30

Understanding Tax Evasion: Combining the Public Choice and New Institutionalist Perspectives

Klarita Gërxhani and Ronald Wintrobe

1   Introduction

In the economic theory of tax evasion, individuals and corporations pay taxes only because they are forced to (i.e., because they believe that if they do not, they would be liable to prosecution by the state). If this were the case, it would be essential that the probability of being discovered for tax evading and the size of the penalty if caught and convicted are sufficiently large to deter evasion. One problem with this standard view is that for some taxes, such as self-reported income taxes, it is hard to believe that the probability of being caught for evasion is very large. In fact, all countries do encounter tax evasion, even those with the most sophisticated systems for gaining compliance. To illustrate, the United States Internal Revenue Service (IRS) estimates that the proportion of all individual tax returns that are audited was 0.5% in 2017 (down from 0.8% in 1990 and 4.75% in 1965). Civil penalties can add an additional 85% to the underpayment, depending on whether there is a specific misconduct such as negligence, substantial understatement, or substantial intentional wrongdoing. In very serious cases, criminal penalties may be

K. Gërxhani (✉)
Department of Political and Social Sciences, European University Institute, San Domenico di Fiesole, Italy
e-mail: Klarita.Gerxhani@eui.eu

R. Wintrobe
Western University London, London, ON, Canada

applied. However, the penalties imposed are either small or infrequent (Alm 2019). Yet, the IRS estimates that, for the tax year 2015, 90.8% of income that should have been reported was in fact reported.[1]

Table 30.1 provides a comparison of the size of the shadow economy (total undeclared income), over the period 1991–2015, across developed, developing, and (former) transition countries. The table shows that shadow economy is particularly severe in developing countries. In Europe, countries from Central and Eastern Europe but especially those from the former Soviet Union appear to have the highest levels of shadow activities. Why is compliance lower in these countries? And why don't these countries simply raise the penalties for non-compliance and solve the problem that way?

An interesting literature has developed around these issues in recent years, centering around the idea that the willingness to pay taxes is culturally determined and differs across countries. Studies in this vein include Freidman et al. (2000), Alm and Torgler (2006), Frey and Torgler (2007), Gërxhani and Schram (2006), Hammar et al. (2009), Renooy et al. (2004), Torgler (2003), Torgler (2007), Torgler and Schneider (2009), Zhang et al. (2016), and Alm (2019). The willingness to pay taxes is sometimes viewed as a cultural norm or a product of values, which are specific to a particular country. This allows both estimates to be made of this variable (the willingness to pay taxes) and indirectly to get at the elusive and quasi-mystical concept of "culture" by providing a nice number quantifying at least one aspect of it—the propensity to pay taxes. Thus, Alm and Torgler (2006) suggest that the intrinsic motivation to pay taxes—their "tax morale"—differs across countries, and they provide evidence that this morale is much higher in the United States than in many European countries.

Table 30.1 The average size of the shadow economy, over the period 1991–2015, across developed, developing, and (former) transition countries

Countries/continents		Size as % of GDP
Developed	Old EU member states	16.1
(Former) Transition countries	Central and Eastern Europe	26.0
	Former Soviet Union	45.1
	Baltic States	23.7
Developing	Africa	39.2
	Latin America	38.9
	Asia	27.0

Source: Own calculations based on Medina and Schneider (2018, Table 18)

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[1] All figures in this paragraph are from the Internal Revenue Service Data Book (2018).

Why these norms appear to differ so much is then a fundamental question. One idea is suggested by Kirchgässner (1999). He argues that in the northern states of Europe (in contrast to the south), state and religious authority were held by one person. Offenses against the state were therefore also religious offenses and consequently a sin. This "sinfulness" idea might explain why the propensity to pay taxes appears to be highest in the United States. Religiosity is much higher in the United States than in Europe. But this would be difficult to square with the fact that crime rates are also much higher in the United States. Also, in Canada, there is a similarly high propensity to pay taxes, but much lower levels of religiosity and crime.

Frey and Torgler (2007) view the payment of taxes as an example of "pro-social" behavior. They take a further step by suggesting that taxpayers are willing to pay their taxes conditionally, depending on the pro-social behavior of others. Put simply, people are more willing to pay taxes when they believe others are paying them. They develop an index of tax morale defined this way. Using survey data from a number of Western and Eastern European countries, they find a high (negative) correlation between perceived tax evasion and tax morale. They also relate tax morale to a number of variables, including political stability and the absence of violence, regulatory quality, and control of corruption.

