

Extrinsic and Intrinsic Motivations for Tax Compliance: Evidence from a Field Experiment in Germany

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We study extrinsic and intrinsic motivations for tax compliance in the context of a local church tax in Germany. This tax system has historically relied on zero deterrence so that any compliance at baseline is intrinsically motivated. Starting from this zero deterrence baseline, we implement a field experiment that incentivized compliance through deterrence or rewards. Using administrative records of taxes paid and true tax liabilities, we use these treatments to document that intrinsically motivated compliance is substantial, that a significant fraction of it may be driven by duty-to-comply preferences, and that there is no crowd-out between extrinsic and intrinsic motivations.

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Is tax compliance driven only by extrinsic motivations related to deterrence and tax policy, or is there also a role for intrinsic motivations such as morals, norms and duty? The economic theory of tax compliance building on Becker (1968) and Allingham and Sandmo (1972) focuses only on the former and predicts low compliance under low audit probabilities or penalties. This prediction stands in sharp contrast to the empirical observation that tax compliance is high in modern tax systems despite very low audit probabilities and modest penalties. The literature has proposed three ways of resolving this compliance puzzle (e.g. Sandmo 2005, Slemrod 2007, Kleven 2014).

First, modern tax systems make widespread use of third-party information from firms and the financial sector, which creates a divergence between observed audit rates and actual detection probabilities conditional on evading (Kleven, Kreiner

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and Saez, 2009; Kleven et al., 2011). Hence, the notion that deterrence is weak is to some extent an illusion. Second, theory assumes that taxpayers have perfect knowledge of deterrence parameters, but in practice there may be misperception. Survey evidence suggests individuals tend to overestimate audit probabilities and penalties associated with tax evasion (Scholz and Pinney, 1995; Chetty, 2009). Third, individuals may comply due to a wide range of non-pecuniary motivations including moral sentiments, guilt, reciprocity, and social norms (Andreoni, Erard and Feinstein, 1998; Luttmer and Singhal, 2014). We label all such motivations under the umbrella term *intrinsic motivations*. The importance of such intrinsic motivations for compliance is the hardest to measure and study empirically, and therefore the least well understood.

We consider a context and natural field experiment that provide new insights on the second and third explanations for the compliance puzzle. In our setting third-party information reporting is not implemented, and our field experiment is designed to reveal extrinsic and intrinsic motivations to comply through the provision of two forms of incentive: (i) the injection of positive deterrence; (ii) the provision of compliance rewards/recognition.

Our setting is the local church tax in a metropolitan region of Bavaria, Germany. Three features of this setting are important for the empirical analysis. First, it combines taxation with charitable giving: the church tax is compulsory and non-compliance represents a violation of tax law, but the church highlights the good cause and encourages overpayments that are defined as donations. Hence, tax evaders and donors can coexist in this system. Second, the *true* tax base relevant for the church is defined as *reported* taxable income to the government, which we can perfectly observe for each individual by linking church tax records to administrative income tax records. This allows us to compare actual church taxes paid with true taxes owed for each individual, and thus precisely distinguish between evaders, compliers, and donors. This overcomes a key limitation of most tax evasion studies, namely that the outcome of interest is not observed (Slemrod and Weber, 2012). Third, even though the church has the legal right to cross-check filed taxes against income tax returns (which would detect evasion with certainty), they have not previously exercised this right. In other words, prior to our field experiment there is zero deterrence in this tax system. Together with the previous point, this implies we can observe compliance in a baseline with zero deterrence, providing a direct measure of intrinsically motivated tax compliance.

To guide the empirical analysis, we set out a conceptual framework that unifies the standard compliance model (Allingham and Sandmo, 1972) with the warm-glow model of public goods contributions (Andreoni, 1989, 1990). The framework incorporates heterogeneity in intrinsic motivation to allow for the coexistence of evaders, compliers and donors as in our empirical setting. We use this to characterize the heterogeneous impacts of compliance incentives on evader and donor types. Our empirical analysis distinguishes throughout between the treatment responses of extrinsically motivated individuals (those who evade in the zero de-

terrence baseline) and the responses of intrinsically motivated individuals (those who comply or donate in the zero deterrence baseline). Our empirical measure of these motivational types is compelling, because our linked panel data from administrative tax records and church records allows us to classify individuals into behavioral types using their actual pre-treatment compliance behavior.

Our natural field experiment is implemented in collaboration with the Protestant church. We vary the compliance incentives individuals face by manipulating the official tax notification sent to collect the local church tax: 40,000 individual tax payers were randomly assigned to a control group or to one of 12 treatments. These treatments varied along three dimensions. The first set of treatments *simplify* the payment of the tax, and aim to correct any *misperceptions* individuals may have on audit probabilities. The second set of treatments vary the *deterrence* parameters individuals face. We do this through the announcement of strictly positive audit probabilities, including both fixed probabilities on all taxpayers and notched probabilities that depend on the tax payment. The third set of treatments offer *compliance rewards* in the form of social recognition, entry into monetary prize draws, or a combination of the two.

Our main findings are as follows. First, a significant fraction of individuals comply in the zero deterrence baseline where compliance should be zero absent intrinsic motivations. Around 20 percent of individuals pay at least the true taxes owed, while the remaining 80 percent of individuals evade taxes and most of them fully evade. Hence, intrinsic motivations can account for a substantial amount of aggregate compliance, but these motives are strongly heterogeneous in the population. The large majority of individuals behave as rational, self-interested taxpayers consistent with the Becker-Allingham-Sandmo framework.

Second, there is sharp bunching at *exact* compliance in the zero deterrence baseline. As there is no extrinsic incentive to locate at exact compliance under zero deterrence, such excess bunching requires either a discontinuity in intrinsic motivation at the point of exact compliance, naturally labelled as a ‘duty to comply’, or the presence of attention or focal point effects of exact compliance. While it is in general difficult to distinguish between these explanations, we exploit our simplification treatment (which makes the point of exact compliance more salient) to shed light on this. We find that the simplification treatment does not increase bunching at exact compliance, suggesting that bunching may be driven more by duty-to-comply preferences.

Third, announcing a zero audit probability (the status quo) has only a small impact on compliance, suggesting there is little misperception on average. Less than 5 percent of baseline compliance can be attributed to misperception of the audit probability, and hence this is not an important confounder in the measurement of baseline intrinsic motivation.

Fourth, tax simplification and deterrence have strong effects on compliance for baseline evaders, but small and mostly insignificant effects for baseline donors. As the enforcement constraint is not binding for baseline donors, deterrence does

not directly affect their extrinsic incentives to comply, and hence they should only respond to this treatment if there is crowd-out or crowd-in between extrinsic and intrinsic motivations. Our findings are therefore consistent with the absence of cross-effects between the two types of motivation.

Finally, the provision of compliance rewards has fundamentally different impacts on baseline donors (who increase their donations) and baseline evaders (who increase their evasion). That is, whether recognition for compliance raises or reduces tax payments hinges on what motivates taxpayers in the first place, with positive effects on the intrinsically motivated and negative effects on the extrinsically motivated. These qualitative patterns arise irrespective of the exact form of the compliance reward, be it in terms of social recognition, entry into monetary prize draws, or a combination of both. This suggests that the behavioral effects are driven by what such compliance rewards signal about the tax institution rather than by the social/private nature of the reward. A natural interpretation is that rewarding taxpayers for contributing to the public good (rather than punishing them for not paying their taxes) signals the *voluntary* aspect of a poorly enforced tax system (and so positively affects the warm glow of donor types) and at the same time downplays the *mandatory* aspect of a legally binding tax system (and so may affect evader types negatively).

This paper contributes to the established literature on tax compliance (surveyed by Andreoni, Erard and Feinstein, 1998; Slemrod and Yitzhaki, 2002, Slemrod and Weber, 2012), and especially advances an emerging literature using field experiments to study compliance behavior (Blumenthal, Christian and Slemrod, 2001; Slemrod, Blumenthal and Christian, 2001; Kleven et al., 2011; Fellner, Sausgruber and Traxler, 2013; Hallsworth et al., 2014; Del Carpio, 2014; Pomeranz, 2015). Despite the large amount of work on compliance, there is very little field evidence on the relative importance of, and interaction between, extrinsic and intrinsic motivations to comply with taxes (see Luttmer and Singhal, 2014). While we are able to make headway on this question due to the features of our data and setting, we note that these features may also raise issues of external validity. We discuss such issues in the next section.

The paper is organized as follows. Section 2 provides institutional background, Section 3 develops our conceptual framework, Section 4 describes the experiment and data, Section 5 presents our empirical results, and Section 6 concludes.

I. Institutional Background

The payment of church taxes is a legal obligation for all members of the Catholic and Protestant churches in Germany. There are two separate tiers of church taxes: the federal state and the church district levels. The state church tax is collected by state tax authorities, corresponds to around 9 percent of income tax liabilities, and raises billions of euros annually for both the Protestant and Catholic churches. The local church tax is collected by decentralized church authorities and is much smaller in size. The focus of our study is the local church tax collected by the

Protestant church in a major metropolitan area in Bavaria, covering 68 parishes that comprise a Church District.¹

By default, individuals baptized as Protestants (typically at birth) are church members and therefore liable to pay the local church tax once they turn 18. The vast majority of baptized individuals do *not* attend church as an adult: between 0.8 percent and 8.8 percent of eligible church members regularly attend church services in our sample parishes. Hence our study is not based on an especially religious sample compared to the general population. We later provide evidence on the representativeness of our taxpayer sample.

We now describe three institutional features that are central to our study.

1. *Tax base and tax schedule:* the local church tax is a progressive income tax as shown in Figure A1. The schedule is a step function with an exemption level of €8,005 in annual income followed by six tax brackets in which the tax liability varies from €5 in the lowest bracket to €100 in the highest bracket. The tax base is a broad income measure (wages, business income, capital income, pensions, etc.) with no deductions. Importantly, the income components included in the church tax base are also taxable under the personal income tax and must be reported separately to state tax authorities. By defining the *true* taxable income for the church tax as *reported* taxable income for the personal income tax, the Church District is essentially leveraging on the far larger administrative capacity of the state tax authority. Reported taxable income may of course be subject to misreporting due to personal income tax evasion, but it is still defined as true income for the purposes of the church tax.

2. *Tax collection and enforcement:* the Church District mails a tax notification (shown in the online appendix) to all resident church members in May each year to collect the local church tax. A bank transfer form pre-filled with the church's bank account information and the individual's local church tax number is attached to the notice. Church members are asked to self-assess their income and taxes owed according to the tax schedule, and to transfer the appropriate amount to the church's bank account by September. Although the church has the legal right to cross-check self-assessed income against information from personal income tax returns held by the state tax authorities (which would detect church tax evasion with certainty), they have never exercised this right in the past. In other words, prior to our field experiment, there was zero deterrence in this tax system and hence any compliance would have to be driven by some form of intrinsic motivation.²

3. *Mandatory taxes and voluntary donations:* it is possible for individuals to

¹The church tax is not unique to Germany: similar institutions exist in Austria, Denmark, Finland, Iceland and Sweden. The local church tax also exists in other states in Germany (Saxony, Lower Saxony, and Rhineland-Palatinate). The fact that the local church tax represents only around 9 percent of total church revenues is in part due to widespread evasion as we show below.

²Individuals who do not pay their taxes before the September deadline receive a reminder in October, requesting the transfer of the appropriate amount by the end of the calendar year. If the payment has still not been made by the end of the year, no further action is taken by the Church tax authorities.

overpay their local church tax liability. Unlike conventional taxes, overpayments are encouraged and not refunded to individuals. As funds raised mostly remain within the parish, we can think of such overpayments as charitable donations to the local public good of parish services. This feature allows for the coexistence of tax evaders (who pay less than their legal obligation) and donors (who pay more than their legal obligation). We identify whether an individual is extrinsically or intrinsically motivated based on her actual past evasion/donation behavior under the zero enforcement regime.³

While these institutional features are useful for our empirical design, there is a trade-off with external validity: the features that make this setting well-suited to study motives for tax compliance are also features that distinguish our setting from other tax systems. Four potential threats to external validity are worth discussing. First, the tax is very small and this may affect compliance behavior, especially if inattention or other optimization frictions are important. We directly explore the potential role of attention/salience effects in one of our experimental treatments.

Second, the fact that the local church tax relies on zero enforcement may signal to taxpayers that, even though the tax is a legal obligation, church authorities do not consider it an important civic obligation. If so, this would undermine intrinsic motivation and imply that our finding of substantial intrinsically motivated compliance is *downwards* biased relative to other tax settings.

Third, if the local church tax funds a service that taxpayers value more than the public expenditures funded by other taxes, this could raise intrinsic motivations to comply relative to other contexts. To address this point, we note that our estimates do not differ much across church parishes with varying levels of participation in religious services. Moreover, to reiterate, participation rates in church activities are uniformly low and the vast majority of those liable for the tax are not regular churchgoers as adults.

Fourth, contrary to other tax systems, in our context it is possible that individuals contribute through direct donations to the church instead of via the church tax system. This would lead us to underestimate intrinsic motivation in the baseline (as some tax evaders could be contributing directly) and potentially overestimate the effect of incentives on revenues (as some of the effect could reflect substitution between direct contributions and tax payments). However, these potential biases are unlikely to be important in our setting: (i) private individual donations to the church are very small in Germany (as in many other European countries), accounting for less than 4 percent of total revenues for the parishes in our sample; (ii) at the parish level, there is little correlation between changes in

³Besides encouraging overpayments (donations), the social pressures to comply with church taxes are not very different from those related to standard personal income taxes: whether an individual makes a payment to the local church tax remains private information, and individual or aggregate information on compliance is not communicated within or across parishes. Charitable giving is tax deductible in Germany, and this also applies to overpayments of the local church tax. Hence, there is no incentive to give to the church separately from the local church tax.

private donations between 2011 and 2012 (the year of the field experiment) and the estimated aggregate change in tax revenues caused by our treatments.

II. A Warm-Glow Model of Tax Compliance

To guide the empirical analysis, we present a conceptual framework that unifies the standard deterrence model (Becker, 1968; Allingham and Sandmo, 1972) with the warm-glow model of public goods donations (Andreoni, 1989, 1990). Our framework embodies both extrinsic motivations (deterrence) and intrinsic motivations (warm-glow) to comply with taxes.

We consider taxpayers with true income \bar{z} facing a tax schedule $T(\bar{z})$ under truthful reporting. They decide on reported income z and tax payment $T(z)$ facing a probability of audit and penalty for evasion. Denoting consumption by c , utility is given by $u(c, T(z), s)$ where the inclusion of taxes paid $T(z)$ as an explicit argument captures the warm glow of giving, or intrinsic motivation, and s is a preference parameter capturing the strength of such intrinsic motivation. We assume that the marginal rate of substitution between intrinsic and extrinsic benefits u'_T/u'_c is increasing in s and equal to zero for $s = 0$. We allow for heterogeneity in intrinsic motivation, captured by a cdf $F(s)$. The Allingham-Sandmo model corresponds to the special case where all individuals have $s = 0$.⁴

Agents choose reported income z to maximize expected utility, which can be written as

$$(1) \quad (1 - p) \cdot u(\bar{z} - T(z), T(z), s) + p \cdot u(\bar{z} - T(z) - I\{z < \bar{z}\} [1 + \theta] [T(\bar{z}) - T(z)], T(z), s),$$

where p is the audit probability, θ is the penalty rate on tax evasion, and $I\{z < \bar{z}\}$ is an indicator for evading taxes. This specification naturally assumes that warm glow depends on the *voluntary* tax payment $T(z)$ in both the audited and unaudited states. That is, an evader does not obtain warm glow from being forced to pay additional taxes $T(\bar{z}) - T(z)$ due to an audit.

Consistent with our empirical setting, the model allows for taxpayers to fall in three different categories: Those who underpay taxes $T(z) < T(\bar{z})$ (evaders), those who pay exactly the right amount $T(z) = T(\bar{z})$ (compliers), and those who overpay taxes $T(z) > T(\bar{z})$ (donors). Changes in extrinsic or intrinsic incentives create movements across these three compliance categories (extensive margin) and reporting responses within the evasion and donor categories (intensive margin).

Consider first the intensive margin choice of z , which is governed by

$$(2) \quad (1 - p) u'_{c_N} + p (1 - I\{z < \bar{z}\} [1 + \theta]) u'_{c_A} = E [u'_T],$$

⁴Allingham and Sandmo (1972) did consider a case with social stigma from being caught evading, but the stigma idea is conceptually different from the warm-glow idea analyzed here.

where u'_{c_N} and u'_{c_A} denote marginal utilities of consumption in the non-audited and audited states, respectively, while $E[u'_T]$ is the expected marginal utility of tax payments due to intrinsic motivation. This condition highlights the trade-off between the extrinsic (consumption) costs and the intrinsic (warm glow) benefits of paying taxes.⁵ In online appendix A.1 we formally characterize intensive margin responses to changes in deterrence and the strength of warm glow. We show that, under a natural assumption on preferences, deterrence increases reported income for evaders while it does not affect reported income for donors. The differential deterrence response between evaders and donors follows from the fact that enforcement is not a binding constraint for donors.

