiable, *public goods* is the share of the endowment contributed to the common pool, *dishonesty* is the probability of having lied conditional on the dice draw that was reported, *giving to strangers* is the share of the endowment given to a random stranger, *giving to charity* is the share of the endowment given the charity, *giving to government* is the share of the endowment given to the government program, *trust* indicates if the respondent invested in the partner, *ultimatum* indicates whether the proposer's offer was rejected, *inequality aversion* indicates if the respondent preferred the egalitarian allocation, *meritocratic preferences* is the share of the endowment given to the subject who exerted effort, *impatience* is the premium that must be offered to the respondent to delay the payment for a year, *risk aversion* is the premium that must be offered to accept the risk, *tax morale* indicates in a 1–3 scale if evading taxes is justifiable with 3 being never justifiable, *workers' evasion* indicates in a 1–10 scale the perceived share of wage earners who evade taxes (10 = 90-100%), *firms' evasion* indicates in a 1–10 scale the perceived share of value added tax that is evaded by firms (10 = 90–100%), *trust in others* indicates in a 1–2 scale if most people can be trusted, *trust in government* indicates in a 1–5 scale whether one can trust the government in acting properly, *government efficiency* indicates in a 1–4 scale the perceived efficiency of the government, *preferences for redistribution* indicates in a 1–4 scale whether the government should take steps to reduce the income gap between rich and poor, *left-right spectrum* indicates in a 0–10 scale the respondents' placement in the left-right spectrum (10 = right), *perceived progressiveness* indicates the respondents' perceived difference in tax rate paid between the upper 20% and the bottom 20%, *desired progressiveness* indicates in a 1–4 scale whether the tax system should be more progressive, *perceived inequality* indicates in a 1–3 scale whether inequality is too high, *role of luck* indicates in a 0-2 scale if luck is important to determine incomes, *current* and *former coworkers underreporting* indicate the share of current (2016) and former (2009-2015) coworkers that underreport wages in 2016, respectively. *MTR* corresponds to a continuous variable that reflects the marginal tax rate the individual faces according to the third-party reported salary (from 0 to 0.3). *Log. of labor income* is the third-party reported salary in logs. *Experienced filer* corresponds to a dummy indicating having filed a tax return before 2016.

Table 3: Predicting Tax Evasion Choices with Multivariate Probit Regression

		(1)	(2)	(3)	(4)	(5)
Lab-Based Social Preferences	Evasion aversion	-0.000		0.001		
		(0.005)		(0.005)		
	Public goods	-0.001		-0.003		
		(0.005)		(0.005)		
	Dishonesty	0.000		0.000		
		(0.004)		(0.004)		
	Giving to strangers	0.009*		0.007		
		(0.005)		(0.005)		
	Giving to charity	0.014***		0.013***		
		(0.005)		(0.005)		
	Giving to government	0.016***		0.008		
		(0.004)		(0.005)		
	Trust	-0.005		-0.004		
		(0.005)		(0.005)		
	Ultimatum	0.006		0.005		
		(0.004)		(0.004)		
	Inequality aversion	0.001		0.002		
		(0.004)		(0.004)		
	Meritocratic preferences	0.003		0.004		
		(0.005)		(0.005)		
	Impatience	0.007		0.006		
		(0.004)		(0.005)		
	Risk aversion	0.002		0.003		
		(0.005)		(0.005)		
Survey-Based Social Preferences	Tax morale		-0.003	-0.005		
			(0.004)	(0.005)		
	Workers' evasion		0.004	0.005		
			(0.006)	(0.005)		
	Firms' evasion		0.020***	0.019***		
			(0.005)	(0.005)		
	Trust in others		0.004	0.005		
			(0.005)	(0.005)		
	Trust in government		-0.002	-0.002		
			(0.006)	(0.006)		
	Government efficiency		0.007	0.005		
			(0.006)	(0.006)		
	Preferences for redistribution		-0.001	-0.002		
			(0.005)	(0.005)		
	Left-right spectrum		-0.011**	-0.008		
			(0.006)	(0.006)		
	Perceived progressiveness		-0.001	0.000		
			(0.004)	(0.004)		
	Desired progressiveness		0.012**	0.011**		
			(0.006)	(0.006)		
	Perceived inequality		0.003	0.002		
			(0.005)	(0.005)		
	Role of luck		0.007	0.006		
			(0.005)	(0.005)		
Peer	Current coworkers under-reporting				0.470***	
					(0.017)	
	Former coworkers under-reporting				0.164***	
					(0.025)	
Economic	MTR					0.919***
						(0.124)
	Log. of labor income					-0.066***
						(0.011)
	Experienced filer					0.050***
						(0.012)
	AUC	0.546	0.572	0.575	0.899	0.617
	Pseudo R^2	0.008	0.014	0.018	0.386	0.021
	Observations	6,078	6,078	6,078	6,078	6,078

Notes: Each column corresponds to a different Probit regression. Marginal effects with robust standard errors in parentheses. The dependent variable indicates whether the taxpayer underreported wages in 2016. All the survey-based and lab-based were normalized to have a mean of 0 and standard deviation of 1 (for their definitions, see the notes to Table 2). *Current coworkers underreporting* indicates the share of current coworkers that are wage underreporters in 2016. *Former coworkers underreporting* corresponds to the share of former coworkers that are wage underreporters in 2016. Since not every individual has coworkers, we include a dummy indicating not having coworkers as a control in Column (4). *MTR* corresponds to a continuous variable that reflects the marginal tax rate the individual faces according to the third-party reported salary (from 0 to 0.3). *Log. of labor income* is the third-party reported salary in logs. *Experienced filer* corresponds to a dummy indicating having filed a tax return before 2016. For each column, we include the out-of-sample AUC.