In this approach, "trust" enters the picture because even if a government is expected to provide exactly what the citizen wants in the way of public programs, it is still usually rational for the individual to free ride and not pay her taxes if she expects she can get away with it. To put it differently, there is no way the "exchange" of taxes for services can be legally enforced at typical penalties for tax evasion, and raising penalties is not necessarily the right solution, as discussed later in the chapter. So trust in government, and in other citizens, that is, the belief that other citizens are going to pay their taxes, fills this gap. In this respect, our view can be linked to fiscal sociology and state capacity, which presents the development of the tax system and tax collection as the outcome of a continuous dialogue between the state and the wider population (see Moore 2004).[2] Moreover, our view can also be linked to new institutionalism, arguing that informal institutions, as captured in trust, determine the extent of tax compliance (Feige 1997). The importance of informal institutions is also stressed by Chhibber, for example: "Even when formal rules are similar, informal rules or social capital can in some situations explain a significant part of the reason why some societies progress faster than others"

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[2] For a discussion of fiscal sociology applied to the transition region, see also Douarin and Mickiewicz (2017).

(Chhibber 2000, p. 297). We support this view by combining the public choice approach to the problem of tax evasion with a new foundation based on institutionalist insights such as those found in the literature on tax morale. The theoretical predictions we derive will be tested with a unique database for Albania where tax evasion and some informal institutions with respect to taxes are measured.

The chapter is organized as follows. The next section describes the economic theory of tax evasion. Section 3 describes the public choice approach. Section 4 takes us a step further in understanding the issue of tax evasion by introducing the concept of "trust-based political exchange", and providing precise definitions of trust and related variables like social capital. Section 5 tests two theoretical predictions established in the previous section. Concluding remarks and some policy implications follow in Sect. 6.

2   Economic Theory of Tax Evasion

The standard economic view of tax compliance in tax theory is that taxes are a "burden" or windfall harm. Individuals do not consider taxes in relation to the other side of the government ledger—expenditures. The chief problem in normative taxation theory is to devise taxes minimizing the "excess burden", that is, how to minimize the total burden of taxation.

In order to know more about this theory, let us have a look at the standard theoretical model (Allingham and Sandmo 1972; Yitzhaki 1974) in more detail. As is now common in the literature on tax evasion, the model visualizes an individual taxpayer facing a tax rate t on own income Y. If she chooses to evade taxes, she faces a punishment ftE, where E is the amount of unreported income and f is the size of the punishment (the fine rate) if caught. Thus, in one sense, the model adapts the standard crime model of Becker (1968) to the taxation case. In another sense, tax evasion is part of optimal portfolio choice: the individual who chooses to evade taxes in effect makes a risky bet that she will not be caught and convicted. However, the Yitzhaki (1974) model makes an odd prediction—namely, that an increase in the tax rate t actually leads to *less* tax evasion. This result holds in the model as long as individual absolute risk aversion decreases as income increases. This prediction is at variance with empirical evidence (e.g., Clotfelter 1983), the results of laboratory experiments (e.g., Friedland et al. 1978),[3] and, it would seem, even with common

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[3] In these experiments, the single most important factor resulting in evasion was the tax rate. On the other hand, raising the size of the penalty, even to exorbitant levels (e.g., from 3 to 15 times the amount

sense. However, the logic is simple once one realizes that in these models, tax evasion is treated as a risky gamble or a problem in optimal portfolio choice. The penalty if an individual is caught, *ftE*, is simply a constant multiple of the amount of tax evaded *tE*. As the individual is poorer as a result of the possibility of paying a higher penalty, this will make her take less risk and hence evade less at higher tax rates.

Of course, this relationship is derived from individual behavior and holds only at the individual level. The aggregate level of evasion may well move in a different direction as the level of tax also affects the *number* of taxpayers who choose to evade. One possible reason for this is that the "stigma" effect of tax evasion might be less at higher rates, as in effect rates are deemed to be so high by many that the stigma associated with avoidance is reduced (Benjamini and Maital (1985).

3   Public Choice Approach

The basic hypothesis of the field of economics known as "public choice" is that the citizens of democratic political jurisdictions perceive a connection between the taxes they pay and the government services they receive. In other words, citizens elect governments to provide them with goods and services and there is a certain sense in which every citizen must be aware that taxes must be paid to finance public services, whether they think their own burden is too high or low. This implies that every citizen knows that if taxes are reduced, a reduction in public services will follow.

One version of this approach is used by Cowell and Gordon (1988), who introduce public goods into the Yitzhaki model of tax evasion.[4] Their result is that if individuals display decreasing absolute risk aversion, the effect on tax evasion of an increase in the tax rate is positive or negative as public goods are under- or over-provided. Thus, if public goods are under-provided, an increase in tax rates means an increase in public goods as well. Individuals feel wealthier, and they wish to take more risk. Hence, they evade tax *more* when the increase in public goods and associated increase in tax rates makes them better off and *less* when it makes them worse off. However, this result remains at variance with the empirical evidence. The authors themselves find the result a bit counterintuitive and relate it to the fact that the relationship between

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evaded), lowered the amount evaded and the probability of an under-declaration, but only marginally.