Consider now the extensive margin choice between being an evader, complier or donor. The model predicts bunching at the point of exact compliance $z = \bar{z}$ due to the fact that evaders and donors are treated asymmetrically: In the event of an audit, evaders have to pay the unpaid tax topped up by the penalty rate θ , whereas donors are not reimbursed for the overpaid tax nor rewarded at rate θ . This asymmetry creates a *kink* in the consumption possibility set at $z = \bar{z}$ and produces excess bunching at this point. Formally, assuming smooth preferences, there exists cutoffs \bar{s}_1, \bar{s}_2 such that a fraction $F(\bar{s}_1)$ of the population are evaders ($z < \bar{z}$), a fraction $F(\bar{s}_2) - F(\bar{s}_1)$ are compliers ($z = \bar{z}$), and a fraction $1 - F(\bar{s}_2)$ are donors ($z > \bar{z}$). The cutoffs are given by

$$(3) \quad \frac{u'_T(\bar{z} - T(\bar{z}), T(\bar{z}), \bar{s}_1)}{u'_c(\bar{z} - T(\bar{z}), T(\bar{z}), \bar{s}_1)} = 1 - p[1 + \theta] \quad \text{and} \quad \frac{u'_T(\bar{z} - T(\bar{z}), T(\bar{z}), \bar{s}_2)}{u'_c(\bar{z} - T(\bar{z}), T(\bar{z}), \bar{s}_2)} = 1,$$

implying $\bar{s}_1 < \bar{s}_2$ and therefore excess bunching at $z = \bar{z}$ for any positive deterrence incentive, $p[1 + \theta] > 0$. In online appendix A.1 we characterize extensive margin responses to changes in deterrence and the strength of warm glow. We show that stronger deterrence reduces the fraction of evaders, increases the fraction of compliers (bunching), and does not affect the fraction of donors. Stronger warm glow, on the other hand, reduces the fraction of evaders and increases the fraction of donors, leaving the effect on the fraction of compliers indeterminate.

Our empirical setting starts from a baseline of zero deterrence in which the tax authority never audits ($p = 0$). In this case, equation (2) shows that reported income z satisfies $u'_T/u'_{c_N} = 1$ for each taxpayer, so that compliance is driven solely by intrinsic motivation. Furthermore, from equation (3) we have $\bar{s}_1 = \bar{s}_2$ and therefore zero excess bunching at exact compliance. Empirically, however, we find strong bunching at exact compliance even in the zero deterrence baseline. There are two potential reasons for this that can easily be incorporated in the model. The first possibility is that intrinsic motivation (warm-glow preferences) feature a discontinuity at $z = \bar{z}$. This would be the case if taxpayers are discretely more motivated to be law-abiding than to be marginal evaders, naturally

⁵In the Allingham-Sandmo model where $s = 0$, we have $E[u'_T] = 0$ and $I\{z < \bar{z}\} = 1$ in which case (2) simplifies to the standard condition $u'_{c_A}/u'_{c_N} = (1 - p)/(p\theta)$.

labelled *duty-to-comply* preferences. This could be accounted for by allowing for a discrete jump in warm glow (a notch) at exact compliance. The second possibility is that exact compliance is a focal point and that bunching is therefore driven by attention or salience effects. As we precisely measure compliance in the zero deterrence baseline, we are able to estimate the amount of such intrinsically motivated bunching and to use our experiment to explore if it is driven by duty-to-comply or attention.

III. Design, Data and Empirical Method

A. The Natural Field Experiment

The Protestant church mails out a tax notification for the local church tax in May of each year. Our field experiment manipulated the content of notifications sent out in 2012. Mail-out recipients were randomly assigned either to a control group, or one of three groups of treatment. The first group of treatments *simplify* the details of the tax, and correct any *misperception* individuals might have on audit probabilities. The second group of treatments manipulate *deterrence* parameters through the suggestion of strictly positive audit probabilities or an audit probability notch. The third group of treatments offers *compliance rewards/recognition*.⁶

The online appendix shows the format and content of the mail-out letter for the control group (T1). The same mail-out design had been used in earlier years. This standard notification comprises a cover page (with the remittance slip at the foot of the first page) and an information leaflet about church activities. The standard mail-out clearly states on the front page that, “the local church tax forms part of the general church tax”, and that the “letter serves as a tax certificate”. On the second page it makes precise that the tax is “a compulsory contribution” and explicitly lists the legal foundations for the tax. However, in other regards, the standard mail-out appears poorly designed: important details such as the payment deadline and tax schedule are only mentioned on the second page. We now describe how the mail-out design varied in each treatment group. Table A1 overviews all the treatments and provides the exact wording used in each.⁷

TREATMENT GROUP 1: TAX SIMPLIFICATION AND MISPERCEPTION. — The tax simplification treatment (T2) makes two changes to the tax notification design: (i) it is significantly shorter and makes salient the legal obligation to pay; (ii) payment

⁶Following procedures from earlier tax years, a reminder was sent to non-payers in October 2012. The reminder letter is the same for all and makes no mention of the original treatment assignment. The reminder sets a final payment deadline of December 31st 2012.

⁷Cagala, Glogowsky and Rincke (2015) present evidence from a small-scale survey among a random sample of those liable for the Catholic church tax in Bavaria: almost 90 percent of those receiving a tax notification confirmed they had read it. Hence, while our analysis focuses throughout on intent-to-treat effects, the corresponding average treatment effects should only be slightly scaled up.

deadlines and the tax schedule are presented on the cover page. All other design aspects remained unchanged relative to the control group. We might reasonably expect tax simplification to impact baseline evaders because some non-compliance might be driven by them being misinformed/inattentive towards the local church tax.

All subsequent treatments then add one paragraph on the cover page of this simplified mail-out (as shown in the online appendix). While it is well known among taxpayers that enforcement is lax in this setting, the misperception treatment (T3) aims to correct for any remaining misperception by making explicit that there is zero enforcement of the tax. This is communicated by explicitly stating that $p = 0$. We assigned twice as many individuals to this treatment than to any other treatment to ensure we had statistical power to detect changes in tax payments arising from potential misperception. The natural comparison is with T2.

As with the simplification treatment, we might expect responses to the misperception treatment to vary across taxpayer types: some baseline compliers might have been paying the tax because they previously perceived p to be larger than zero. By making explicit that $p = 0$, the treatment intends to fully eliminate extrinsic motivation for compliance, so that tax payments can only be driven by some form of intrinsic motivation. T3 therefore allows us to cleanly estimate the importance of such intrinsically motivated compliance.

TREATMENT GROUP 2: DETERRENCE. — The second group of treatments inject deterrence into the tax system. They do so by informing taxpayers the audit probability p is unconditionally set to some strictly positive value, namely $p = 0.1$, 0.2 or 0.5 . These p -treatments are denoted T4, T5 and T6, respectively, and make clear that the church district has the legal right to delegate tax enforcement to the church tax authorities, to whom a tax filer's income is known. The natural comparison group for these $p > 0$ treatments is the $p = 0$ treatment, so that we pin down the precise comparative static impacts of deterrence through Δp .

These p -treatments were truthfully implemented in that income self-assessment was verified, but in practice no monetary penalty followed if the individual was caught misreporting. Like previous tax enforcement field experiments, we do not observe individual beliefs about penalties. These beliefs are particularly difficult to gauge in our context, because the zero-audit policy of the church implies that taxpayers have never had to face penalties. However, the conceptual framework makes precise that any behavioral response to $p > 0$ must reflect a positive expected penalty.

A final deterrence treatment (T7) introduces an audit probability notch: individuals face an audit probability of 0.5 if they pay less than or equal to $\text{€}10$, and face a zero audit probability otherwise. There are two natural comparison groups to this notch treatment: the T3 misperception treatment that sets $p = 0$, and the T6 treatment that sets $p = 0.5$ for all payments.

TREATMENT GROUP 3: COMPLIANCE REWARDS. — The final group of treatments are designed to reveal motivations for compliance through the provision of rewards/recognition. These treatments differ in the exact form in which the reward for compliance is provided. The first offers a potential reward in the form of *social recognition* (T8), through a small probability of an individual's timely compliance being publicly announced in a local newspaper. The next two treatments offer entry into *monetary* prize draws as a reward for complying, a purely *private* form of recognition that is unannounced to others. There are two randomly assigned reward values (€250, €1000), denoted Treatments T9 and T10. The final form of reward combines social and private recognition for compliance, so taxpayers have the opportunity to be named in a local newspaper *and* to be entered in the higher valued prize draw. This treatment is denoted T11.⁸

For all these compliance rewards, the probability of winning the reward is close to zero: for the social recognition treatment this follows from the fact that many individuals pay some church tax and are therefore potentially eligible for the newspaper acknowledgement; for the monetary reward treatment the notification makes explicit that the probability of winning is 1/1000. As such, these compliance rewards have essentially no impact on the (expected) extrinsic incentives individuals face to comply, and so they should change compliance only if they impact intrinsic motivation. In particular, individuals may respond to the offer of such rewards if they affect perceptions about the nature of the tax institution. Indeed, a natural interpretation of such treatments is that rewarding taxpayers for contributing to the public good (rather than punishing them for not paying their taxes) signals the *voluntary* aspect of a poorly enforced tax system, and at the same time downplays the *mandatory* aspect of a legally binding tax system. If so, compliance rewards may have heterogenous impacts across baseline types, with donor types being encouraged to respond positively and evader types being more negatively impacted.

Finally, we also implemented treatments that provide information on social norms over compliance, or that use moral suasion. The literature has considered very similar treatments (Blumenthal, Christian and Slemrod, 2001; Fellner, Sausgruber and Traxler, 2013) and so we do not focus on them. In the online appendix we discuss fully the weak effects of such cheap talk letters, very much replicating findings in the literature.

⁸Rewards were offered for payments of at least €5 (not the true payment owed) to prevent individuals inferring any change in likelihood of being audited. The winners of all rewards were drawn by lot, before local church officials in December 2012 and immediately notified about their prize. Winners of the social reward had to provide consent for their name to be published. The advertisement thanking church members for their local church tax payment was published in early 2013 (after the final payment deadline of December 31st 2012 to avoid any impact on outstanding payments). Monetary prizes were paid in private in January 2013.

B. Data Sources

Our analysis links panel data from two administrative data sources: church district records containing *actual* church taxes paid by each individual $T(z)$, and state income tax records containing *true* church taxes owed $T(\bar{z})$ as implied by reported taxable income to the federal state. Church taxes due in year t depend on reported taxable income to the federal state in year $t - 1$. The church district's payment records cover 2008-12, which we have linked with the state's income tax records for 2007-11 using information on names, date of birth, and zip code. The linked sample consists of 39,782 individuals that are included in the field experiment.⁹

Table A2 presents evidence on the representativeness of our sample relative to other subgroups of tax filers in 2007, the last year for which nationwide personal income tax statistics are available.¹⁰ There are only minor differences in gender, age, children, taxable incomes, and income sources between our sample (Columns 1a, 1b) and: (i) the general population in the same metro area (Columns 2a, 2b); (ii) non-church members in the same metro area (Columns 3a, 3b). These similarities are not altogether surprising: those liable for the church tax are individuals baptized, typically at birth, into the church; as adults, the vast majority of them do not attend church regularly and hence our sample is not skewed towards overrepresenting religious individuals.

The other sampling concern relates to attrition from our linked panel. Individuals can attrit for multiple reasons: falling below the tax exemption threshold, relocating outside the Church District, not filing a tax return, or opting-out of the Protestant church. This last cause is of most concern for the interpretation of our results. However, rates of attrition are relatively low: less than 3 percent of individuals attrit each year for *any* reason, and 87 percent of individuals are observed in *all* years 2008-12. In the online appendix we provide evidence on the correlates of attrition, and summarize those findings as showing: (i) attrition is

⁹Our administrative tax records allow us to observe tax compliance behavior across the income distribution. As the lower portion of Figure A1 highlights: 29 percent of our sample have an income below €24,999 (falling into the first two payment bins), while 13 percent of the sample has an income above €70,000 and lies in the highest payment bin. There are two restrictions on the data linkage. First, administrative records are available only for those that file a tax declaration. In the area our study is based in, 60 percent of Protestants file a tax declaration. Second, the tax base for the local church tax is *individual* taxable income. This raises an issue among joint filers: in the administrative records, individual shares of taxable household income are available only for joint filers who belong to different religious denominations. Hence we exclude married couples in which both spouses are Protestants (thus ameliorating concerns over within household treatment spillovers). Given the advice of the church, we also excluded individuals 75 years or older from the field experiment.

¹⁰In Germany, individuals are obliged to file a tax return if they receive business income or income from self-employment: around 38 percent of the population files a tax return. Single filers comprise unmarried individuals and married couples who choose to file two separate tax returns. The vast majority of married couples are joint filers and benefit from the associated reduction in the progressivity of the personal income tax. One parent of each underage child is entitled to child allowances. Tax raising communities in Germany refer to religious communities that collect taxes within the scope of the personal income tax. The Protestant and Catholic churches are by far the largest tax raising communities and cover around 60 percent of the population.

uncorrelated to treatment assignment; (ii) there is no differential attrition across treatments by past compliance behavior. Our working sample is based on those 89 percent of individuals (35,603) for whom we observe taxable income for up to four years pre-treatment (2008-11).

Individuals were randomly assigned to treatment within strata.¹¹ Table A4 presents evidence on sample characteristics and balance across treatments. Around 51 percent of our taxpayer sample are men, the average age is 45, 42 percent are married, half have at least one child, and average taxable income is €43,000. Column 10 shows an F-test of the significance of the covariate set from being assigned to that specific group relative to the T1 control group (in brackets) and the T2 Tax Simplification (in braces). The evidence shows the samples are well balanced across treatments.¹²

C. Identifying Evaders, Compliers and Donors

As we observe both actual tax payments $T(z)$ and true taxes owed $T(\bar{z})$, we can precisely measure compliance at the individual level and therefore estimate compliance responses to the different experimental treatments. What is more, our panel data allows us to measure pre-treatment compliance behavior from 2008-11, a period with zero tax enforcement and therefore no extrinsic incentive to comply. This allows us to identify *baseline compliance types* under zero enforcement: baseline evaders are those who underpay pre-treatment, baseline compliers are those who pay exactly the right amount, and baseline donors are those who overpay. These categories then proxy for motivational types, with baseline compliers/donors being *intrinsically motivated* and baseline evaders being *extrinsically motivated*. The ability to distinguish between these different types enables us to study heterogeneous treatment effects with respect to motivation, thereby speaking to the interaction between extrinsic and intrinsic incentives, and compare with our conceptual framework which predicts that those effects should be strongly heterogeneous.

While information on past behavior can be combined in many ways to define baseline types, we use a simple approach based on individual behavior in 2011, the year immediately preceding our field experiment.¹³ Using one year of data to identify baseline types is reliable in our setting, because of a high degree of

¹¹Two randomization strata were used: (i) the individual's church tax bracket in 2011; (ii) the number of pre-treatment years the individual is observed for in the administrative records.

¹²The other key identifying assumption is that there are no spillovers across treatments. Four points bolster the credibility of our design on this point: (i) on within-household spillovers, we reiterate that our sample matched to administrative tax records only covers households in which one spouse is Protestant; (ii) individuals in the Church hierarchy were excluded from the field experiment, including administrative staff, priests, and a few historically generous donors; (iii) there was no media coverage of the field experiment; (iv) we set up a telephone enquiry line for individuals to call in case they had any comments/queries after receiving their tax notification: this received 162 calls in total (corresponding to 0.34 percent of treated individuals), with queries mostly relating to the tax base.

¹³Columns 11 to 13 in Table A4 show the samples across treatments to be balanced *within* each of these baseline types.

persistence in individual behavior across years. To see this, note that for the balanced panel of individuals in our control group that are observed for *all* years 2008-11: (i) evaders in 2011 had on average evaded for 2.79 out of the previous three years, while compliers/donors in 2011 had on average complied/donated for 2.09 out of the previous three years. Table A5 documents the high degree of persistence in individual behavior over time using a multinomial logit model. To summarize, we find: (i) the best predictor of current compliance type is lagged type: for example, those who evaded in 2010 are 87 times more likely to evade in 2011 relative to complying; (ii) most other covariates have no predictive power on being an evader or a donor relative to a complier.¹⁴

D. Empirical Method

We first consider extensive margin responses to the different treatments, estimating a linear probability model,

$$(4) \quad \text{Prob}(i \text{ evades}) = \alpha + \beta \mathbf{I}(T_i = j) + \pi E_{i,pre} + \lambda_s + u_i,$$

where $\mathbf{I}(T_i = j)$ is an indicator equal to one if individual i is assigned to treatment j , $E_{i,pre}$ is the number of times individual i has evaded in the pre-treatment years, λ_s are dummies for randomization strata, and u_i is an error term. The coefficient of interest β measures the percentage point impact of treatment on the probability of evasion.¹⁵ We estimate an analogous specification for the probability of donating as a function of treatment (conditioning on the number of times the individual donated in pre-treatment years, $D_{i,pre}$).¹⁶

We also consider total responses that combine the extensive and intensive margins. Here we estimate the OLS specification

$$(5) \quad y_i = \delta + \gamma \mathbf{I}(T_i = j) + \theta \bar{y}_{i,pre} + \lambda_s + \varepsilon_i,$$

where y_i is the tax payment of individual i post-treatment, $\bar{y}_{i,pre}$ is the average tax payment pre-treatment, and $\mathbf{I}(T_i = j)$ and λ_s are as defined above. In addition to tax payments, we also consider a coarser compliance outcome that gives us more

¹⁴Older individuals are significantly more likely to donate. Those with wage income or liable for trade tax (a proxy for being an entrepreneur) are significantly more likely to evade, all else equal. However, the marginal impacts of these covariates are far smaller than the impact of the individual's own past compliance. If there are high transactions costs of compliance, individuals might periodically pay large amounts so to, on average over time, pay the total payment owed. To check for this we examined whether those that donate in any given tax year are significantly less likely to make a payment the following year: we find no evidence for this pattern of payments.

