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Relative consumption and tax evasion☆

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ABSTRACT

Relative consumption effects or status concerns that feature jealousy (in the sense of Dupor and Liu, 2003) boost consumption expenditure. If consumption is financed by labour income, such status considerations increase labour supply and, hence, the tax base. A higher taxable income, in turn, can make tax evasion more attractive. We show for various specifications of preferences that the tax base effect generally dominates. Consequently, relative consumption effects tend to reduce tax evasion. This is true, irrespective of whether tax parameters are exogenous, guarantee a balanced budget or are set optimally.

1. Introduction

Traditional analyses in the spirit of Allingham and Sandmo (1972) interpret income tax evasion as a gamble against nature taken by a lonely, risk-averse individual who maximises expected utility. In general, there are no interactions between the tax evader and other members of society. A number of theoretical studies have varied this setting by assuming that evasion activities are influenced by the illegal behaviour of others.[1] We modify the traditional approach in a different way and assume that interdependencies between individuals arise due to their consumption behaviour. Negative relative consumption effects, termed 'jealousy' by Dupor and Liu (2003), imply that individuals have excessive incentives to obtain

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[1] See, inter alia, Gordon and James (1989), Myles and Naylor (1996), Kim (2003), Panadés (2004), and Traxler (2010). There are also a number of contributions which consider interactions between taxpayers and tax authorities, surveyed, for example, by Andreoni et al. (1998) and Slemrod and Yitzhaki (2002). Hashimzade et al. (forthcoming), Section 4, provide an overview of such approaches.

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income in order to acquire consumption goods.[2] To curb such incentives, the government can levy an income tax.[3] Given such a tax, however, individuals can increase disposable income not only by expanding labour supply but also by illegally reducing tax payments, that is, by evading taxes. In this paper, we investigate whether more pronounced relative consumption effects foster or restrict tax evasion activities. On the one hand, the incentives to increase labour supply rise and this, in turn, increases the tax base, implying that tax payments go up.[4] On the other hand, the gain from tax evasion will be altered, which can strengthen, mitigate or reverse the tax base impact. Therefore, the net effect on tax evasion is a priori ambiguous.

Knowledge about the impact of status concerns on tax evasion activities is relevant for various reasons. First, income and consumption comparisons and tax evasion activities are empirically relevant phenomena. Many studies, for example, demonstrate that people prefer to be in a situation in which they have a higher relative and lower absolute consumption level than to be in an alternative state of affairs in which consumption is absolutely higher but less than that of individuals people compare with. In addition, higher income levels of reference groups have often been shown to make individuals worse off. Finally, actual consumption decisions are affected by consumption levels of others.[5] Turning to tax evasion, estimates for individual countries suggest that the non-payment of taxes is particularly prevalent among self-employed (Slemrod, 2007). Moreover, tax evasion and activities in the black economy are estimated to represent on average between 13% and 17% of GDP in high-income OECD countries (Buehn and Schneider, 2012).

Second, given the importance of relative consumption concerns, standard models of tax evasion omit important behavioural features. For example, the traditional approach has been criticised for yielding implausibly high predictions of tax evasion levels for individuals who are not subject to third-party withholding (Alm et al., 1992; Feld and Frey, 2002; Dhami and Al-Nowaihi, 2010; Alm and Torgler, 2011). If, however, preferences are inadequately specified due to the omission of a status impact, such evaluation may have to be modified. Third, when determining optimal tax policy in the presence of consumption externalities, the role of tax evasion has to be taken into account. Otherwise, policy advice will be inadequate. Finally, if the strength of status considerations can be inferred, for example, from the level or composition of consumption, this information could be used to improve tax enforcement. In sum, the existence of negative consumption externalities may substantially affect our understanding of income tax evasion.

Since a general specification of preferences helps to formalise the impact of status concerns on the choice of working time and evasion activities, but does not yield unambiguous predictions, the subsequent analysis assumes specific representations of preferences which allow for closed-form solutions. In particular, in Section 2 we develop a simple model of relative consumption, in order to ascertain whether the tax base or the tax evasion effect dominates. We subsequently distinguish two settings: in the first, parameters of the tax system are given (Section 3). These consist of a linear marginal tax rate and a lump-sum transfer to allow for a progressive tax code. In the second setting, the government's tax revenues equal transfers in expected terms (Section 4). In the context of such a framework, we initially assume the marginal income tax rate to be given and the lump-sum payment to balance the budget. Next, the tax system induces individuals to choose the optimal working time, more specifically, the level that would result in the absence of the consumption externality. For both settings we will establish that the tax base always increases with the strength of the consumption externality, thus confirming the conjecture stated earlier. Furthermore, the difference between the tax base and the amount of undeclared income rises with the consumption externality, whereas the ratio of undeclared income to the tax base declines. These two indicators hence suggest that tax evasion declines with status concerns. A third measure of tax evasion, the absolute amount of declared income, provides mixed information. Undeclared income will rise with the consumption externality, unless the parameters of the tax system guarantee optimal working time.

The intuition for these findings is as follows. If the parameters of the tax system are given, a more pronounced relative consumption effect reduces the marginal utility from consumption because labour supply and the tax base increase. Since the costs of evasion fall by more than the gain, undeclared income rises. However, this increase is less pronounced than the rise in the tax base. This is because the optimal evasion choice is independent of the strength of the status effect, for a given working time. The responses just described imply that expected tax revenues rise. In a balanced-budget setting, the government therefore increases the lump-sum transfer, for a given marginal tax rate. This increase raises the absolute amount of undeclared income further. It turns out that the tax base and the amount of undeclared income change proportionally with stronger relative consumption concerns. All other results derived for given tax parameters continue to hold. If, finally, tax rates ensure undistorted labour supply, greater relative consumption effects induce a higher marginal tax rate which, in turn, reduces evasion (Koskela, 1983). Hence, the absolute under-declaration of income declines as well. In sum, these findings indicate that although relative consumption effects alter the incentives to evade taxes, they do not aggravate the problem of insufficient tax payments, but rather tend to mitigate it. Accordingly, with respect to the second argument above we can conclude that the inclusion of consumption interdependencies in traditional models of tax evasion can help to generate more plausible predictions.

[2] The claim is been put forward, for example, by Frank (1985) and Schor (1991) and established in models broadly comparable to the ones analysed below by Persson (1995), Corneo (2002), Cahuc and Postel-Vinay (2005), and Alvarez-Cuadrado (2007), inter alia. However, to our knowledge there is currently only one study empirically validating a positive impact of reference income on working time (e.g. Pérez-Asenjo, 2011).

[3] See, e.g., Boskin and Sheshinski (1978), Ireland (1998, 2001), Corneo (2002), Dodds (2012), and Persson (1995).

[4] Balestrino (2006) incorporates consumption externalities into a model of tax evasion but assumes that gross income and labour supply are given.

[5] Clark and Oswald (1996), Solnick and Hemenway (1998), Alpizar et al. (2005), Carlsson et al. (2007), Brown et al. (2011), and Corazzini et al. (2012), inter alia, document such results. Clark et al. (2008) and Dolan et al. (2008) provide wide-ranging surveys.