[4] Bordignon (1993) develops a "fairness" approach in which public goods are introduced as well. In this model, an increase in tax rates yields more evasion in accordance with the empirical evidence.

government and taxpayer has more dimensions than just the provision of public goods, something that their model does not capture (Gërxhani 2004a).

Note that in the public choice approach, it is still rational for each citizen to free ride, since whether she pays the taxes or not has little to do with the level of public services she receives. For example, suppose there are 1000 citizens in a jurisdiction and each one is supposed to pay taxes of $1000. Each citizen will reason that if she does not pay the taxes, *but everyone else does*, then her level of services will fall, but only by a tiny amount. This will hold if public services are constant cost and they are "pure" public goods, so that the non-tax paying citizen cannot be excluded from receiving services. Assuming services are shared equally, while an individual's own tax bill falls by 100%, her own level of services will fall by only $1/1000 = 0.1\%$. Consequently, it is rational for everyone to free ride and not pay the taxes independently of whether government services are delivered or not and whether other individuals pay or not.[5]

4   Introducing "Trust-Based Political Exchange"

It has become increasingly common to emphasize that social capital in general and trust in particular play an important role in the performance of an economy.[6] Several neo-institutionalists emphasize the importance of the relationship between informal institutions like trust (or rules of behavior, cultural norms) and formal institutions (i.e., laws, regulations). For example, Feige (1997) hypothesizes that more tax evasion will be observed when the two types of institutions are in conflict with each other. This hypothesis has found some empirical support (Gërxhani 2004b).

On this formulation, there is an exchange or an implicit contract between the citizenry and the government: the government provides goods and services to citizens in exchange for their support. In some versions of this type of model, the government tries to maximize this support, as in probabilistic voting models of the government sector.[7] In the aggregate, the government tries to maximize the sum of citizens' surpluses—value of public goods and services minus taxes—from the public sector. But how is this exchange between government and citizens enforced? That is where trust enters the picture.

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[5] See Wittman (1995) for an explanation and description of the ways in which politicians can control free riding behavior.

[6] See Breton and Wintrobe (1982), Coleman (1990), North (1990), Fukuyama (1995), Knack and Keefer (1997), Putnam (1993, 2000), Chhibber (2000), Paldam and Svendsen (2000), and Frey (2002).

[7] See Mueller (1989), Chap. 11 for a good exposition of this type of model.

4.1 A Conceptual Discussion of Trust

To develop the argument in more detail, let us first give a more precise definition of trust. Trust arises between individuals in private transactions when there are difficulties of monitoring and enforcement and therefore always the possibility of cheating. One way that individuals solve this problem is through the accumulation of trust. Assume that $_aT_b^{1.00}$ represents the degree to which a person a trusts that another person, b, will not cheat him[8] on a transaction where the potential gain to b from cheating is \$1.00. We assume trust in this sense[9] has the following property:

$$0 < {}_aT_b^{1.00} < 1, that\ is,\ {}_aT_b^{1.00} \tag{30.1}$$

First, trust is measured in relative terms and ranges between zero and one. Note that this implies that trust between two persons is never zero (nonexistent) or one (perfect trust). Note also that the degree of trust is specified for a given opportunity to cheat (represented by the sum \$1.00). An individual may say in ordinary parlance that she trusts her grocer to always give her the correct change, but this does not mean she trusts him if the possible gain to the grocer is much larger than this (e.g., in a business deal worth millions). Presumably,

$$_aT_b^{1.00} >_a T_b^{2.00} \tag{30.2}$$

and so on for larger and larger opportunities for b to cheat. More generally,

$$_aT_b^{y} >_a T_b^{x} \ if\ y < x \ where\ x, y = \$.01,\ 1.00,\ 2.00,...\$\infty \tag{30.3}$$

For simplicity, in what follows, we assume that all the x's move up or down together, for example, if a believes that c is more likely to cheat her than b for a gain of \$5.00 ($_aT_b^{5.00} <_a T_c^{5.00}$), then she also thinks that c is more likely to cheat her when the gain is larger or smaller than this (e.g., $_aT_b^{\$100} <_a T_c^{\$100}$). Similarly, if something happens that raises a's trust in b when x is one value, say $x = \$5.00$, it raises it for all values of x. It is possible to think of exceptions to these ideas here, but if they were common, it is hard to know how people

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[8] It is the trust a places in b; it is also b's trustworthiness according to a.