¹⁵If we leave out pre-treatment compliance $E_{i,pre}$ and strata fixed effects λ_s , the specification corresponds to a simple comparison of means across treatment groups. We consider this unconditional specification in the online appendix, and show that it gives very similar results as (4).

¹⁶All the extensive margin results reported are also robust to estimating a multinomial logit model for choice type k (evader, complier, donor), conditioning on treatment assignment, the number of times individual i has been of type k (evader, complier, donor) in the pre-treatment years, and dummies for the randomization strata.

statistical power: a dummy variable equal to one if the individual *increases* the tax payment over its pre-treatment level.

IV. Empirical Results

A. Compliance in the Zero Deterrence Baseline

We begin by exploiting an important feature of our setting: that we can accurately measure tax compliance in a legally binding tax system with a zero deterrence baseline. If such zero deterrence is well understood (as we largely confirm below), there should be zero compliance absent intrinsic motivations to pay taxes. Table 1 documents compliance in the baseline using data from the T1 Control group. Column (1) shows the full sample, while columns (2)-(3) split the sample into evaders (the extrinsically motivated) and compliers/donors (the intrinsically motivated). Three points are of note.

First, a significant fraction of individuals comply in the zero deterrence baseline: 20.9 percent of individuals make a payment greater than or equal to their true tax liability, while the remaining 79.1 percent make a payment smaller than their true tax liability. Second, among the evaders, 91.9 percent of them are *full* evaders and pay zero tax, while the remaining 8.1 percent are *partial* evaders and pay some tax. Third, among those that make at least the correct payment, 55.5 percent are exact compliers and 44.5 percent are donors.

These findings have implications for the compliance puzzle debate. The fact that almost 80 percent of individuals evade and 73 percent fully evade in the zero deterrence baseline implies that the Becker-Allingham-Sandmo framework is 70-80 percent correct in our setting. At the same time, there coexists a substantial fraction of individuals whose compliance is driven by some form of intrinsic motivation not captured by the standard model: about 20 percent comply or overpay and about 27 percent pay at least something even though the tax system is completely unenforced. Hence, both sides of the compliance puzzle debate may feel justified: while the Becker-Allingham-Sandmo model is a good approximation for the majority of taxpayers, it does leave out a non-trivial element of intrinsically motivated tax compliance.¹⁷

DUTY-TO-COMPLY. — As the conceptual framework makes clear, individuals have no extrinsic incentive to bunch at exact compliance in the zero deterrence baseline.

¹⁷We note that the compliance/donation rate of 20.9 percent to the local church tax is far higher than those typically observed in large-scale field experiments on charitable giving, where response rates typically vary between 2 percent and 5 percent for fundraising campaigns, despite those campaigns often being targeted to those with affinity towards the charitable cause (Karlan and List, 2007; Huck, Rasul and Shephard, 2015). This suggests the local church tax is not viewed merely as a form of charitable donation, and that the *legal* obligation to pay has significant bite. This is reaffirmed if we recall that the vast majority of baptized individuals do not participate in church activities (with attendance rates less than 5 percent in the average parish). Hence intrinsic motivation does not appear entirely due to behaviors confined to the religious.

Such bunching requires either a discontinuity in intrinsic motivation at exact compliance, naturally labelled as a ‘duty-to-comply’, or that the point of exact compliance represents a focal point for intrinsically motivated taxpayers.

Figure 1A presents descriptive evidence on such bunching by showing, for those that make a positive payment, the histogram of differences between taxes paid and taxes owed in the T1 Control group. This shows large and sharp bunching at $T(z) = T(\bar{z})$ despite no extrinsic incentive to locate there. We use the bunching methodology developed by Saez (2010) and Chetty et al. (2011) to quantify the amount of excess bunching at exact compliance: the bunching estimate shown in the figure, $b = 7.2$, implies over seven times as many taxpayers are observed at exact compliance than would be otherwise expected given smooth preferences as inferred from other parts of the distribution of $T(z) - T(\bar{z})$. The strong tendency of intrinsically motivated taxpayers to comply exactly with the letter of the law can also be gauged from Table 1. This table shows that, among the 20 percent of individuals who feature some form of intrinsic motivation to comply, more than half of them locate at the point of exact compliance.

It is conceptually difficult to distinguish between duty-to-comply and attention/focal point explanations for the observed bunching at exact compliance, and to some extent this can be viewed as a matter of labelling rather than substance. Nevertheless, in the next section we attempt to make progress on the distinction between the two explanations by considering how bunching changes in response to our simplification treatment, which makes the point of exact compliance more salient.

B. Compliance Responses to Treatment

Table 2 presents our core results on how tax compliance is causally affected by tax simplification (Panel A), misperception (Panel B), deterrence (Panel C), and compliance rewards (Panel D). For each panel we show both extensive margin and total responses in three samples: the full sample, baseline evaders (extrinsically motivated), and baseline donors (intrinsically motivated). The full sample results are presented in Part I of Table 2, while the results for baseline evaders and baseline donors are shown in Part II. The extensive response estimates are based on the linear probability model (4) for the probability of evading and an analogous specification for the probability of donating. The total response estimates are based on the specification in (5): the outcomes we consider are the total tax payment and the probability of increased payment. All treatment effects are reported as percentages of the average outcomes in the relevant comparison group, and at the foot of each panel we show the average outcome in the comparison group.

TAX SIMPLIFICATION. — Panel A of Table 2 presents the results of the T2 Tax Simplification treatment. Pooling all taxpayers, Columns (1)-(4) show that simplification (i.e. making salient the legal obligation to pay and making deadlines

and the tax schedule more prominent) significantly reduces the probability of evasion by 2.45 percent, and causes individuals to significantly increase tax payments by 9.73 percent. The remaining Columns in Panel A show the effects on both margins to be driven by baseline evaders (Columns 5-8). In this subsample of taxpayers, simplification of the tax notification significantly reduces the probability of evasion by 2.66 percent, and increases payment amounts by 43.4 percent. The fact that extrinsically motivated individuals are not more likely to donate (Column 6) highlights that the primary response to the simplification treatment is largely driven by such individuals changing their behavior from being full evaders to being exact compliers.

On baseline donors, Columns (9)-(12) show tax simplification has no significant impact on either margin of behavior. These null impacts suggest their tax compliance is not driven by them being confused. All the findings are robust to unconditionally estimated treatment effects as documented in the online appendix (Table A6).¹⁸

Taken together, the results of the tax simplification treatment imply that a considerable degree of tax evasion may be due to the complexity of tax notifications. Our results contribute to a nascent empirical literature examining the real world importance of salience/information costs for taxes and benefits (Chetty, Looney and Kroft, 2009; Finkelstein, 2009; Chetty and Saez, 2013; Bhargava and Manoli, 2015). Although not part of our framework, these findings can be couched in the notion that the complexity of a decision making environment drives status quo bias (Kahneman, Knetsch and Thaler, 1991) or that subjects can only take a small number of tax rules into account (Eliaz and Spiegel, 2011). Either interpretation is consistent with the documented responses to simplification and the high degree of persistence in behavior over pre-treatment years shown in Table A5 for example.¹⁹

Finally, we use the tax simplification treatment to probe further our finding of excess bunching at exact compliance in the zero deterrence baseline. As stated earlier, it is in general difficult to distinguish between duty-to-comply and focal point/attention explanations for such excess bunching. One way to make headway on the distinction is to exploit our simplification treatment, which makes the point of exact compliance more salient. If attention is the main reason for bunching

¹⁸We further note that all these findings are additionally robust to: (ii) controlling only for randomization strata; (ii) excluding controls for pre-treatment behaviors; (iii) additionally controlling for the full set of individual controls shown in the balancing Table A4; (iv) restricting the sample to the balanced panel of individuals observed in all tax years 2007-10.

¹⁹Boyer, Dwenger and Rincke (2014) present evidence from a natural field experiment related to the equivalent Catholic Church tax in Bavaria. Their experiment is designed to make salient the local church tax is legally binding. Their paper and field experiment were developed entirely subsequent to our analysis and the methods they use to measure intrinsic motivation are based on those presented in this paper. They find such manipulations of tax notifications significantly increase compliance among those identified to be extrinsically motivated, and actually reduce compliance of those identified to be intrinsically motivated. The first of these results closely mirrors our finding on tax simplification: some non-compliance is likely driven by misunderstanding of or inattention towards the local church tax. The second result links to our later study of compliance rewards, that highlight intrinsic motivations can be impacted by how the tax institution is viewed.

at exact compliance, one would expect bunching to increase in response to the simplification treatment. In Figure 1B we therefore show the difference in the densities of $T(z) - T(\bar{z})$ between the Tax Simplification and Control groups. The graph clearly shows that the simplification treatment does not increase bunching at exact compliance, pushing further the interpretation towards such bunching being driven by duty-to-comply preferences.²⁰

MISPERCEPTION. — Our ability to measure intrinsic motivations at baseline hinges on taxpayers being aware that there is zero deterrence. We now test this assertion using the T3 Misperception treatment where we make explicit that $p = 0$. On all other dimensions this treatment is identical to the T2 Tax Simplification letter, which is therefore the natural comparison group.

Panel B of Table 2 shows the results. Columns (1)-(4) show that averaging across all taxpayers, there are no significant effects of trying to correct for misperceptions on either the extensive or total response margins. However, breaking down the impacts across taxpayer types, the remaining columns show that correcting misperception does have a small but statistically significant effect on the behavior of baseline evaders: they become significantly more likely to evade when they are explicitly told there is zero deterrence, and their tax payments fall (although this effect is not statistically significant).²¹

These findings confirm that compliance in the zero deterrence baseline is virtually unaffected by misperception and is therefore largely intrinsically motivated. That there is little misperception at baseline is not very surprising: the complete absence of enforcement in this established tax system is unlikely to go unnoticed, especially since this has been the status quo for a long time. Of course, while these findings help rule out misperception as a confounder in our setting, they do not imply that misperception is a non-trivial issue in other enforcement settings. In systems with non-zero deterrence, given that deterrence strategies are typically confidential, there remains scope for misperception among taxpayers (Scholz and Pinney, 1995; Chetty, 2009; Del Carpio, 2014).

DETERRENCE. — In the standard Allingham-Sandmo framework, tax compliance is driven by extrinsic incentives due to audit probabilities (p) and penalties (θ). Panel C of Table 2 documents the compliance impact of higher audit probabilities by pooling together the treatments that inject strictly positive audit probabilities $p = 0.1, 0.2, 0.5$ (treatments T4-T6) into the zero enforcement baseline. To make the variation completely unambiguous and increase power, we compare all these

²⁰While duty motives have been much discussed in the literature (Scholz and Pinney, 1995; Andreoni, Erard and Feinstein, 1998), we are among the first to provide non-parametric evidence of such effects.

²¹These responses among baseline evaders underpin the credibility of our experimental design: the fact that they are willing to evade more when told that the tax system is not enforced suggests that the notification letters were viewed as authentic by those taxpayers.

positive p -treatments to the T3 Misperception treatment in which $p = 0$. This eliminates noise from idiosyncratic variation in perception.

Considering first the full sample of taxpayers, Columns (1)-(4) show that increased deterrence causes significant reductions in the probability of evasion, increases in the probability of donating, and increased tax payments. Considering heterogeneous treatment responses in the remaining columns, we see that the deterrence effects on both margins are nearly entirely driven by their impacts on baseline evaders (the extrinsically motivated). These results are largely consistent with our conceptual model, which predicts positive deterrence effects on the extrinsically motivated and zero deterrence effects on the intrinsically motivated for whom enforcement is not a binding constraint (see Propositions 1 and 2 in the online appendix A.1).

Two further points are of note. First, the magnitude of each impact is quantitatively similar to those documented in Panel A on Tax Simplification. Second, the weak response to these deterrence treatments among the intrinsically motivated speak to the literature examining the potential crowd-out of intrinsic motivations from the provision of extrinsic incentives. For example, if intrinsically motivated taxpayers believe that under $p > 0$, other individuals pay taxes only because of deterrence, this could erode their own intrinsic or social motivation to comply by changing perceptions about other taxpayers' true motives. Our results suggest that no such extrinsic-intrinsic crowd-out exists in this setting; if anything we observe a slight crowd-in of intrinsic motivations.

In Table 3, Panel A we break down the pooled impact into the separate impacts of each of the uniform audit probability treatments (again, we split the table into Part I for the full sample and Part II for baseline evaders and baseline donors). This reveals the additional insight that the deterrence effects are quite similar across treatments T4 to T6. This lack of gradient could be an artefact of how individuals perceive audit-threat letters like T4-T6: they may respond to the general message of stronger deterrence rather than the specific probability provided. Audit probabilities communicated through such letters are likely to be perceived differently than audit probabilities inferred from actual audit experiences over time. This is of course a generic issue for all tax enforcement experiments, not just ours. We next analyze a different kind of audit-threat letter than what has been considered in the previous literature—namely the audit notch treatment T7—which works very powerfully and suggests that there *is* a gradient.

NOTCHED AUDIT PROBABILITIES. — In the notched audit probability treatment T7, the tax notification letter announces $p = 0.5$ for payments less than or equal to €10 and $p = 0$ for payments above €10. Such a notch provides a strong incentive for individuals who would otherwise pay less than or equal to €10 to pay just above €10, thereby creating a hole in the payment distribution below the cutoff and excess bunching in the payment distribution just above the cutoff. The theory of notches and how to use them to estimate behavioral responses has been

developed by Kleven and Waseem (2013). Here we build on their methodology by taking advantage of the fact that the notch is randomized.

The top panels of Figure 2 illustrate conceptually how individuals should respond to notches by comparing (hypothetical) density distributions of payments for individuals in the audit notch treatment group (solid red line in Panel A) and the control group (dashed black line in Panel A). The density for the audit notch group features missing mass at and below the cutoff along with excess bunching just above, whereas the density for the control group is smooth around the cutoff as they do not face the notch. Panel B shows the difference in densities between the treatment and control groups: this difference will be zero above the bunch due to random assignment.

The bottom panels of Figure 2 show empirical density differences between the audit notch treatment group and different comparison groups. The comparison group in Panel C is the T2 Tax Simplification treatment, while the comparison group in Panel D is the T3 Misperception treatment. As the raw distributions are lumpy because most individuals pay in one of the statutory tax bins (0, 5, 10, 25, 45, 70, 100), we show the distributions in €5 bins, and average densities within statutory tax bins. The qualitative findings are similar for the two comparison groups and consistent with the conceptual model: there is a large hole in the bins below €10 and large excess bunching just above €10. The amount of excess bunching between €10-€25 (scaled by the average density in the comparison group below the notch) is shown by the estimate b , with bootstrapped standard errors as in Chetty et al. (2011) and Kleven and Waseem (2013). When comparing to the tax simplification treatment in Panel C, we have $b = 0.42$: the excess mass above the notch is 42 percent of the average density in the comparison group below the notch. When comparing to the zero audit probability treatment in Panel D, the effects are even stronger: the excess mass above the notch is 62 percent of the average density in the comparison group. These bunching estimates are highly significant, much more so than the uniform audit probability treatments considered above (and in the previous literature). That is, randomizing a notched audit probability vastly increases power compared to conventional randomizations of uniform audit probabilities.

Table A7 digs deeper by comparing both the notched audit probability treatment (with $p = 0.5$ below a cutoff) and the T6 uniform audit probability treatment (with $p = 0.5$ everywhere) to the T3 misperception treatment (with $p = 0$). To begin with, Column (1a) considers the *total* average treatment effect of the notched and uniform audit probabilities. The effects are roughly similar in size (slightly larger for the notch) and highly significant for both treatments. However, the audit notch estimate obtained this way is attenuated, because it does not account for the fact that individuals initially above the cutoff (where p remains zero) are untreated. Hence, Column (1b) uses the bunching estimate in Figure 2D to obtain the correct *local* average treatment effect on tax payments. The estimated audit notch impact of 45 percent constitutes the correct comparison with the

uniform audit probability impact of 29 percent, and so the notched audit-threat letter induces a much stronger response than the uniform audit-threat letter.

COMPLIANCE REWARDS. — We complete our analysis by using the rewards/recognition treatments to probe motivations for tax compliance. We first pool together all such rewards treatments (T8-T11), and then later consider the individual impacts of each type of reward (social recognition, monetary prize draws, and a combination of the two). The comparison group is the T2 Tax Simplification treatment. As discussed earlier, the probability of actually winning each reward is very close to zero. We therefore view the salient feature of these rewards as being what they signal about the institution of the local church tax system. In particular, the offer of rewards for compliance (in contrast to punishment for non-compliance) highlights the voluntary aspect of an unenforced tax system, which may have very different effects across different compliance types.