[9] "Trust" here is defined in the same way as first suggested in Breton and Wintrobe (1982). Some of the analytics here were introduced in Wintrobe (2006).

could use the word "I trust her" or "I trust him more than I do her" in every-day parlance as a shorthand for expressions like "$_aT_b^y$" as we assume they do.

Despite the voluminous writings on trust in the last 20 years or so, there is still very little written on how trust may be accumulated. From the definitions here, it seems reasonable to suggest one way in which *the accumulation of trust* occurs between two persons (a *network*): when one party *b* has an opportunity to cheat another party *a* and doesn't take that opportunity. For example, if *a* and *b* trade with each other and transaction costs are non-zero, so there may be numerous opportunities for each of them to cheat one another, then this setting provides a natural opportunity for the two parties to accumulate trust. Thus, if *b* could have gained $100 by taking an opportunity to cheat, then this is the amount she will have foregone by being honest, and therefore the amount invested in the trust relationship. The more opportunities that *b* fore-goes, the larger we can expect $_aT_b^x$ to be. Usually trust will be reciprocal: if *a* and *b* want to exchange, and they both have opportunities to cheat each other, they will both want to invest in a trust relationship. To the extent that they can build this relationship with each other, trust substitutes for legal contrac-tual enforcement. Trust is therefore a capital good, which permits trade to take place when enforcement and other transactions costs are high, or legal enforcement is simply unavailable.

Similar concepts of trust and processes of accumulation can be described for *general* trust, *social capital, social cohesion* or *solidarity*, *reciprocity*, and *con-ditional cooperation*. We discuss solidarity or social cohesion in the next sec-tion on political exchange. Here, we note that we can use the same notation for *generalized trust*, or *general social capital*, that is, the degree to which an individual trusts a stranger. This is the sense in which it is used by Fukuyama (1995) or Knack and Keefer (1997). This is just

$$_aT_j^x \ j = 1,\ldots N, \ j \neq b, x = \$.01, 1.00, 2.00, \ldots \$\infty \qquad (30.4)$$

where *j* represents any *stranger* rather than an individual *b* who is in *a*'s net-work, or with whom *a* has a specific relationship. The community is repre-sented by members *j* = 1, … *N*, *j* ≠ b, and again the degree of trust is specified for a given opportunity to cheat ($*x*). Of course, for people in *a*'s network (the *b*'s in Eq. (30.2) or (30.3)), the level of trust will be higher than this. But presumably if Eq. (30.4) and expressions like this for different members of the community were typically zero in a community, then it is hard to know how everyday activities like buying a dress or investing in a mutual fund could go on without a great deal of thought about how the contract will be enforced.

The level of trust will typically be higher in a network than it is for generalized, impersonal contacts and contracts with other people whom *a* does not know. Indeed, *a*'s *networks* may be defined precisely as all those people *b* for whom

$$_aT_b^x >_a T_j^x \ for \ any \ x = \$.01, 1.00, 2.00, \ldots \$\infty \tag{30.5}$$

That is, a person may be said to be in another person (*a*'s) *network* when *a* trusts her more than she does a stranger in the community.

Trust is also closely related to social capital. An individual *a*'s stock of social capital is

$$\sum_b \left(_aT_b^x\right) + S_a^x \quad where \ j = 1, \ldots N, j \neq b \tag{30.6}$$

that is, the sum of her personal networks (the first term in Eq. (30.6)) and her degree of solidarity with the community (the same thing as the trust she extends toward strangers within the community).

The community's stock of social capital is

$$\sum_a \sum_b \left(_a\mathrm{T}_b^x\right) + \sum_a {}_aT_j^x \tag{30.7}$$

that is, the sum of the networks of all of the individuals in the community plus the stocks of generalized trust within the community held by each individual. If, for simplicity, each person has the same level of generalized trust, then Eq. (30.7) may be simplified to

$$\sum_a \sum_b \left(_a\mathrm{T}_b^x\right) + n_aT_j^x \tag{30.8}$$

It is immediately clear that the definition of social capital used by Coleman (1990) or Breton and Wintrobe (1982) neglects the second term, while the Fukuyama and Knack and Keefer type of definition excludes the first. And it is easy to imagine a society (Italy, Japan?) where individuals have strong personal networks (the first term in Eq. (30.8) is high) but do not trust strangers (the second term is low). At the other extreme, one can imagine a society where individuals typically have a basic trust in strangers, but personal networks are weak (the United States?). Indeed, if the formal institutions of a

society (markets, courts, and governments) function efficiently, one might expect individuals to dispense to some extent with personal networks and rely on these institutions for many of their business activities. In that society, it would not be surprising if people exhibit a basic trust in strangers because the reputations of individuals are easily documented, redress can easily be had to well-functioning courts when one is cheated, governments support the possibility of individual formal transactions with infrastructure, and so forth. On the other hand, when these formal institutions do not work well, personal networks may be substituted for them. For example, Alesina and Giuliano (2010) argue that it has been documented that strong family ties have an important effect on many aspects of economic behavior, such as labor force participation. So it is not difficult to imagine that generalized trust and personal networks are sometimes inversely related because they are substitutes.

4.2　Adding Trust to Political Exchange

Now let us turn to the relationship between an individual taxpayer and the government. Let us first discuss the political exchange idea, which in fiscal sociology is known as "the exchange between taxation and representation (i.e., democratic rules and accountability)" (Moore 2004, p. 300). There is an exchange between citizens and government: Citizens pay their taxes and in exchange the government provides them with the goods and services they want. Thus, assume one public good S, for simplicity, is provided to the citizens of some jurisdiction. Since the good is public, all of the citizens in the jurisdiction must consume the same amount, whatever level the government desires to provide. Each citizen is assumed to be able to correctly calculate the tax price to her of a unit of the public good. At each tax price, each individual desires a particular level of the public good.

However, this "contract" is not enforceable. In particular, any government has numerous opportunities available for corruption, despite the safeguards involved if it is a democratic government and *a fortiori* if it is an authoritarian government. The solution which tends to be adopted here, we suggest, is the same as the solution in the private sector when contracts are not enforceable. A government which is in power for some time and proves to be honest can earn the trust of its citizens by foregoing opportunities to cheat them despite the infinite forms of corruption available to it. According to Easter (2002), the evolution of taxation in Poland in the early 1990s followed such a scenario. So we suggest that the process of accumulation of trust by a

government with its citizens is similar to that in the private sector described above and results in a measure of trust by each citizen in their government:

$$_i T_g^y \quad \text{where } i = 1 \ldots n \tag{30.9}$$

where i indexes the n citizens in a particular jurisdiction, g is the government of that jurisdiction, and y indexes the size of the opportunity for that government to cheat, as before with a private citizen. Of course, different citizens will trust the government differently. The average level of trust by the n citizens in the government g for any *given* opportunity to cheat y is just

$$\sum_i \left(_i T_g \right) / n \tag{30.10}$$

Numerous measures of trust in governments as well as in other institutions and their pattern over time are presented in Putnam (2000) and the empirical literature which followed that work.

In the same way that citizens trust governments to a degree, governments also trust citizens to fulfill their part of the exchange, most basically by paying their taxes. This is

$$_g T_i^y$$

that is, the extent to which a government trusts a citizen i not to cheat for a given opportunity to evade taxes and profit by y. Average levels of tax compliance might provide a good measure of the extent to which government trusts its citizens in this sense. With sufficient trust between governments and citizens, they can "trade", that is, citizens can "signal" their preferences to the government, and the government can provide citizens with the goods and services they want, and citizens can support the government in exchange for that. So trust substitutes for legally enforceable contracts in the public sphere, just as it can in the private one.

The propositions described above for trust between persons all seem equally reasonable here: (1) trust between any two parties is never perfect, (2) it is always measured for a given opportunity to cheat on the exchange, and (3) one way it is accumulated is through foregoing opportunities to cheat. In addition, we would like to emphasize a new proposition in this context: (4) that if one party cheats, that motivates the other party to cheat in return.

Of course, (4) seems a reasonable possibility for private exchange as well. However, there is one particular difference which is relevant to the theory of tax evasion. If a private party cheats you (a citizen) on a private transaction, you have a number of alternatives, among which the most obvious is: never deal with that party again! You could also continue to have dealings with him or her, but you would become more suspicious, less trusting, and you might want to retaliate by cheating her in return. But when a person is dealing with a government that cheats her, she can exercise "voice" by not voting for that party in a democracy or "exit" by moving to a different jurisdiction,[10] but typically, the former option is ineffective and the latter option is very costly, and so there is a very high chance that the government will still be in power after the next election, and the citizen will have to deal with it again even though her trust in that government has fallen. Most citizens, most of the time, are stuck with the government they have got and their options for changing it are very limited.