Panel D of Table 2 presents our findings. For the full sample, we show in Columns (1)-(4) that the offer of compliance rewards has no significant impact on either the extensive or total response margins of tax compliance. However, the remaining columns show that pooling taxpayers masks the considerable heterogeneity in compliance responses to rewards across taxpayer types. Among baseline evaders (the extrinsically motivated) the offer of rewards/recognition for compliance causes them to: (i) significantly increase their probability of evading by 1.27 percent; (ii) significantly reduces the likelihood they increase payments by 16 percent. Among baseline donors (the intrinsically motivated) the offer of rewards/recognition: (i) does not significantly impact their probability of donating; (ii) significantly increases the likelihood they increase the size of their donation. This is remarkable given the considerable levels of donation/overpayment among this type of taxpayer at baseline.²²

Two further points are of note. First, the sharply heterogeneous effects of rewards across taxpayer types again highlights the importance of being able to cleanly classify individuals as extrinsically or intrinsically motivated for the study of tax compliance. Pooling all taxpayers leads to the (incomplete) conclusion that the provision of rewards does not impact tax compliance. Second, by highlighting the voluntary aspect of an unenforced tax system, the reward treatments induce qualitatively similar responses among baseline evaders as the misperception treatment that made explicit $p = 0$ and thus also emphasized that tax payments are effectively voluntary. Baseline donors, on the other hand, respond as if these rewards positively shock their warm glow and thus crowds-in their intrinsic motivations.

In Table 3 we report the separate impacts of each form of reward. Recall that

²²The spirit of these results match findings from other contexts in which very low-value rewards motivate prosocial behavior. For example, Stutzer, Goette and Zehnder (2011) find that offering lottery tickets increases blood donations; Chetty, Saez and Sandor (2014) find that offering a \$100 gift card to journal referees significantly reduces the time taken to send reports.

these rewards are of three types: (i) T8: provides individuals with a *purely social* reward through the possibility of their name being publicly announced in a local newspaper; (ii) T9-T10: provide individuals a *purely private* reward through their entry into small/high valued monetary prize draws; (iii) T11: combined social and private rewards so taxpayers have the opportunity to be recognized in a local newspaper *and* be entered in the high valued monetary prize draw. Hence the differences between these treatments are whether the reward takes the form of social or private recognition and the value of the private reward. All other dimensions are held constant across rewards: the number of individuals named in the social recognition component of T8 and T11 remains the same; and in T9-T11 the identity of monetary prize winners and their prize value remains private information.

Panel B of Table 3 documents a very uniform pattern of impacts across the different forms of reward, although we sometimes lose statistical significance when focusing on individual reward treatments. Across all three samples, the sign of the treatment effect is almost always the same for each of the individual rewards and for the pooled effect. For example, when considering the probability of increasing tax payments as our outcome, all four reward letters have a negative effect on the extrinsically motivated and a positive effect on the intrinsically motivated.

Our findings thus highlight that the offer of rewards can significantly impact tax compliance: the first-order impact will depend on taxpayers' underlying motivations; the form in which rewards are offered are less consequential in our setting.²³ The heterogeneous treatment responses across taxpayer types reveals a subtle trade-off for a social planner. The net benefit of offering such rewards depends both on the magnitude of responses for extrinsically and intrinsically motivated taxpayers, and on the underlying distribution of those types in the population. This is a timely insight given the use of rewards or recognition for tax compliance is becoming more prevalent, especially in developing countries. Moreover, over half of US states have utilized 'name and shame' programs revealing top debtors (Luttmer and Singhal, 2014).

These results also shed more light on the potential crowd-out/in between extrinsic and intrinsic motivations. We earlier documented that the manipulation of deterrence parameters (extrinsic incentives) had little impact on the intrinsically motivated, consistent with the absence of strong cross-effects between forms of motivation. Our results on the provision of compliance rewards are consistent with this insight: the qualitative similarity of responses to social and monetary rewards, as well as their interaction, suggests that intrinsically motivated tax compliance is not crowded-out by the provision of monetary rewards.²⁴

²³As such, there is little value added in discussing further the interpretation of the different types of reward. It remains an open question for future research whether social and private recognition can have different effects on tax compliance in other settings, say because *social* rewards leverage against intrinsically motivated individuals contributing to the tax because they have social image concerns or a desire to signal to others their type or conspicuous generosity (Bénabou and Tirole, 2003, 2006, Ellingsen and Johannesson, 2011).

²⁴Gneezy, Meier and Rey-Biel (2011) review the field evidence on extrinsic-intrinsic crowd-out. Studies

V. Conclusion

This paper contributes to the large literature on tax compliance, and specifically to an emerging literature on intrinsic motivations for compliance (Luttmer and Singhal, 2014). We provide novel insights on the relative importance of extrinsic and intrinsic motivations for tax compliance in a large representative sample of German taxpayers. We shed light on each motivation and their interaction using experimental manipulations of deterrence, tax simplification, misperception, and rewards/recognition.

We make headway on these questions by exploiting unique aspects of our data and setting. Our data allows us to precisely measure tax compliance in contrast to many earlier studies (Slemrod and Weber, 2012), and to cleanly identify extrinsically and intrinsically motivated taxpayers based on their pre-treatment compliance behavior in a zero deterrence baseline. Furthermore, the tax system studied is one in which overpayments are encouraged, thus creating the coexistence of evaders and donors and allowing us to integrate the study of tax compliance with the study of charitable giving. While these topics have largely been studied separately, they naturally belong together as any imperfectly enforced tax system involves an element of voluntary giving.

We conclude by highlighting two directions for future research. First, our finding that 20 percent of individuals pay at least true taxes owed in a baseline with no pecuniary incentive to comply suggests a need for more research that identify the key intrinsic or social motivations to comply and study how these respond to policy.²⁵ We have provided evidence that duty-to-comply motives may be one important mechanism in the context of taxation, but we have also shown that other forms of intrinsic motives play a role—and are affected by policies that provide recognition—for a subset of taxpayers who are willing to pay taxes above and beyond the letter of the law.

Second, while we find significant effects of deterrence and reward incentives on compliance behavior, the effect of these marginal incentives are relatively modest compared to the baseline evasion rate of 80 percent. When pooling the effect of all of our incentive treatments, we find that collectively they reduce the aggregate evasion rate by only about 4pp. In contrast, previous work has shown that third-party information reporting and tax withholding is able to reduce evasion to almost zero (Kleven et al., 2011). Hence, while incentives on the margin do matter, this paper along with the recent literature show that it is not possible to make a tax system fully successful without information and tax collection systems that make compliance more or less automatic. The next generation of compliance

that find no such cross-effects (in a variety of non-tax contexts) include Dal Bó, Finan and Rossi (2013), Ashraf, Bandiera and Jack (2014), and Chetty, Saez and Sandor (2014).

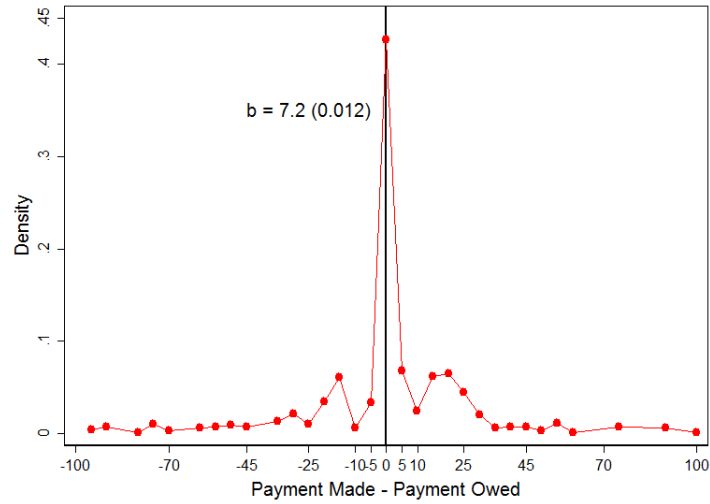
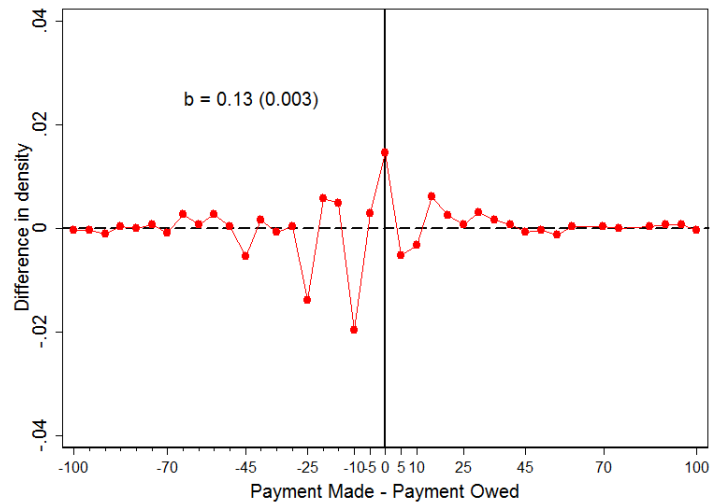
²⁵It is instructive to compare the levels of intrinsic motivation we document to those in DellaVigna, List and Malmendier (2012): they combine a natural field experiment and a structural model to estimate the share of potential donors to a charitable cause that are intrinsically motivated. Despite their very different setting, they report a quantitatively similar share of individuals who are intrinsically motivated to give (25 percent) as we find in our zero deterrence baseline.

studies should therefore provide more direct comparisons between the impact of marginal incentives—be they economic or social in nature—and the impact of mechanisms related to informational and administrative procedures. The longer-term aim would be to unify separate strands of the recent economics literature, which have identified the importance of institutional/administrative features for individual behavior in contexts as diverse as pro-social behavior, benefits take-up, savings, and voting.

FIGURE 1. COMPLIANCE DISTRIBUTION UNDER ZERO DETERRENCE

A: Bunching at Exact Compliance (Duty-to-Comply)

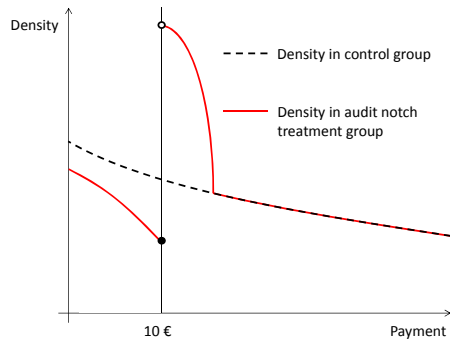
Control Letter

B: Duty-to-Comply vs. Attention
Simplification Letter – Control Letter

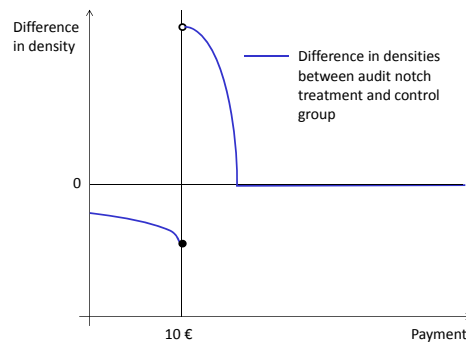
Note: Panel A displays the raw distributions of the difference between payment made and payment owed for the control letter. In panel A, the sample consists of compliers and donors with strictly positive payments. Panel B plots differences in the densities of tax payments made - tax payments owed between different treatment groups. The objective is to see if bunching at exact compliance (demarcated by the vertical line at zero) responds to the tax simplification treatment. Hence, Panel B shows the difference between the T2 simplification group and the T1 control group. In Panel B the sample consists of all individuals. The bin size in both panels is 5 Euro.

FIGURE 2. EFFECT OF AUDIT PROBABILITY NOTCH ON COMPLIANCE

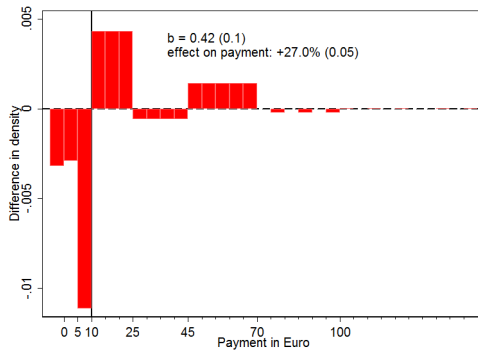
A: Densities in Audit Notch Treatment and in Control Group (Theoretical Illustration)



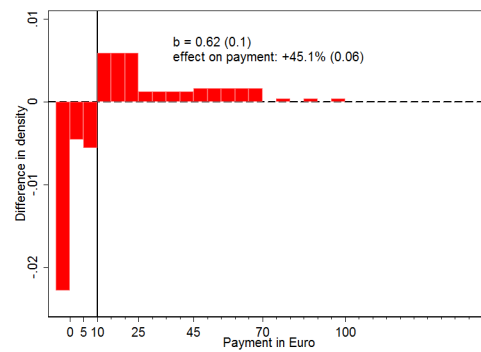
B: Difference in Densities Between Audit Notch Treatment and Control Group (Theoretical Illustration)



C: Effect of Audit Notch Treatment Compared to Simplification Letter (Audit Probability Notch – Simplification Letter)



D: Effect of Audit Notch Treatment Compared to Zero Audit Probability Letter (Audit Probability Notch - Zero Audit Probability Letter)



Note: Panel A provides a theoretical illustration of the distribution of payments made for the audit probability notch treatment (compared to the distribution of payments in the control group). Similarly, Panel B illustrates the difference in densities between the audit probability notch treatment and the control group. Panels C and D display the difference in the empirical density distributions of payments made. The density distribution of the audit probability notch letter group is compared to the density distribution of the simplification letter group in panel C and to the density distribution of the zero audit probability letter group in panel D. In both lower panels, the dashed horizontal line denotes zero difference in density distributions between the compared letter groups. The vertical line denotes the threshold at which the audit probability dips from 50 percent (payments below) to zero percent (payments above). Bunching b is the excess mass just above the threshold (scaled by the average counterfactual density below the notch). In both panels, the sample consists of baseline evaders, who paid less than the amount owed prior to treatment (baseline year 2011). The sample is limited to those with payments weakly smaller than 150 Euro. The bin size is 5 Euro. We account for differences in the size of tax brackets below and above the threshold by averaging densities within tax brackets.

TABLE 1—COMPLIANCE UNDER ZERO DETERRENCE

Control Group, Means

	Full Sample (1)	Evaders (Extrinsically Motivated) (2)	Compliers/Donors (Intrinsically Motivated) (3)
Number of Individuals	2532	2004	528
Percentage of All Individuals	100%	79.1%	20.9%
Full Evaders	72.7%	91.9%	-
Partial Evaders	6.4%	8.08%	-
Compliers	11.6%	-	55.5%
Donors	9.3%	-	44.5%
Payment Amount	€10.32	€1.87	€42.40

Note: The sample of individuals are all those assigned to the T1 Control Group in 2012 (2532 individuals). The Column headings refer to behavior in 2012, the year of the field experiment. Evaders are defined as those who pay strictly less than their legal tax liability, compliers are those who pay exactly their legal tax liability, and donors are those who pay strictly more than their legal tax liability.

TABLE 2—TREATMENT EFFECTS ON COMPLIANCE - PART I

	Full Sample			
	Probability of Evading (1)	Probability of Donating (2)	Payment Amount (3)	Probability of Payment Increase (4)
Panel A: Tax Simplification				
<i>Simplification vs Control</i>				
Effect of Tax Simplification	-2.45** (0.971)	-0.438 (6.90)	9.73*** (3.73)	33.61*** (10.25)
Average Outcome in Comparison Group	79.29%	9.24%	€10.29	7.89%
Number of Observations	5076	5076	5076	5076
Panel B: Misperception				
<i>Zero Audit Probability vs Simplification</i>				
Effect of Correcting Misperception	0.942 (0.889)	-7.23 (5.65)	-0.766 (3.05)	-10.60 (6.75)
Average Outcome in Comparison Group	77.30%	9.75%	€11.65	10.92%
Number of Observations	7641	7641	7641	7641
Panel C: Deterrence				
<i>Positive Audit Probability vs Zero Audit Probability</i>				
Effect of Deterrence	-3.13*** (0.660)	13.71*** (4.59)	10.45*** (2.37)	26.93*** (5.84)
Average Outcome in Comparison Group	78.04%	8.93%	€11.63	9.42%
Number of Observations	12692	12692	12692	12692
Panel D: Compliance Rewards				
<i>Reward vs Simplification</i>				
Effect of Compliance Rewards	0.259 (0.821)	-0.040 (5.23)	1.24 (2.86)	-9.48 (6.21)
Average Outcome in Comparison Group	77.30%	9.75%	€11.65	10.92%
Number of Observations	12632	12632	12632	12632

TABLE 2—TREATMENT EFFECTS ON COMPLIANCE - PART II

	Baseline Evaders (Extrinsically Motivated)			Baseline Donors (Intrinsically Motivated)				
	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Probability of Evading	Probability of Donating	Payment Amount	Probability of Payment Increase	Probability of Evading	Probability of Donating	Payment Amount	Probability of Payment Increase
Panel A: Tax Simplification								
<i>Simplification vs Control</i>								
Effect of Tax Simplification	-2.66*** (0.747)	6.58 (22.86)	43.40*** (10.60)	64.82*** (13.69)	-5.25 (19.67)	-4.04 (6.97)	-6.65 (4.85)	-37.29* (19.38)
Average Outcome in Comparison Group	94.98%	1.91%	€3.13	6.12%	17.32%	62.34%	€39.94	15.58%
Number of Observations	4007	4007	4007	4007	476	476	476	476
Panel B: Misperception								
<i>Zero Audit Probability vs Simplification</i>								
Effect of Correcting Misperception	1.53** (0.715)	-8.89 (17.47)	-9.83 (6.75)	-11.03 (7.55)	-16.75 (17.63)	1.52 (5.78)	8.79* (4.78)	32.37 (28.02)
Average Outcome in Comparison Group	92.35%	2.18%	€4.84	10.53%	15.92%	61.63%	€40.16	8.57%
Number of Observations	6049	6049	6049	6049	723	723	723	723
Panel C: Deterrence								
<i>Positive Audit Probability vs Zero Audit Probability</i>								
Effect of Deterrence	-3.12*** (0.536)	36.89** (15.22)	33.67*** (6.28)	29.81*** (6.64)	-0.093 (15.48)	7.07* (4.22)	2.10 (3.25)	30.85 (19.16)
Average Outcome in Comparison Group	93.80%	1.93%	€4.05	9.00%	12.55%	61.72%	€45.08	10.67%
Number of Observations	9979	9979	9979	9979	1261	1261	1261	1261
Panel D: Compliance Rewards								
<i>Reward vs Simplification</i>								
Effect of Compliance Rewards	1.27* (0.664)	5.24 (16.17)	-5.46 (6.33)	-15.58** (6.90)	-11.64 (15.11)	2.02 (4.95)	4.87 (3.83)	48.34* (25.27)
Average Outcome in Comparison Group	92.35%	2.18%	€4.84	10.53%	15.92%	61.63%	€40.16	8.57%
Number of Observations	9909	9909	9909	9909	1247	1247	1247	1247

Note: *** denotes significance at 1%, ** at 5%, and * at 10% level. Robust standard errors in parentheses. Estimations include parish fixed effects and individual controls (compliance in previous period, age, sex, joint filing, number of children, dummy variables for wage income, capital income, and income liable for local trade tax). We use pre-treatment compliance behavior to split the sample into evaders, donors, and compliers (results not shown).