Under such circumstances, we suggest that the individual who is cheated by a government through a corrupt act will tend to respond by cheating that government in return, by evading her taxes, as was the case in Russia in the early 1990s (Easter 2002). That is, the degree to which a government can trust an individual to pay her taxes depends on the extent to which an individual trusts the government to be honest and not corrupt.

$$_gT_i^y = h\left(_iT_g^y\right), h' > 0 \qquad (30.11)$$

To illustrate, suppose that the government provides a *lower* level of public services *but still charges the same tax rate*, appropriating the extra revenue for itself or for a crony. As a consequence of this corruption, citizens are worse off. They feel cheated, and their trust in government falls. And they are more likely to evade tax or to evade to a greater degree than before. This *reciprocity* or *conditional cooperation* is the basic hypothesis of this chapter: government cheating or "corruption" or lack of trustworthiness stimulates tax evasion.

Thus, in our view, tax evasion and government corruption are related, and it might be difficult to address the first problem without doing something about the second one.

Finally, we suggest a fifth proposition with respect to the accumulation of trust: (5) each act of investment leads to a positive externality and an act of cheating to a negative one. To begin with private exchange, if *a* sacrifices an

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[10] A discussion of the interplay between migration and institutional quality (including corruption) is beyond the scope of this chapter, but can be found in Ivlevs (Chap. 29) in this volume.

opportunity to cheat b in order to build trust with her, she also builds trust with other parties c… who witness or in some other way get information on that transaction. They will observe that a appears more "trustworthy" than before. So there is a spillover effect to the extent that the trust investments are public or observable by others, and a person can build a *reputation* (the average trust that other citizens have that a would not cheat them $\sum \left({}_i T_a^y \right) / n$) to this extent. Similarly, a party who cheats one person may find that this information becomes public and no one wants to deal with her after that.

These concepts are closely related to solidarity or social cohesion. In larger groups, such as firms, political parties, communities, or nations, the degree of *social cohesion* or *solidarity* can be expressed as follows. Let $S_a^{1.00}$ represent the probability that a will cooperate or make a sacrifice for the group—pay her taxes, give to charity, clean up after her dog, vote, work on weekends for the party or community, and so on—rather than cheat, free ride, or defect when the cost to her of cooperating would be \$1.00. In general, S_a^x indicates the degree of solidarity a has with the community or group. Here, it seems reasonable to assume that

$$0 \le S_a^x \le 1 \tag{30.12}$$

These examples suggest that generalized trust is closely related to solidarity (or social cohesion). To see their relationship, let us make the following assumption, which seems reasonable: *An individual who will not cheat the community when the gain to her from doing so is \$x also will not cheat an individual within that community in order to gain the same amount.*

With this assumption, *generalized trust is the same thing as solidarity*, that is,

$$ {}_a T_j^x = S_a^x \tag{30.13}$$

The term on the left-hand side of Eq. (30.13), generalized trust, just specifies the probability that a will not cheat an individual in the community when she can gain \$x by doing so. The term on the right, which represents solidarity, says that a will not cheat the community when she could gain the same amount by doing so. These two are the same by the assumption just made.

An individual act of tax evasion will not typically be observable by others, though the average level of evasion in a democratic jurisdiction tends to be widely reported and widely known. However, there is a substantial difference between tax evasion and cheating in private markets: unlike an act of private cheating, an act of tax evasion cheats everyone else in the community, who

will have to pay more taxes or get less government services because of the evasion. Similarly, an individual who pays her tax when she could possibly have evaded doing so either reduces the tax others have to pay or raises the level of goods and services that can be provided at any given tax rate. Again, therefore, there is an externality. We suggest that once again there is *reciprocity or* conditional cooperation: the degree to which an individual pays or evades taxation depends on her estimate of the number of others who are evading or paying, or on the extent to which she trusts them, on average, to pay and not to cheat:

$$E_i = g(\sum_i \left({}_iT_j^y \right) / n \quad g' < 0 \qquad (30.14)$$

where E_i is the extent to which individual i decides to evade taxes, and ${}_iT_j^y$ is the extent to which she believes others are not cheating on their taxes.

This analysis can easily be carried forward along the lines of the ideas in Benjamini and Maital (1985), Myles and Naylor (1996), or Frey and Torgler (2007). In these papers, the utility of evasion to a taxpayer is positively related to the number of others who evade, similar to Eq. (30.14) above. In the analysis of Benjamini and Naital, for example, an individual makes a binary decision either to pay or to evade taxes, and this decision is based on the number of others who evade taxes. This dependence of individual decision-making on the decisions of others leads to multiple equilibria, which can be broadly classified into two: one in which people assume that others are paying and so most of them also pay, and in the other equilibrium, it is assumed that people do not pay their taxes and do everything they can to evade. The theoretical analysis in Benjamini and Maital (1985) or Myles and Naylor (1996) shows that there is a tipping point, as is common in the analysis of group interdependencies: when the number of tax evaders reaches a certain level, everyone is better off evading and evasion becomes endemic. Consequently, a small change in exogenous variables, for example, the tax rate or other variables that precipitate a change in the number of evaders, can produce an epidemic of evasion.