TABLE 3—INDIVIDUAL TREATMENT EFFECTS ON COMPLIANCE - PART I

	Full Sample			
	Probability of Evading (1)	Probability of Donating (2)	Payment Amount (3)	Probability of Payment Increase (4)
Panel A: Deterrence				
<i>Positive Audit Probability vs Zero Audit Probability</i>				
Deterrence, Pooled Effect	-2.45** (0.971)	-0.438 (6.90)	9.73*** (3.73)	33.61*** (10.25)
Deterrence, Individual Effects				
Audit probability = 0.1	-3.29*** (0.898)	5.38 (6.08)	9.52*** (3.20)	29.76*** (8.05)
Audit probability = 0.2	-3.11*** (0.923)	17.61*** (6.44)	11.48*** (3.37)	26.81*** (8.11)
Audit probability = 0.5	-2.99*** (0.912)	18.27*** (6.31)	10.38*** (3.30)	24.17*** (8.01)
Average Outcome in Comparison Group	78.04%	8.93%	€11.63	9.42%
Number of Observations	12692	12692	12692	12692
Panel B: Compliance Rewards				
<i>Reward vs Simplification</i>				
Compliance Rewards, Pooled Effect	0.259 (0.821)	-0.040 (5.23)	1.24 (2.86)	-9.48 (6.21)
Compliance Rewards, Individual Effects				
Social reward	0.185 (1.03)	2.97 (6.68)	0.245 (3.51)	-11.60 (7.71)
Small private reward	0.450 (1.03)	-4.59 (6.74)	-1.15 (3.56)	-10.88 (7.74)
Large private reward	1.02 (1.00)	-3.30 (6.60)	2.12 (3.98)	-15.30** (7.63)
Social and private reward combined	-0.618 (1.04)	4.75 (6.57)	3.74 (3.73)	-0.15 (7.89)
Average Outcome in Comparison Group	77.30%	9.75%	€11.65	10.92%
Number of Observations	12632	12632	12632	12632

TABLE 3—INDIVIDUAL TREATMENT EFFECTS ON COMPLIANCE - PART II

	Baseline Evaders (Extrinsically Motivated)			Baseline Donors (Intrinsically Motivated)				
	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A: Deterrence								
<i>Positive Audit Probability vs Zero Audit Probability</i>								
Deterrence, Pooled Effect	-2.66*** (0.747)	6.58 (22.86)	43.40*** (10.60)	64.82*** (13.69)	-5.25 (19.67)	-4.04 (6.97)	-6.65 (4.85)	-37.29* (19.38)
Deterrence, Individual Effects								
Audit probability = 0.1	-3.09*** (0.741)	14.43 (19.43)	31.69*** (8.73)	34.91*** (9.19)	15.80 (21.44)	-2.07 (5.76)	2.91 (4.38)	41.68 (26.31)
Audit probability = 0.2	-3.60*** (0.773)	44.22** (21.67)	42.19*** (8.89)	29.86*** (9.17)	7.45 (19.63)	10.92** (5.39)	-0.544 (3.94)	22.62 (23.67)
Audit probability = 0.5	-2.69*** (0.749)	52.86** (22.28)	27.48*** (9.23)	24.55*** (9.10)	-25.90 (21.44)	12.08** (5.66)	4.41 (4.11)	29.25 (26.60)
Average Outcome in Comparison Group	93.80%	1.93%	€4.05	9.00%	12.55%	61.72%	€45.08	10.67%
Number of Observations	9979	9979	9979	9979	1261	1261	1261	1261
Panel B: Compliance Rewards								
<i>Reward vs Simplification</i>								
Compliance Rewards, Pooled Effect	1.27* (0.664)	5.24 (16.17)	-5.46 (6.33)	-15.58** (6.90)	-11.64 (15.11)	2.02 (4.95)	4.87 (3.83)	48.34* (25.27)
Compliance Rewards, Individual Effects								
Social reward	1.02 (0.824)	17.93 (21.07)	-6.38 (7.99)	-16.84** (8.57)	-11.96 (19.62)	3.17 (6.35)	3.50 (4.66)	40.87 (34.04)
Small private reward	1.22 (0.825)	2.66 (20.60)	-10.10 (7.87)	-17.50** (8.50)	-11.95 (18.48)	-4.56 (6.32)	5.15 (4.57)	56.00* (32.76)
Large private reward	2.09*** (0.794)	-7.38 (19.69)	-10.57 (7.59)	-21.24** (8.34)	-4.55 (19.25)	2.72 (6.32)	3.16 (5.08)	35.00 (32.38)
Social and private reward combined	0.777 (0.841)	7.66 (20.47)	4.93 (8.34)	-6.95 (8.75)	-18.58 (20.02)	7.38 (6.37)	7.89 (5.24)	62.16* (34.60)
Average Outcome in Comparison Group	92.35%	2.18%	€4.84	10.53%	15.92%	61.63%	€40.16	8.57%
Number of Observations	9909	9909	9909	9909	1247	1247	1247	1247

Note: *** denotes significance at 1%, ** at 5%, and * at 10% level. Robust standard errors in parentheses. See note in Table 2 for details on control variables and definition of types (baseline evaders vs. baseline donors).

TABLE A1—SUMMARY OF TREATMENTS

Treatment	Description	Wording of Additional Paragraph Relative to Tax Simplification Treatment (T2)
Control (T1)	Tax notice unchanged	
Treatment Group 1: Tax Simplification & Misperception		
Tax Simplification (T2)	Tax notice simplified	
Misperception (T3)	Zero audit probability	Please note that, according to Article 9 para. 4 of the Church Levy Collection Act, the Evangelical-Lutheran congregation can delegate the collection of the local church tax to the church tax authority. The church tax authority can officially assess your income. However, the Evangelical-Lutheran congregation does not make use of this option. There is no verification of church members' own income assessment.
Treatment Group 2: Deterrence		
Audit Probability 10% (T4)	Audit probability of 10%	Please note (...) your income. In order to ensure a fair tax collection, we consider it necessary to verify the church members' self-assessment for every tenth [fifth, second] church member. In other words, the self-assessment of 10% [20%, 50%] of church members will be verified.
Audit Probability 20% (T5)	Audit probability of 20%	
Audit Probability 50% (T6)	Audit probability of 50%	
Audit Probability Notch (T7)	Audit probability of 50% for payments \leq €10 and zero audit probability for payments $>$ €10	Please note (...) your income. While there will be no verification of church members' self-assessment for payments above €10, there may be a verification of payments at €10 or lower. In order to ensure a fair tax collection, we consider it necessary to verify the church members' self-assessment for every second church member paying €10 or less. In other words, the self-assessment of 50% of church members paying €10 or less will be verified.
Treatment Group 3: Compliance Rewards		
Social Reward (T8)	Lottery with individual's timely compliance being announced in local newspapers	Among all individuals paying a local church tax of at least €5 no later than September 30, 2012, we will randomly draw 100 church members. If you belong to the church members drawn by lot we will contact you and ask for consent before publishing your name in a newspaper advertisement. With this advertisement, published in the [names of three local newspapers], we are going to thank the allotted church members by name for funding our work. Funds for financing the advertisement have been kindly found to this end.
Small Private Reward (T9)	Lottery, prize draw €250	
Large Private Reward (T10)	Lottery, prize draw €1000	All individuals paying a local church tax of at least €5 no later than September 30, 2012 are going to take part in a lottery. From every 1,000 local church taxpayers one will be drawn to win a prize of €250 [€1000]. The prize has been kindly funded to this end.
Social and Private Reward Combined (T11)	Lottery combining social reward and large private reward	Among all individuals (...) for funding our work. In addition, out of the 100 church members mentioned above, we will randomly draw 15 members who will each win a prize of €1,000. Funds for the advertisement and the prizes have been kindly found to this end.

Note: Treatments T3 to T11 are based on the simplified notice T2 and add one paragraph on the cover page relative to T2. We implemented two additional treatments on social norms and moral suasion (T12 and T13). See the online appendix for further details.

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Supplemental Material for:

Extrinsic and Intrinsic Motivations for Tax Compliance: Evidence from a Field Experiment in Germany

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and Johannes Rincke*

September 10, 2015

A Online Appendix (Not For Publication)

A.1 Propositions on Extensive and Intensive Compliance Responses

The extensive margin decision of evading, complying or donating is characterized as follows:

Proposition 1 (Extensive Margin) *Assuming smooth preferences, there exists cutoffs \bar{s}_1, \bar{s}_2 such that a fraction $F(\bar{s}_1)$ of the population are evaders ($z < \bar{z}$), a fraction $F(\bar{s}_2) - F(\bar{s}_1)$ are compliers ($z = \bar{z}$), and a fraction $1 - F(\bar{s}_2)$ are donors ($z > \bar{z}$). The cutoffs are given by,*

$$\frac{u'_T(\bar{z} - T(\bar{z}), T(\bar{z}), \bar{s}_1)}{u'_c(\bar{z} - T(\bar{z}), T(\bar{z}), \bar{s}_1)} = 1 - p[1 + \theta] \quad \text{and} \quad \frac{u'_T(\bar{z} - T(\bar{z}), T(\bar{z}), \bar{s}_2)}{u'_c(\bar{z} - T(\bar{z}), T(\bar{z}), \bar{s}_2)} = 1,$$

implying $\bar{s}_1 < \bar{s}_2$ and therefore excess bunching at $z = \bar{z}$ for any positive deterrence incentive, $p[1 + \theta] > 0$. We have:

(A) Deterrence: *stronger deterrence (larger p or θ) reduces \bar{s}_1 and does not affect \bar{s}_2 . Hence, the fraction of evaders is decreasing, the fraction of compliers is increasing, and the fraction of donors is unaffected by deterrence.*

(B) Warm Glow: *stronger warm-glow (larger u'_T all else equal) reduces both \bar{s}_1 and \bar{s}_2 . Hence,*

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the fraction of evaders is decreasing, the fraction of compliers is indeterminate, and the fraction of donors is increasing in warm glow.

Proof: This follows from (2) and the fact that u'_T/u'_c is increasing in s . We also use that there is a convex kink at $z = \bar{z}$ as the marginal deterrence incentive falls discretely from $p[1 + \theta]$ to 0. ■

We then turn to the intensive margin decision within each group. For this purpose, it is helpful to state the following (natural) assumption on preferences:

Assumption 1 *The MRS between consumption in the audited and non-audited states u'_{c_A}/u'_{c_N} and the MRS between warm glow and consumption $E[u'_T]/u'_{c_N}$ are both decreasing in $T(z)$.*

This assumption is consistent with, but stronger than, concavity of the utility function ($u''_{cc}, u''_{TT} < 0$). That is, while concavity by itself creates the effect in Assumption 1, there could be an offsetting effect under either substitutability ($u''_{cT} < 0$) or complementarity ($u''_{cT} > 0$) between extrinsic and intrinsic motivations. For example, while higher tax payments directly reduce u'_{c_A}/u'_{c_N} by moving consumption from the non-audited to the audited state, the larger warm-glow benefits will have an indirect effect on u'_{c_A}/u'_{c_N} provided that u''_{cT}/u'_c is different between the two states (which depends on a *third-order* derivative of the utility function). Assumption 1 rules out situations where the indirect effect goes against the direct effect and is strong enough to overturn it.¹

With this assumption, we are able to state the following result on the intensive margin:

Proposition 2 (Intensive Margin) *Under Assumption 1, we have:*

(A) Deterrence: *stronger deterrence (larger p or θ) increases reported income z for evaders ($s < \bar{s}_1$), while it does not affect reported income z for donors ($s > \bar{s}_2$).*

(B) Warm Glow: *stronger warm-glow (larger u'_T all else equal) increases reported income z for both evaders and donors ($s < \bar{s}_1$ and $s > \bar{s}_2$, respectively).*

Proof: The evader results follow from (2) for $I\{z \leq \bar{z}\} = 1$ and Assumption 1. The donor results follow from (2) for $I\{z \leq \bar{z}\} = 0$ in which case $u'_{c_N} = u'_{c_A} = u'_c(\bar{z} - T(z), T(z), s)$ and $E[u'_T] = u'_T(\bar{z} - T(z), T(z), s)$. ■

A.2 Attrition

To investigate the correlates of attrition from our panel data, we estimate a linear probability model that has a dependent variable equal to one if the individual is in our sample in year 2008, and has

¹Formally, for the MRS between consumption in the audited and non-audited states u'_{c_A}/u'_{c_N} , the effect of $T(z)$ coming through warm glow (holding consumption c_A, c_N fixed) is given by $\frac{\partial}{\partial T} \frac{u'_{c_A}}{u'_{c_N}} \Big|_{c_A, c_N} = \left[\frac{u''_{c_A T}}{u'_{c_A}} - \frac{u''_{c_N T}}{u'_{c_N}} \right] \frac{u'_{c_A}}{u'_{c_N}}$, where $u''_{c_A T} \equiv u''_{cT}(c_A, T(z), s)$ and $u''_{c_N T} \equiv u''_{cT}(c_N, T(z), s)$. Assumption 1 implies that this effect (which depends on u''_{cTc}) cannot be so strongly positive that it dominates the direct negative effect coming through diminishing marginal returns to consumption.

attritted by 2012, the year of the field experiment. This analysis is based on the 31,238 individuals observed in 2008: 86.5% are observed in all years 2008-12. We are primarily interested in how attrition is correlated to treatment assignment, and whether there is evidence of heterogeneous attrition across treatments. The most important form of individual heterogeneity considered in our analysis is whether the individual is a baseline evader, complier or donor. Hence we control throughout for this individual type, as defined based on observed behavior in 2008.

Column 1 of Table A3 shows that those that evade in 2008 are 2.4 percentage points more likely to attrit by the 2012 tax year than exact compliers in 2008, an effect significant at the 1% level; 2008 donors are not significantly more or less likely to attrit than 2008 exact compliers. This correlation between non-compliance and attrition is intuitive: if past compliance behavior reflects baseline motivation, then non-compliance should be a predictor of opting-out in later years. Column 2 shows this to be robust to including individual controls and parish fixed effects.² Column 3 additionally controls for the treatment assignment dummies. An F-test of their joint significance does not reject the null [p -value 0.872]. Hence we find no evidence that individuals are more likely to attrit because of the treatment they are assigned to. This ameliorates concerns the field experiment caused individuals to opt-out of the Protestant church, that might have offset any gains from compliance among those that do not attrit. Finally, Column 4 includes a complete series of interactions between treatment assignments and the individual's type based on their 2008 behavior (so the reported coefficients now relate to attrition in the control group). We find there is no differential attrition across treatments by past compliance behavior: the three F-tests on the joint significance of the treatment dummies, treatment dummy-evader 2008 interactions, and treatment dummy-donor 2008 interactions, all do not reject the null.

A.3 Persistence in Individual Type

To provide further evidence on the degree of persistence in individual compliance behavior over time, we use a multinomial logit model to estimate the correlates of behavior in 2011, the tax year immediately prior to our field experiment. We do so among those individuals assigned to our T1 Control group, and we report relative risk ratios where the omitted base category is exact compliance in 2011. In Column 1 of Table A5 we only condition on the individuals lagged type, namely whether they evaded or donated in the 2010. This evidence suggests a high degree of persistence over time in individual types: For the extrinsically motivated, those that evade in 2010 are 83.3 times as likely to evade the following year as comply. For the intrinsically motivated, those that donate in 2010 are 10.8 times as likely to continue donating the following year than comply. Column 2 shows this finding to be robust when we additionally control for individual characteristics. The relevant relative risk ratio for persistence in evasion is 87.1, and

²The individual controls are whether the individual is male, their age, the number of children, whether they are a joint filer, receive wage income, are liable for trade taxes, and their church tax payment bin.

for persistence in donating it is 9.01. We further note that most of the individual controls do not predict compliance behavior, and those that do have relatively small relative risk ratios compared to the individual’s own past compliance behavior.

A.4 Social Norms and Moral Suasion

We here present more detailed evidence on our treatments related to social norms and moral suasion. These mirror treatments implemented in Blumenthal, Christian and Slemrod (2001): while Blumenthal, Christian and Slemrod (2001) found such treatments to have limited impact, we revisit the issue by probing further whether there are heterogeneous impacts across baseline extrinsically and intrinsically motivated tax payers. Our social norms treatment, denoted T12, provides individuals information on the average payments of those that made some *strictly* positive payment in the previous tax year. Table A1 shows precisely how this was communicated.³ Our moral suasion treatment emphasizes the social benefits of making a payment to the local public good of parish services (and specifically naming the parish the individual belongs to). This treatment is denoted T13 and the wording of the relevant paragraph is also shown in Table A1.

Table A8 presents the results following the same format as earlier, where the natural comparison is with the T2 Tax Simplification treatment. When considering the intrinsically motivated, we again focus on baseline donors and thus remove baseline compliers whom the evidence suggests are largely motivated by a duty-to-comply.

When pooling all taxpayers or considering baseline evaders alone, we find both treatments have weak impacts on behavior on both the extensive and total response margins.⁴ Among baseline donors, there is some weak evidence that both treatments increase tax payments. Taken together, these findings suggest that such forms of intervention are unlikely to induce large changes in tax compliance, at least among the majority of taxpayers who are baseline evaders. As such, our findings on moral suasion are in line with some of the earlier literature (Blumenthal, Christian and Slemrod, 2001; Fellner, Sausgruber and Traxler, 2013), and confirm these non-responses uniformly apply even when extrinsically and intrinsically motivated tax payers can be identified based on their pre-treatment behavior. Such uniform null effects of these kinds of treatment are perhaps not altogether surprising in the context of tax compliance: as discussed by Luttmer and Singhal

³We might expect such norms treatments to be effective if individuals are conditional cooperators, or they have a preference for conformity. Bénabou and Tirole (2011) overview the evidence on the effectiveness of such appeals in various contexts related to prosocial behavior. More recently, Hallsworth et al. (2014) provide evidence from a natural field experiment that providing information on norms and moral appeal accelerates actual payments among UK tax payers.

⁴We also probed both results to further explore heterogeneous responses. Among baseline donors, we tested whether the social norm treatment had heterogeneous impacts among those that paid more or less than the stated norm in 2011. We found no evidence that either subset of baseline donors responds to this information (not shown). On moral suasion, we explored whether this treatment had differential impacts depending on the church membership, or the involvement of church members in church activities, across the parishes in our data. Again, no robust heterogeneous impacts were found.

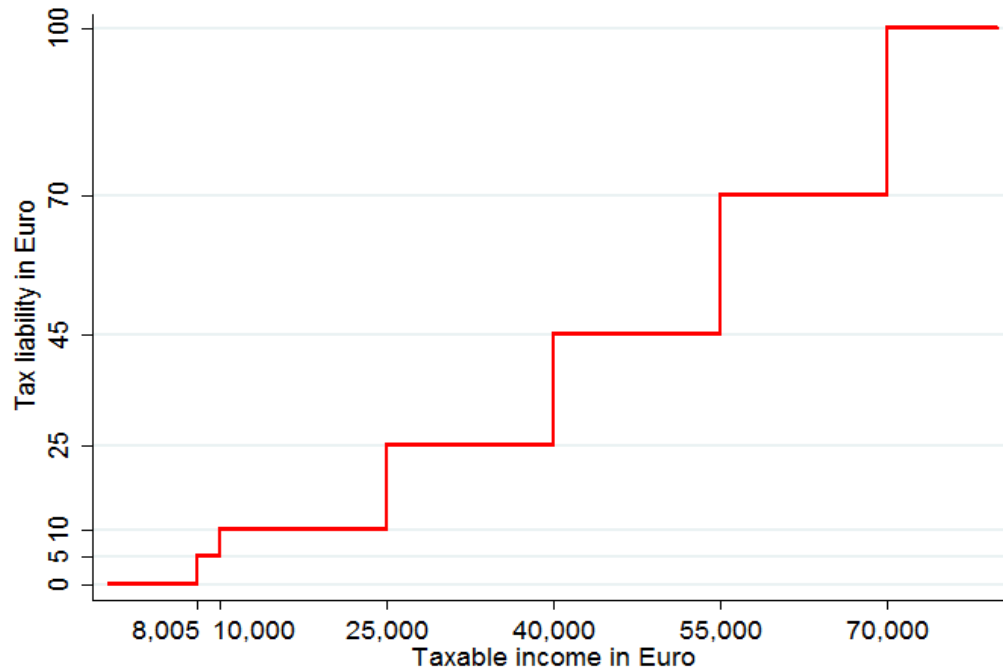
(2014), individual views on the value of public services provided through taxation are formed through a lifetime of experiences, and these kinds of treatment are unlikely to be powerful enough to induce changes in such beliefs.⁵

⁵This is of course not to suggest that appeals to social norms would not be effective in determining other forms of prosocial behavior. For example, such social norms treatments have been found to effectively raise political contributions (Frey and Meier, 2004). Perez-Truglia and Cruces (2014) show how this is driven by which peers are expected to observe such contributions. Besley, Jensen and Persson (2014) present evidence from the UK on how the short-lived switch to the politically unpopular poll tax on property, led to a short run spike in non-compliance in property taxes and had long term impacts on compliance with property taxes even when the regime was subsequently altered. This suggests social norms can be shifted when shocked by sufficiently large changes to the design of the tax system.

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Figure A1: Local Church Tax Schedule



Level	Annual income or benefits	Annual Church Tax	% of Sample in Tax Bracket, 2012
1	€ 8,005 to € 9,999	€ 5	2,37
2	€ 10,000 to € 24,999	€ 10	26,5
3	€ 25,000 to € 39,999	€ 25	32,0
4	€ 40,000 to € 54,999	€ 45	16,8
5	€ 55,000 to € 69,999	€ 70	9,43
6	€ 70,000 and above	€ 100	12,9

Notes: Figure A1 shows the local church tax schedule: the x-axis shows taxable income. This is a progressive tax schedule with six payment bins. The lower table shows the percentage of the sample in the year of the field experiment that falls into each payment bin.

Table A2: Sample Representativeness

Personal Income Tax Statistics 2007 and Our Sample in 2007

	Sample (Metropolitan Area Studied, Protestants)		Metropolitan Area Studied		Metropolitan Area Studied, Non Church Members	
	Single Filers (1a)	Joint Filers (1b)	Single Filers (2a)	Joint Filers (2b)	Single Filers (3a)	Joint Filers (3c)
Number of taxpayers	21.353	24.950	353.248	448.686	156.734	151.872
Share of taxpayers that are men	44,1%	50,0%	48,8%	50,0%	53,9%	50,0%
Share of taxpayers with children entitled to child allowances	15,1%	59,1%	16,1%	53,0%	18,9%	52,3%
Average number of children entitled to child allowances	0,2	1,0	0,2	0,9	0,3	0,9
Average age	40,4	47,0	43,3	49,2	42,9	46,8
Share of Protestants	100,0%	50,0%	16,0%	14,4%	0,0%	0,0%
Share of Catholics	0,0%		39,5%	41,5%	0,0%	0,0%
Share of taxpayers who are not member of a tax raising community	0,0%	50,0%	44,4%	43,9%	100,0%	100,0%
Average taxable income	39.034	85.090	40.709	73.942	46.177	72.126
Share of declarations with wage income	87,8%	87,8%	83,2%	91,0%	81,4%	91,8%
Share of declarations with capital income	21,8%	31,0%	26,6%	31,2%	23,3%	23,0%
Share of declarations with business income liable for trade tax	2,5%	4,8%	4,5%	7,0%	5,8%	7,2%

Notes: This table shows the mean characteristics (separately for single and joint files) in three groups: our sample (filing Protestants in the large metropolitan area in Bavaria, Columns 1a and 1b), the overall population of single and joint filers in the large metropolitan area in Bavaria (Columns 2a and 2b), and filing non-church members in the same large metropolitan area in Bavaria (Columns 3a and 3b). The source of data is in Columns 2a onwards are personal income statistics for 2007 (the last year of available data). Single filers comprise unmarried individuals and married couples who choose to file two separate tax returns. The vast majority of married couples are joint filers and benefit from the associated reduction in the progressivity of the personal income tax. One parent of each underage child (and of each child who is not older than 25 years and studies/or is in apprenticeship) is entitled to child allowances, which can either be a tax credit or a cash transfer. Tax raising communities in Germany refer to religious communities that collect taxes within the scope of the personal income tax. The Protestant and Catholic churches are by far the largest tax raising communities and cover about 60% of the population; 3.3% of the population belong to other tax raising communities.

Table A3: Correlates of Attrition

	(1) Individual Type As Defined in 2008	(2) Individual Controls	(3) Treatment Assignment in 2012	(4) Heterogeneity Within Treatment
Evader in 2008 [yes =1]	0.024*** (0.006)	0.025*** (0.006)	0.025*** (0.006)	0.046** (0.021)
Donor in 2008 [yes=1]	0.008 (0.009)	-0.005 (0.009)	-0.004 (0.009)	0.023 (0.032)
Parish Fixed Effects	No	Yes	Yes	Yes
Individual Controls	No	Yes	Yes	Yes
Joint F-test of Significance [p-value]				
Treatment Dummies	No	No	Yes [.872]	Yes [0.628]
Treatment Dummy x Evader in 2008 Interactions	No	No	No	Yes [0.324]
Treatment Dummy x Donor in 2008 Interactions	No	No	No	Yes [0.706]
Observations	31238	31238	31238	31238

Notes: *** denotes significance at 1%, ** at 5%, and * at 10%. Notes: *** denotes significance at 1%, ** at 5%, and * at 10%. The dependent variable is a dummy equal to one if the individual is in our linked sample in 2008, but has attrited by 2012, the year in which our field experiment takes place, and zero otherwise. The analysis is based on the 31,238 individuals observed in 2008. A linear probability model is estimated throughout with robust standard errors reported in parentheses. In Column 1 we control for whether the individual is an evader or donor in 2008 (exact compliers being the omitted group). Column 2 additionally controls for whether the individual is male, their age, the number of children, whether they are a joint filer, receive wage income, are liable for trade taxes, their payment bin for the local church tax and parish fixed effects. Column 3 additionally controls for the series of treatment assignment dummies, and reports the p-value on an F-test of their joint significance. The specification in Column 4 includes a complete series of interactions between treatment assignments and the individual's type based on their 2008 behavior. We report the p-values on three F-tests on the joint significance of the treatment dummies, all treatment dummy-evader 2007 interactions, and all treatment dummy-donor 2008 interactions.

Table A4: Random Assignment to Treatment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Number of Individuals	Male	Age	Married	Number of Children	Joint Filer [yes=1]	Wage Income [yes=1]	Liabie for Trade Tax [yes=1]	Income (in Euro)	F-test on Joint Sign. [Relative to Control] {Relative to Simple Letter}	F-test on Joint Sign. p-value, Baseline Evaders [Relative to Control] {Relative to Simple Letter}	F-test on Joint Sign. p-value, Baseline Compilers [Relative to Control] {Relative to Simple Letter}	F-test on Joint Sign. p-value, Baseline Donors [Relative to Control] {Relative to Simple Letter}
T1: Control Group	2532	0.511 (0.500)	45.5 (13.0)	0.421 (0.494)	0.495 (0.839)	0.368 (0.482)	0.877 (0.329)	0.030 (0.170)	43644 (38040)	-	-	-	-
T2: Tax Simplification	2564	0.509 (0.500)	45.1 (13.0)	0.420 (0.494)	0.477 (0.831)	0.369 (0.482)	0.870 (0.337)	0.027 (0.161)	44573 (39572)	[0.600]	[0.521]	[0.881]	[0.875]
T3: Zero Audit Probability	5104	0.502 (0.500)	45.2 (13.4)	0.408 (0.491)	0.462 (0.805)	0.355 (0.479)	0.878 (0.327)	0.024 (0.153)	44226 (40014)	[0.642]	[0.214]	[0.474]	[0.640]
T4: Audit Probability p=0.1	2572	0.507 (0.500)	44.8 (13.1)	0.394 (0.489)	0.481 (0.830)	0.346 (0.476)	0.896 (0.306)	0.026 (0.159)	42148 (34143)	[0.540]	[0.609]	[0.438]	[0.515]
T5: Audit Probability p=0.2	2532	0.507 (0.500)	45.0 (13.5)	0.415 (0.493)	0.457 (0.825)	0.362 (0.481)	0.877 (0.329)	0.021 (0.143)	42482 (33717)	[0.161]	[0.156]	[0.392]	[0.423]
T6: Audit Probability p=0.5	2533	0.512 (0.500)	45.2 (13.3)	0.423 (0.494)	0.489 (0.833)	0.368 (0.482)	0.880 (0.325)	0.022 (0.147)	43506 (37207)	[0.828]	[0.739]	[0.760]	[0.498]
T7: Audit Probability Notch	2551	0.510 (0.500)	44.8 (13.1)	0.412 (0.492)	0.495 (0.833)	0.353 (0.478)	0.885 (0.319)	0.022 (0.147)	42710 (35746)	[0.331]	[0.325]	[0.541]	[0.106]
T8: Social Reward	2533	0.523 (0.500)	45.2 (13.2)	0.415 (0.493)	0.482 (0.819)	0.363 (0.481)	0.868 (0.339)	0.025 (0.157)	44279 (36317)	[0.466]	[0.044]	[0.411]	[0.303]
T9: Small Private Reward	2521	0.503 (0.500)	45.0 (13.1)	0.412 (0.492)	0.480 (0.823)	0.358 (0.480)	0.881 (0.323)	0.026 (0.158)	42036 (32940)	[0.640]	[0.512]	[0.516]	[0.503]
T10: Large Private Reward	2525	0.513 (0.500)	45.4 (13.1)	0.442 (0.497)	0.514 (0.839)	0.392 (0.488)	0.885 (0.319)	0.022 (0.147)	44085 (39008)	[0.611]	[0.763]	[0.599]	[0.484]
T11: Social and Private Reward Combined	2542	0.517 (0.500)	44.7 (13.0)	0.416 (0.493)	0.500 (0.852)	0.354 (0.478)	0.884 (0.320)	0.027 (0.164)	43351 (36518)	[0.383]	[0.320]	[0.406]	[0.280]
T12: Social Norm	2585	0.491 (0.500)	45.3 (13.3)	0.406 (0.491)	0.471 (0.822)	0.347 (0.476)	0.884 (0.320)	0.026 (0.160)	43520 (38166)	[0.522]	[0.426]	[0.347]	[0.003]
T13: Moral Appeal	2509	0.511 (0.500)	44.9 (13.3)	0.419 (0.493)	0.458 (0.809)	0.357 (0.479)	0.873 (0.333)	0.022 (0.148)	43397 (36753)	[0.151]	[0.198]	[0.866]	[0.723]

Notes: This table presents randomization checks for all treatments in our natural field experiment. Column 1 shows the number of individuals assigned to each treatment. Approximately twice as many individuals were purposefully assigned to the T3 Misperception (p=0) treatment. Columns 2 to 9 present the average sample characteristics for 2012 (in which the field experiment took place), and standard errors in parentheses. Column 10 shows a joint F-test on the significance of the covariate set on being assigned to that specific group relative to the T1 control group (in brackets) and relative to T2 Tax Simplification (in braces). Columns 11-13 repeat this but for the subsamples of baseline evaders, baseline compilers and baseline donors (as defined by their behavior in 2011, the year that immediately precedes our natural field experiment).

Table A5: Persistence of Type in Control Group

Multinomial Logit Estimates, Relative Risk Ratios Reported
(Base Category = Complier in 2010 Tax Year)

Outcome:	Evader in 2010 (1) Past Behavior	Donor in 2010	Evader in 2010 (2) Individual Controls	Donor in 2010
Evader in 2009 Tax Year [yes=1]	83.3*** (16.1)	2.16*** (0.563)	87.1*** (17.5)	2.02*** (0.536)
Donor in 2009 Tax Year [yes=1]	2.32*** (0.601)	10.8*** (2.50)	2.45*** (0.672)	9.01*** (2.22)
Male			0.916 (0.168)	1.04 (0.223)
Age			1.00 (0.008)	1.03*** (0.009)
Number of Children			1.23* (0.152)	0.786 (0.117)
Joint Filer [yes=1]			0.771 (0.165)	1.03 (0.234)
Wage Income [yes=1]			1.85** (0.539)	1.29 (0.377)
Liable for Trade Tax [yes=1]			4.30*** (2.32)	3.07 (2.33)
Payment Owed = €10 [Income Bracket €10000-€25000]			1.41 (0.685)	0.858 (0.434)
Payment Owed = €25 [Income Bracket €25000 - €40000]			1.47 (0.743)	1.30 (0.691)
Payment Owed = €45 [Income Bracket €40000 - €50000]			1.10 (0.564)	1.46 (0.837)
Payment Owed = €70 [Income Bracket €50000 - €70000]			1.70 (0.953)	1.24 (0.779)
Payment Owed = €100 [Income Bracket €70000+]			1.21 (0.646)	0.292* (0.198)
Observations	2521		2521	

Notes: *** denotes significance at 1%, ** at 5%, and * at 10%. The sample is based on individuals assigned to the T1 Control Group. The outcome is the individual's compliance behavior on the extensive margin in 2011 (evader, complier, donor), the year preceding our natural field experiment. The table reports a multinomial logit model. We report relative risk ratios where the omitted base category is exact compliance in 2011. Robust standard errors are reported in parentheses. In Column 1 we only condition on the individuals lagged type, namely whether they evaded or donated in 2010 (where exact compliers in 2010 are the omitted category). Column 2 additionally control for the individual characteristics shown.