We will refer to the equilibrium in which it is assumed that people do not pay their taxes as the *transition country* equilibrium, due to the well-known problems these countries have with tax evasion.[11] In the latter group, the Russian (Rose 2000; Easter 2002) or Albanian (Gërxhani 2002) equilibrium can be considered amongst the worst. On the other hand, we will refer to the

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[11] See Schneider and Enste (2002, 2013).

equilibrium in which most people pay their taxes the institutionally *advanced country* equilibrium.

To conclude, this discussion leads to two main hypotheses that a citizen will be more inclined to pay her tax bill: (1) the more she believes the government is honest and will provide the services promised in return and (2) the more she believes everyone else is paying. To put it differently, people are more willing to pay taxes when they have reason to believe the government is not corrupt, and it will also depend on the extent to which they believe that others are also going to pay their taxes.

4.3 Tax Evasion and Trust in Transition Countries

Given that the problem of tax evasion appears to be more substantial in institutionally less developed countries (i.e., transition countries), and since in this chapter we intend to look at the role of informal institutions on the decision to evade taxes, transition countries provide an excellent test bed for our ideas. About three decades ago, these countries went through an institutional shock, caused by the collapse of former communist regimes. The level of the institutional shock varied per country, depending on the type of regime. On the one hand, the communist regime was overorganized, where bureaucratic orders and ideological repression determined what individuals had to do. On the other hand, it was characterized by organizational failure, which motivated individuals to create and rely on informal networks. "Such a 'dual society' of formal versus informal networks [institutions] was far more developed in the Soviet Union, where it had been in place for more than 70 years, than in the Czech Republic [for example]" (Rose 2000, p. 166). In Eastern Europe, similar characteristics were observed in Albania, where the totalitarian regime lasted for more than 40 years. As a consequence, these societies experienced significant distrust in the government and formal institutions. The substitute was found in family—, friends—or local networks. After the collapse of communism, in countries where the "dual society" was dominant, and where in addition the new governments did not manage to function properly, trust has eroded even further, forcing people to invest and rely more on informal networks (see, e.g., Renooy et al. 2004).

Indeed, the level of trust in the Russian government appears to be extremely low based on survey data used in international comparisons (Hjolland and Svendsen 2001). A Russian scholar Anton Oleinik (n.d.) reports that only 3.4% of the respondents think that they can trust the state. Indeed, Oleinik suggests that it was the "non-reciprocal behavior of the state confirmed during

the August 1998 crisis [which] led to a dramatic decline of the citizens' willingness to pay the taxes" (Oleinik n.d., p. 22).

Based on a survey run across several cities in Albania, De Soto et al. (2002) find that "people in all areas generally lack confidence in government". Only 25% of people appear to trust public institutions. The highest level of trust is expressed towards family members.

5   An Empirical Test

In this section, we provide an empirical test of the two hypotheses formulated above.[12] We do so based on data collected from a field survey conducted in the urban area of Tirana (the capital of Albania) in 2000.[13] The response rate was 89.3% out of a sample of 1500 households. This data set contains information on the informal institutions with respect to taxes, as well as sufficient information about income and taxes to derive estimates (where applicable) of the extent of personal income tax evasion per respondent. This gives us a unique opportunity to explore the relationship between tax evasion and informal institutions like trust and conditional cooperation.[14]

Due to sensitivity issues (i.e., respondents may be reluctant to confess noncompliance), various indirect questions were used to gather information and construct a variable measuring the evasion of personal income tax. For example, if the response to the question "Does your employer (state or private) deduct your personal income tax from your monthly salary" is "No", then this was considered as one indication of tax evasion, or if the response to the question "Please indicate who pays your tax on personal income" is "Nobody", this was another indication of tax evasion.[15] There were five such questions representing five (indirect) indications of tax evasion. For the group of respondents liable to personal income tax, the five indications were summarized to obtain our main variable on tax evasion: "the extent of personal income tax

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[12] Some empirical support of these hypotheses for an institutionally advanced country, the United States, can be found in Scholz and Lubell (1998). As argued in the previous section, the focus here is on transition countries.

[13] See Gërxhani (2007) for more on the survey and the questionnaire.

[14] Note that the data set has no cross-sectional variation in formal institutions (i.e., tax and fine rate), which the standard economic theory of tax evasion suggest affects compliance. In addition, potential variation across individuals liable to different types of taxes is also taken care of since we focus on the extent of personal income tax only.

[15] The Albanian tax law is similar to that in most Western countries: individuals employed in the public or private sector are subject to tax on personal income.