Table A6: Robustness Checks
Baseline vs Unconditional Specification

	Full Sample											
	Baseline Evaders (Extrinsically Motivated)						Baseline Donors (Intrinsically Motivated)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A: Tax Simplification Simplification vs Control Letters												
Baseline Specification	-2.45** (0.971)	-0.438 (6.90)	9.73** (3.73)	33.61** (10.25)	-2.66** (0.747)	6.58 (22.86)	43.40** (10.60)	64.82** (13.69)	-5.25 (19.67)	-4.04 (6.97)	-6.65 (4.85)	-37.29* (19.38)
Unconditional Specification	-2.60* (1.47)	5.82 (8.96)	13.52** (6.48)	39.41** (10.37)	-2.66** (0.807)	14.94 (23.91)	55.64** (13.83)	72.50** (14.25)	-14.55 (20.28)	-0.585 (7.558)	2.33 (7.45)	-40.39** (18.94)
Average Outcome in Comparison Group	[0.917]	[0.485]	[0.558]	[0.576]	[0.997]	[0.727]	[0.376]	[0.599]	[0.647]	[0.648]	[0.229]	[0.870]
Number of Observations	79.29%	9.24%	€10.29	7.89%	94.98%	1.91%	€3.13	6.12%	17.32%	62.34%	€39.94	15.58%
	5076	5076	5076	5076	4007	4007	4007	4007	476	476	476	476
Panel B: Misperception Zero Audit Probability vs Simplification Letters												
Baseline Specification	0.942 (0.889)	-7.23 (5.65)	-0.766 (3.05)	-10.60 (6.75)	1.53** (0.715)	-8.89 (17.47)	-9.83 (6.75)	-11.03 (7.55)	-16.75 (17.63)	1.52 (5.78)	8.79* (4.78)	32.37 (28.02)
Unconditional Specification	1.38 (1.31)	-10.47 (7.30)	-1.75 (5.11)	-13.68** (6.83)	1.50* (0.766)	-11.53 (18.10)	-17.25** (8.49)	-14.02* (7.83)	-12.40 (18.48)	-2.49 (6.66)	16.51** (6.81)	35.34 (28.36)
Average Outcome in Comparison Group	[0.741]	[0.657]	[0.847]	[0.653]	[0.969]	[0.884]	[0.383]	[0.703]	[0.814]	[0.548]	[0.258]	[0.917]
Number of Observations	77.30%	9.75%	€11.65	10.92%	92.35%	2.18%	€4.84	10.53%	15.92%	61.63%	€40.16	8.57%
	7641	7641	7641	7641	6049	6049	6049	6049	723	723	723	723
Panel C: Deterrence Positive Audit Probability vs Zero Audit Probability												
Baseline Specification	-3.13** (0.660)	13.71** (4.59)	10.45** (2.37)	26.93** (5.84)	-3.12** (0.536)	36.89** (15.22)	33.67** (6.28)	29.81** (6.64)	-0.093 (15.48)	7.07* (4.22)	2.10 (3.25)	30.85 (19.16)
Unconditional Specification	-4.17** (0.978)	16.35** (5.93)	10.49** (3.98)	28.82** (5.92)	-3.39** (0.574)	36.01** (15.55)	38.82** (7.74)	31.82** (6.86)	9.62 (16.38)	5.76 (4.70)	-5.27 (4.74)	30.00 (19.09)
Average Outcome in Comparison Group	[0.286]	[0.656]	[0.994]	[0.749]	[0.643]	[0.955]	[0.506]	[0.770]	[0.553]	[0.782]	[0.120]	[0.965]
Number of Observations	78.04%	8.93%	€11.63	9.42%	93.80%	1.93%	€4.05	9.00%	12.55%	61.72%	€45.08	10.67%
	12692	12692	12692	12692	9979	9979	9979	9979	1261	1261	1261	1261
Panel D: Compliance Rewards Reward vs Simplification Letters												
Baseline Specification	0.259 (0.821)	-0.040 (5.23)	1.24 (2.86)	-9.48 (6.21)	1.27* (0.664)	5.24 (16.17)	-5.46 (6.33)	-15.58** (6.90)	-11.64 (15.11)	2.02 (4.95)	4.87 (3.83)	48.34* (25.27)
Unconditional Specification	-0.193 (1.21)	-1.18 (6.76)	1.62 (4.66)	-11.82* (6.27)	1.31* (0.709)	-1.49 (16.81)	-13.93* (7.86)	-18.62** (7.17)	-6.25 (16.11)	-0.627 (5.73)	5.79 (5.51)	48.00* (25.17)
Average Outcome in Comparison Group	[0.708]	[0.867]	[0.935]	[0.708]	[0.956]	0.689	[0.283]	[0.672]	[0.798]	[0.645]	[0.867]	[0.979]
Number of Observations	77.30%	9.75%	€11.65	10.92%	92.35%	2.18%	€4.84	10.53%	15.92%	61.63%	€40.16	8.57%
	12632	12632	12632	12632	9909	9909	9909	9909	1247	1247	1247	1247

Notes: Estimations at the individual taxpayer level. ** denotes significance at 1%, * at 5%, and * at 10% level. Robust standard errors are in parentheses. Strata variables: payment owed and the number of times the individual was observed in the panel at the time of the intervention. Estimations with controls include parish fixed effects and individual controls (compliance behavior in the previous period, age, sex, joint filing, number of (taxable) children as well as dummy variables for wage income, capital income, and income liable for local trade tax). We use pre-treatment compliance behavior in 2011 to split the sample into evaders (paid less than the amount owed), donors (paid strictly more than the amount owed), and compliers (paid the amount owed, results not shown).

Table A7: Deterrence Effects of an Audit Probability Notch

Sample: Baseline Evaders

	Effect on Payment (in %)		Number of Observations
	(1a) Mean Comparison	(1b) Bunching Estimate	
Compared to T3 Zero Audit Probability Letter			
T7: Audit probability = 0.5 if payment ≤ 10 Euro and 0 for payment above	32.1*** (9.66)	45.13*** (5.72)	6035
T6: Audit probability = 0.5	28.6*** (9.68)	-	6024
Average Outcome in Comparison Group	4.05 Euro	-	

Notes: Estimations at the individual taxpayer level. *** denotes significance at 1%, ** at 5%, and * at 10% level. Robust standard errors are in parentheses. Regressions include strata variables (payment owed and the number of times the individual was observed in the panel at the time of the intervention) as well as parish fixed effects. The bunching estimates in column (2) are based on the analysis in Figure 2, Panels C and D, and show by how much (in %) the average buncher increases the payment in order to locate above the notch point at 10 Euro. All regressions are based on the sample of baseline evaders who paid strictly less than their true tax liability in 2011.

Table A8: Treatment Effects of Social Norm and Moral Appeal

	Full Sample				Baseline Evaders (Extrinsically Motivated)				Baseline Donors (Intrinsically Motivated)			
	Probability of Evading (1)	Probability of Donating (2)	Payment Amount (3)	Probability of Payment Increase (4)	Probability of Evading (5)	Probability of Donating (6)	Payment Amount (7)	Probability of Payment Increase (8)	Probability of Evading (9)	Probability of Donating (10)	Payment Amount (11)	Probability of Payment Increase (12)
Panel A: Social Norm												
Social Norm vs Simplification Letters												
Social Comparison	0.904 (1.03)	2.16 (6.65)	0.306 (3.58)	-8.16 (7.77)	1.50* (0.824)	-16.51 (19.74)	-4.04 (7.79)	-12.96 (8.66)	-26.06 (20.08)	12.20* (6.95)	9.47* (5.02)	28.44 (33.52)
Average Outcome in Comparison Group	77.30%	9.75%	€1.65	10.92%	92.35%	2.18%	€4.84	10.53%	15.92%	61.63%	€40.16	8.57%
Number of Observations	5123	5123	5123	5123	4031	4031	4031	4031	492	492	492	492
Panel B: Moral Appeal												
Moral Appeal vs Simplification Letters												
Moral Appeal	-0.136 (1.05)	-6.89 (6.52)	3.01 (4.14)	-7.74 (7.91)	0.839 (0.855)	-27.26 (19.72)	-8.16 (9.24)	-9.51 (8.93)	-23.26 (21.24)	3.89 (6.93)	12.93** (5.41)	20.42 (34.31)
Average Outcome in Comparison Group	77.30%	9.75%	€1.65	10.92%	92.35%	2.18%	€4.84	10.53%	15.92%	61.63%	€40.16	8.57%
Number of Observations	5052	5052	5052	5052	3985	3985	3985	3985	477	477	477	477

Notes: Estimations at the individual taxpayer level. ***, **, * at 1%, 5%, and 10% level. Robust standard errors are in parentheses. Strata variables: payment owed and the number of times the individual was observed in the panel at the time of the intervention. Estimations include parish fixed effects and individual controls (compliance behavior in the previous period, age, sex, joint filing, number of (taxable) children as well as dummy variables for wage income, capital income, and income liable for local trade tax). We use pre-treatment compliance behavior in 2011 to split the sample into evaders (paid strictly less than the amount owed), donors (paid strictly more than the amount owed), and compliers (paid the amount owed, results not shown).

T1 (Control) Letter

[Letter head, including addressee, postal address, phone number of service hotline, and email address of local church administration]

[place & date]

Dear Ms/Mr [addressee's family name],

As every year, we kindly ask you herewith for your annual local church tax payment, with which you directly support the work of your Evangelical-Lutheran congregation and the social work of the deaconry. The local church tax forms part of the general church tax and is collected once yearly by the Evangelical-Lutheran Church in [...].

What do you get from the local church tax?

Many congregations and services use the local church tax funds for very elementary purposes, such as church maintenance or to cover heating costs. With your local church tax you help the churches to stay open and offer a home to those who need it.

Be it the Baptism and Confirmation of your children, or a church wedding, we are always there when you need us. Or when tragedy or a crisis hits. You will always find someone who listens and provides concrete support in your congregation and at our Evangelical counselling centres. With your local church tax, you also support more than 60 Evangelical kindergartens that instil Christian values in our children and thus provide a solid basis for the development of their character.

The Evangelical Church is also engaged in the region's social hotspots. Your local church tax supports important on-going projects dedicated to the social reintegration of troubled youths, keeping them from sliding into social alienation. Your contribution also helps to sustain 17 nursing services for elderly and sick people. You can also find further examples of our work in the enclosed bulletin.

Why is the local church tax so important?

The local church tax has become increasingly important for the Church District of the Evangelical-Lutheran Church of [...] because the grants received by the local parishes have declined over the years. 60% of the gross revenue goes to the congregations, 28% to the deaconry and 12% to supra-congregational services (such as counselling centres). In 2011, the local church tax collected 1.7 million euros. We express our heartfelt gratitude to all those who, with their contribution, make possible the continued provision of the various church services in [...].

How much Local church tax do you have to pay?

The Local church tax is staggered according to income and ranges from € 5 to € 100 annually, depending on your own income assessment. This letter has the legal status of a tax bill. We would therefore kindly ask that each tax bill recipient in a household (e.g., husband and wife) transfer the respective amount of local church tax separately, specifying your local church tax number (cf. remittance slip). We apologise for any inconvenience in this regard.

You will find further information on the back of this page. If you have any questions, we would be glad to answer them at our service hotline [...] or per e-mail at [...]. We appreciate your financial support.

With kind regards,

[signature in handwriting]

Regional Dean of the Church District

[bank transfer slip printed on lower part of letter]

Information regarding the local church tax

1. The local church tax

is, together with the church payroll tax and the church income tax, a compulsory contribution that is collected once a year and that benefits your local congregation directly. All congregation members over 18 years of age receive the local church tax payment notice, so that a family can receive several such notices. (For technical reasons, it is not possible to do otherwise. We apologize for any inconvenience.) The local church tax revenues remain in the Church District of [...] and are then allotted to the local congregations as well as to supra-congregational and deaconry projects in the [...] district, in accordance with the guidelines set forth by the District Synod. In Bavaria, the rate for both the church payroll tax and the church income tax is at 8%, lower than in most other federal states (where it is 9% of the general payroll and income tax). In Bavaria, the church collects the local church tax in addition to the aforementioned taxes.

2. The legal foundation

for collecting the local church tax is the Kirchensteuergesetz (KirchStG) as published on November 21, 1994 (GVBl, p. 250), last amended on 22 December 2008 (GVBl, p. 973) and the Kirchensteuererhebungsgesetz of December 9, 2002 (KABl. 2003, p. 19), as well as by the Implementing Regulation on the Kirchensteuererhebungsgesetz of October 15, 2003 (KABl. 2003 p. 306). You can find the corresponding legal texts at [...]. We would also be happy to send them to you upon request.

3. Subject to the local church tax

are all members of the Evangelical-Lutheran Congregation who, as of January 1st, fulfill all the following conditions (Article 7 para. 3 of the Church Levy Collection Act):

- Have turned 18 years old before January 1st of the current year
- Had an income of more than € 8,004 (the tax-exempt amount in accordance with Article 32a para. 1 No. 1 of the Income Tax Law [EStG]). As a general rule, this is the taxable income, but other income such as alimony or child support, benefit payments, pensions or regular stipends must also be considered.
- Residence within the area of the [...].

4. Exempt taxation are

- All congregants under the age of 18,
- Congregants above the age of 18 whose income does not exceed € 8,005 (see point 3 above).

Should any of the conditions above apply, you can file an objection within one month of receipt of this notification. To this end, simply return the notification, together with a short explanation, to [...], or send an e-mail with an explanatory statement, including your local church tax number (indicated on the bank transfer form), your first and family names and your address to [...].

5. The amount of local church tax

is staggered according to income from €5 to €100. We suggest that, in making the self-assessment, you take as a basis the yearly income used to sustain your livelihood (see Point 3 above). We ask you to make your payment no later than **September 15, 2012**. We thank you in advance.

Tier	Yearly Income or Benefits	Annual Local Church Tax
1	€ 8,005 to € 9,999	€ 5
2	€ 10,000 to € 24,999	€ 10
3	€ 25,000 to € 39,999	€ 25
4	€ 40,000 to € 54,999	€ 45
5	€ 55,000 to € 69,999	€ 70
6	€ 70,000 and above	€ 100

6. Tax-reducing expenditure

The local church tax payment can be claimed as a deductible church tax in your tax filing.

7. Donations

Every sum above €100 is considered a donation, which we gratefully appreciate. For donations between €100 and €300, the tax office accepts a plain certificate of donation, such as a bank transfer slip where the beneficiary institution and the intended purpose are shown. For donations above €300, we will automatically send you a donation certificate.

8. Payment already effected

Should you have already paid the local church tax, please disregard this notice. For technical reasons, it is not possible for us to identify payments made before the payment notice is issued and thus exempt you from receiving it.

9. Further information

is available at [...]

T2 (Simplification) Letter

[Letter head, including addressee, postal address, phone number of service hotline, and email address of local church administration]

[place & date]

Dear Ms/Mr [addressee's family name],

With this letter, we want to inform you that your annual local church tax payment is due. The local church tax forms part of the general church tax and is a compulsory payment that is collected once yearly by the Evangelical-Lutheran Church in the [...] region.

Subject to the local church tax are all members of the Evangelical-Lutheran congregation who are at least 18 years of age by January 1st of the current year, earned an income of more than €8,004, and who reside within the area of the Church District. The amount of the local church tax is staggered according to income and ranges from €5 to €100 annually, depending on your own income assessment. We suggest that, in making the self-assessment, you take as a basis the yearly income used to sustain your livelihood. As a general rule, this is your taxable income, but other sources of income such as alimony or child support, benefit payments, pensions or regular stipends must also be considered.

Additional paragraph in treatments T2-T13 here

Tier	Yearly Income or Benefits	Annual Local Church Tax
1	€ 8,005 to € 9,999	€ 5
2	€ 10,000 to € 24,999	€ 10
3	€ 25,000 to € 39,999	€ 25
4	€ 40,000 to € 54,999	€ 45
5	€ 55,000 to € 69,999	€ 70
6	€ 70,000 and above	€ 100

This letter has the legal status of a tax bill. We would therefore kindly ask that each tax bill recipient in a household (e.g., husband and wife) transfer the respective amount of local church tax separately, specifying your local church tax number (cf. remittance slip). We request that your payment be made no later than September 30, 2012.

You will find further information on the back of this page. If you have any questions, we would be glad to answer them at our service hotline [...] or per e-mail at [...].

With kind regards,

[signature in handwriting]

Regional Dean of the Church District

[bank transfer slip printed on lower part of letter]

Information regarding the local church tax

1. The local church tax

is, together with the church payroll tax and the church income tax, a compulsory contribution that is collected once a year and that benefits your local congregation directly. The local church tax revenues remain in the Church District of [...] and are then allotted to the local congregations as well as to supra-congregational and deaconry projects in the [...] district, in accordance with the guidelines set forth by the District Synod. In Bavaria, the rate for both the church payroll tax and the church income tax is at 8%, lower than in most other federal states (where it is 9% of the general payroll and income tax). In Bavaria, the church collects the local church tax in addition to the aforementioned taxes.

2. The legal foundation

for collecting the local church tax is the Kirchensteuergesetz (KirchStG) as published on November 21, 1994 (GVBl, p. 1026), last amended on December 22, 2008 (GVBl, p. 973), and the Kirchensteuererhebungsgesetz of December 9, 2002 (KABl. 2010, p. 9), as well as the Implementing Regulation on the Kirchensteuererhebungsgesetz of December 7, 2006 (KABl. 2007 p. 18). You can find the corresponding legal texts at [...]. We would also be happy to send them to you upon request.

3. What do you get from the local church tax?

Many congregations and services use the local church tax funds for very elementary purposes, such as church maintenance or to cover heating costs. With your local church tax, you help the churches to stay open and to offer a home to those who need it. With your local church tax, you also support more than 60 Evangelical kindergartens that instill Christian values in our children and thus provide a solid basis for the development of their character.

The Evangelical Church is also engaged in the region's social hotspots. Your local church tax supports important on-going projects dedicated to the social reintegration of troubled youths, keeping them from sliding into social alienation. Your contribution also helps to sustain 17 nursing services for elderly and sick people. You can also find further examples of our work in the enclosed bulletin.

4. Why is the local church tax so important?

The local church tax has become increasingly important for the Church District of the Evangelical-Lutheran Church of [...] because the grants received by the local parishes have declined over the years. 60% of the gross revenue goes to the congregations, 28% to the deaconry and 12% to supra-congregational services (such as counselling centres). In 2011, the local church tax collected 1.7 million Euros.

5. Exempt from taxation are

- all congregants under the age of 18,
- congregants above the age of 18 whose income does not exceed €8,005.

Should any of the conditions above apply, you can file an objection within one month of the receipt of this notification. To this end, simply return the notification, together with a short explanation, to the Church District of [...], or send an e-mail with an explanatory statement, including your local church tax number (indicated on the bank transfer form), your first and family names and your address to [...].

6. Tax-reducing expenditure

The local church tax payment can be claimed as a deductible church tax in your tax filing.

7. Donations

Every sum above €100 is considered a donation, which we gratefully appreciate. For donations between €100 and €300, the tax office accepts a plain certificate of donation, such as a bank transfer slip where the beneficiary institution and the intended purpose are shown. For donations above €300, we will automatically send you a donation certificate.

8. Payment already effected

Should you have already paid the local church tax, please disregard this notice. For technical reasons, it is not possible for us to identify payments made before the payment notice is issued and thus exempt you from receiving it.

9. Further Information

is available at [...]

T1 (Control) Letter in German

[Letter head, including addressee, postal address, phone number of service hotline, and email address of local church administration]

[place & date]

Sehr geehrte/r Frau/Herr [Nachname],

mit diesem Brief bitten wir Sie auch dieses Jahr um Ihr Kirchgeld, mit dem Sie direkt die Arbeit Ihrer Gemeinde und die sozialdiakonischen Dienste der evangelischen Kirche unterstützen. Das Kirchgeld ist ein Teil der Kirchensteuer, der einmal im Jahr von der Evangelisch-Lutherischen Kirche in der Region [...] erhoben wird.

Was haben Sie vom Kirchgeld?

Viele Gemeinden und Dienste verwenden das Kirchgeld für ganz elementare Dinge wie die Instandhaltung ihrer Kirchen oder für Heizkosten. Mit dem Kirchgeld tragen Sie dazu bei, dass die Kirchen offen sind und den Menschen ein Zuhause bieten.

Ob bei der Taufe und Konfirmation Ihres Kindes oder bei Trauungen: Wir sind für Sie da, wenn Sie uns brauchen. Auch im Trauerfall und in Krisenzeiten stehen wir Ihnen bei. In Ihrer Gemeinde und unseren evangelischen Beratungsstellen finden Sie Gehör und konkrete Hilfestellungen. Mit dem Kirchgeld unterstützen wir auch über 60 evangelische Kindergärten, die unseren Kindern christliche Werte vermitteln und so zu einer stabilen Basis ihrer Persönlichkeit beitragen.

Die evangelische Kirche kümmert sich zudem um die sozialen Brennpunkte in der Region. Mit dem Kirchgeld können wichtige Projekte im Rahmen der Jugendsozialarbeit zur Resozialisierung von Jugendlichen weitergeführt werden. Wir verhindern so, dass junge Menschen ins soziale Abseits geraten. Darüber hinaus unterstützen Sie mit Ihrem Beitrag beispielsweise 17 Pflegedienste für alte und kranke Menschen. Konkrete Beispiele unserer Arbeit finden Sie auch in der beigefügten Mitgliederzeitung.

Warum ist das Kirchgeld so wichtig?

Das Kirchgeld gewinnt für die [...] zunehmend an Bedeutung, weil die Zuweisungen der Landeskirche an die Gemeinden zurückgegangen sind. 60 % des Reinertrags gehen an die Gemeinden, 28 % an die Diakonie und 12 % an die übergemeindlichen Dienste (z.B. Beratungsstellen). Im Jahr 2011 wurden 1,7 Millionen Euro Kirchgeld eingezahlt. Herzlichen Dank sagen wir allen, die mit ihrem Beitrag die vielfältigen Angebote der evangelischen Kirche in der Region [...] ermöglicht haben.

Wie hoch ist der Kirchgeldbeitrag?

Der Pflichtbeitrag Kirchgeld ist nach Einkommen gestaffelt und beträgt einmal jährlich entsprechend Ihrer Selbsteinstufung 5 bis 100 Euro. Da der Kirchgeldbrief ein Steuerbescheid ist, bitten wir Sie, den entsprechenden Betrag für jeden Bescheid gesondert (z.B. Herr und Frau) und mit Angabe der Kirchgeldnummer (siehe Überweisungsformular) zu überweisen. Vielen Dank für Ihr Verständnis.

Weitere Hinweise finden Sie auf der Rückseite. Bei Fragen wenden Sie sich gerne an unser Servicetelefon [...] oder schreiben Sie eine E-Mail an [...]. Wir bitten Sie um Ihre finanzielle Unterstützung.

Mit herzlichen Grüßen

Ihre

[signature in handwriting]

Stadtdekanin

[bank transfer slip printed on lower part of letter]

Informationen zum Kirchgeld

1. Das Kirchgeld

ist neben der Kirchenlohn- und Kircheneinkommensteuer ein Pflichtbeitrag, der einmal jährlich erhoben wird und direkt Ihrer Kirchengemeinde vor Ort zu Gute kommt. Alle Kirchenmitglieder über 18 Jahren erhalten den Kirchgeldbrief, so dass eine Familie mehrere Briefe erhalten kann. (Aus technischen Gründen ist das nicht anders möglich. Wir bitten um Verständnis.) Das Kirchgeld verbleibt in [...], die den Ertrag nach den Vorgaben der Dekanatsynode an die Kirchengemeinden sowie übergemeindliche und diakonische Projekte im Dekanatsbezirk [...] verteilt. In Bayern liegt der Hebesatz für die Kirchenlohn- bzw. Kircheneinkommensteuer mit 8 % niedriger als in den meisten anderen Bundesländern (dort 9 % von der Lohn- und Einkommensteuer). In Bayern gibt es zusätzlich das Kirchgeld.

2. Gesetzliche Grundlage

für die Erhebung des Kirchgeldes ist das staatliche Kirchensteuergesetz (KirchStG) in der Fassung der Bekanntmachung vom 21.11.1994 (GVBl. S. 1026), zuletzt geändert durch Gesetz vom 22.12.2008 (GVBl. S. 973) und das Kirchensteuererhebungsgesetz vom 09.12.2002 (KABl. 2003, S. 19) sowie die Ausführungsverordnung zum Kirchensteuererhebungsgesetz vom 15.10.2003 (KABl. 2003 S. 306). Sie finden die entsprechenden Gesetzestexte im Internet unter [...]. Wir sind auch gerne bereit, sie Ihnen zuzusenden.

3. Kirchgeldpflichtig

sind evangelisch-lutherische Gemeindeglieder, die am 1. Januar alle folgenden Voraussetzungen erfüllen (§ 7 Abs.3 Kirchensteuererhebungsgesetz)

- Vollendung des 18. Lebensjahres vor dem 1. Januar des laufenden Jahres
- Jährlich mehr als 8.004 € eigene Einkünfte (Grundfreibetrag gemäß §32a Abs.1 Satz 2 Nr.1 EStG) , in der Regel das zu versteuernde Einkommen. Zu berücksichtigen sind aber auch andere Bezüge zur Bestreitung
- des Lebensunterhalts wie Unterhaltsleistungen, Versorgungsbezüge, Renten oder regelmäßige Stipendien.
- Wohnsitz im Bereich der [...]

4. Befreit vom Kirchgeld sind

- Alle Gemeindeglieder unter 18 Jahren
- Gemeindeglieder über 18 Jahre, wenn ihre jährlichen Einkünfte (s. Punkt 3) unter 8.005 € liegen.

Sollte einer dieser Punkte auf Sie zutreffen, können Sie innerhalb eines Monats Einspruch einlegen. Dazu schicken Sie einfach diesen Brief mit einer kurzen Begründung zurück an die Evangelisch-Lutherische [...], [...], oder eine entsprechende E-Mail mit Angabe Ihrer Kirchgeldnummer (s. Überweisungsträger), Ihrem Vor- und Nachnamen und Ihrer Anschrift an [...].

5. Die Höhe des Kirchgelds

ist nach dem Einkommen gestaffelt zwischen 5 € und 100 €. Wir empfehlen, bei Ihrer Selbsteinschätzung Ihre jährlichen Einkünfte zur Bestreitung des Lebensunterhalts (s. Punkt 3) zu Grunde zu legen. Wir erbitten Ihre Kirchgeldzahlung bis zum **30.09.2012** und bedanken uns im Voraus.

Stufe	Jährliche Einkünfte oder Bezüge	Jährliches Kirchgeld
1	8.005 bis 9.999 €	5 €
2	10.000 bis 24.999 €	10 €
3	25.000 bis 39.999 €	25 €
4	40.000 bis 54.999 €	45 €
5	55.000 bis 69.999 €	70 €
6	70.000 € und mehr	100 €

6. Steuermindernde Sonderausgabe

Die Kirchgeldzahlung können Sie bei Ihrer Steuererklärung als Kirchensteuer geltend machen.

7. Spenden

Jeder Betrag, der die Höchstgrenze von 100 € übersteigt, gilt als Spende (Zuwendung), für die wir herzlich danken. Bei Zahlung eines Betrages zwischen 100 € und 300 € gilt der vereinfachte Zuwendungsnachweis. Hier genügt die Buchungsbestätigung des Kreditinstitutes für das Finanzamt, wenn daraus die begünstigte Körperschaft und der Zweck ersichtlich sind. Bei Zahlung über 300 € erhalten Sie von uns automatisch eine Zuwendungsbescheinigung.

8. Bereits erfolgte Zahlung

Sollten Sie das Kirchgeld bereits gezahlt haben, betrachten Sie diese Kirchgeldaufforderung als gegenstandslos. Aus technischen Gründen ist es uns nicht möglich, eine bereits vor der Kirchgeldaufforderung getätigte Zahlung für das Jahr 2012 zu erfassen und damit zu verhindern, dass Sie einen Kirchgeldbrief erhalten.

9. Weitere Informationen

finden Sie im Internet unter [...]

T2 (Simplification) Letter in German

[Letter head, including addressee, postal address, phone number of service hotline, and email address of local church administration]

[place & date]

Sehr geehrte/r Frau/Herr [Nachname],

mit diesem Brief möchten wir Sie darüber informieren, dass Ihre diesjährige Kirchgeldzahlung fällig ist. Das Kirchgeld ist ein Teil der Kirchensteuer und damit ein Pflichtbeitrag, der einmal im Jahr von der Evangelisch-Lutherischen Kirche in der Region [...] erhoben wird.

Kirchgeldpflichtig sind alle evangelisch-lutherischen Gemeindeglieder, die am 1. Januar des laufenden Jahres das 18. Lebensjahr vollendet haben, deren eigene Einkünfte den Betrag von 8.004 Euro übersteigen und deren Wohnsitz im Bereich der [...] liegt. Die Höhe des zu zahlenden Kirchgeldes ist nach Einkommen gestaffelt und beträgt einmal jährlich entsprechend Ihrer Selbsteinstufung 5 bis 100 Euro. Wir empfehlen, bei Ihrer Selbsteinschätzung Ihre jährlichen Einkünfte zur Bestreitung des Lebensunterhalts zu Grunde zu legen. In der Regel entsprechen diese dem zu versteuernden Einkommen. Zu berücksichtigen sind aber auch andere Bezüge zur Bestreitung des Lebensunterhalts wie Unterhaltsleistungen, Versorgungsbezüge, Renten oder regelmäßige Stipendien.

Additional paragraph in treatments T2-T13 here

Stufe	Jährliche Einkünfte oder Bezüge	Jährliches Kirchgeld
1	8.005 bis 9.999 €	5 €
2	10.000 bis 24.999 €	10 €
3	25.000 bis 39.999 €	25 €
4	40.000 bis 54.999 €	45 €
5	55.000 bis 69.999 €	70 €
6	70.000 € und mehr	100 €

Da der Kirchgeldbrief ein Steuerbescheid ist, bitten wir Sie, den entsprechenden Betrag für jeden Bescheid gesondert (z.B. bei Ehepaaren) und mit Angabe der Kirchgeldnummer (siehe Überweisungsformular) zu überweisen. Ihre Kirchgeldzahlung ist zum 30.09.2012 fällig.

Weitere Hinweise finden Sie auf der Rückseite. Bei Fragen wenden Sie sich gerne an unser Servicetelefon [...] oder schreiben Sie eine E-Mail an [...].

Mit freundlichen Grüßen

Ihre

[signature in handwriting]

Stadtdekanin

[bank transfer slip printed on lower part of letter]

Informationen zum Kirchgeld

1. Das Kirchgeld

ist neben der Kirchenlohn- und Kircheneinkommensteuer ein Pflichtbeitrag, der einmal jährlich erhoben wird und Ihrer Kirchengemeinde vor Ort zu Gute kommt. Das Kirchgeld verbleibt in der [...], die den Ertrag nach den Vorgaben der Dekanatsynode an die Kirchengemeinden sowie übergemeindliche und diakonische Projekte im Dekanatsbezirk verteilt. In Bayern liegt der Hebesatz für die Kirchenlohn- bzw. Kircheneinkommensteuer mit 8 % niedriger als in den meisten anderen Bundesländern (dort 9 % von der Lohn- und Einkommensteuer). In Bayern gibt es zusätzlich das Kirchgeld.

2. Gesetzliche Grundlage

für die Erhebung des Kirchgeldes ist das staatliche Kirchensteuergesetz (KirchStG) in der Fassung der Bekanntmachung vom 21.11.1994 (GVBl. S. 1026), zuletzt geändert durch Gesetz vom 22.12.2008 (GVBl. S. 973) und das Kirchensteuererhebungsgesetz vom 09.12.2002 (zuletzt geändert mit Gesetz vom 11.12.2009, KABL. 2010 S. 9) sowie die Ausführungsverordnung zum Kirchensteuererhebungsgesetz vom 15.10.2003 (zuletzt geändert durch Verordnung vom 07.12.2006, KABL. 2007 S. 18). Sie finden die entsprechenden Gesetzestexte im Internet unter [...]. Wir sind auch gerne bereit, sie Ihnen zuzusenden.

3. Was haben Sie vom Kirchgeld?

Viele Gemeinden und Dienste verwenden das Kirchgeld für ganz elementare Dinge wie die Instandhaltung ihrer Kirchen oder für Heizkosten. Mit dem Kirchgeld tragen Sie dazu bei, dass die Kirchen offen sind und den Menschen ein Zuhause bieten. Mit dem Kirchgeld unterstützen wir auch über 60 evangelische Kindergärten, die unseren Kindern christliche Werte vermitteln und so zu einer stabilen Basis ihrer Persönlichkeit beitragen.

Die evangelische Kirche kümmert sich zudem um die sozialen Brennpunkte in der Region. Mit dem Kirchgeld können wichtige Projekte im Rahmen der Jugendsozialarbeit zur Resozialisierung von Jugendlichen weitergeführt werden. Wir verhindern so, dass junge Menschen ins soziale Abseits geraten. Darüber hinaus unterstützen Sie mit Ihrem Beitrag beispielsweise 17 Pflegedienste für alte und kranke Menschen. Konkrete Beispiele unserer Arbeit finden Sie auch in der beigefügten Mitgliederzeitung.

4. Warum ist das Kirchgeld so wichtig?

Das Kirchgeld gewinnt für die Evang.-Luth. [...] zunehmend an Bedeutung, weil die Zuweisungen der Landeskirche an die Gemeinden zurückgegangen sind. 60 % des Reinertrags gehen an die Gemeinden, 28 % an die Diakonie und 12 % an die übergemeindlichen Dienste (z.B. Beratungsstellen). Im Jahr 2011 wurden 1,7 Millionen Euro Kirchgeld eingezahlt.

5. Befreit vom Kirchgeld sind

- Alle Gemeindeglieder unter 18 Jahren
- Gemeindeglieder über 18 Jahre, wenn ihre jährlichen Einkünfte unter 8.005 € liegen.

Sollte einer dieser Punkte auf Sie zutreffen, können Sie innerhalb eines Monats Einspruch einlegen. Dazu schicken Sie einfach diesen Brief mit einer kurzen Begründung zurück an die Evangelisch-Lutherische [...], [...], oder eine entsprechende E-Mail mit Angabe Ihrer Kirchgeldnummer (s. Überweisungsträger), Ihrem Vor- und Nachnamen und Ihrer Anschrift an [...].

6. Steuermindernde Sonderausgabe

Die Kirchgeldzahlung können Sie bei Ihrer Steuererklärung als Kirchensteuer geltend machen.

7. Spenden

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