Table 30.2   The extent of personal income tax evasion

	PITE (personal)	
	Number of cases	Percentages
No tax evasion at all	544	61.4
One indication of evasion	146	16.5
Two indications	76	8.6
Three indications	68	7.7
Four indications	43	4.9
Five indications	9	1.0
Total	*886*	*100*
At least one indication	342	38.6

evasion" (PITE).[16] The value of this variable gives the number of indications of tax evasion, with a minimum of 0 and maximum of 5. Table 30.2 summarizes the information.

To capture trust-based political exchange and trust in others, that is, beliefs in other citizens paying taxes, we considered two measures: (1) related to individual trust in government and (2) related to individual perception of others' compliance. For the former, we constructed a dummy variable *TrustGovernment* as follows. If a respondent strongly or mildly agrees with the statement "The Albanian Government deserves to be supported" *and* does not strongly agree with the statement that "Corruption in Albania is high", then we set *TrustGovernment* = 1, otherwise *TrustGovernment* = 0. We interpret a person who scores *TrustGovernment* = 1 as someone who believes in what the government is doing (the first statement) and who does not support the government for corrupt reasons, that is, because she is paid off to do so. So a person who scores *TrustGovernment* = 1 could be described as a person who genuinely supports the government and believes it to be honest. With this measure, 23.7% of the sample trusts the government. To capture an individual's trust or belief in others paying taxes, we use the variable *PerceivedComplianceOthers*, which on a scale from 1 to 5 measures the extent to which a respondent disagrees with the statement "The majority of people in Albania do not pay taxes".

Now that we have data on tax evasion, individuals' trust in government, and their belief in other individuals paying taxes, we can directly test our two main hypotheses. We do this by running a probit regression to determine the relationship between *TrustGovernment* and *PerceivedComplainceOthers* and the dummy dependent variable "Personal income tax evasion" (PITE). Note that this is a binary transformation of the variable "the extent of personal income tax evasion", which now takes the value 0 if there was no indication

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[16] For a detailed description of the construction of this variable from the questionnaire, see the Appendix.

of tax evasion at all and the value 1 if there was at least one indication of personal income tax evasion (cf. Table 30.2). We also include background variables such as gender (a dummy with value 0 for males and 1 for females), family size, family income (divided by 10,000), age (divided by 100), and education level (distinguishing between four education levels, categorized from the lowest to the highest level) to control for individual differences. The highest absolute correlation coefficient between any two of these independent variables is 0.21.[17] The two main explanatory variables correlate with a (low) coefficient of 0.13 and the highest correlation coefficient (0.15) between either of the two main variables and any other variable is between trust in government and education. All of these correlations are low enough not to worry about multicollinearity issues.

Table 30.3 presents the estimated coefficients for various specifications of the model. The estimated marginal effects of the trust variables are given in Table 30.4.

The three models differ in the extent that they add respondents' characteristics as independent variables. Without correcting for these characteristics (Model 1), trust in the government and perceived compliance of others are both strongly and negatively correlated with the likelihood that a respondent will evade taxes. A switch from 0 to 1 in the *TrustGovernment* dummy decreases the likelihood of evading by 8.5% (see Table 30.4). A unitary increase in *PerceivedComplianceOthers* (which varies between 1 and 5) decreases the

Table 30.3   Explaining personal income tax evasion (PITE)

Variable	Model 1	Model 2	Model 3
Constant	−0.064 (0.101)	0.010 (0.293)	3.111 (0.474)***
TrustGovernment	−0.229 (0.111)**	−0.249 (0.112)**	−0.126 (0.117)
PerceivedComplianceOthers	−0.099 (0.043)**	−0.097 (0.044)**	−0.076 (0.045)*
Female	–	−0.243 (0.112)**	−0.221 (0.116)*
Family size	–	0.026 (0.034)	−0.017 (0.036)
Family income/10,000	–	−0.040 (0.014)***	−0.036 (0.015)**
Age/100	–	0.103 (0.494)	0.296 (0.511)
Education level	–	–	−0.701 (0.082)***
χ^2 (*p*-value)	11 (0.01)***	19 (0.00)***	97 (0.00)***

Standard errors are in parentheses. TrustGovernment = trust in government, PerceivedComplianceOthers = belief in others paying taxes. These variables together with the background variables are explained in the main text. The final row gives the χ^2 goodness-of-fit statistic for the regression as a whole and the corresponding *p*-value
Notes: The results show the estimated coefficients of probit regressions explaining whether or not an individual evades taxes
Statistically significant at the * 10% level, ** 5% level, *** 1% level

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[17] Surprisingly, this highest correlation is between the variables age and gender. This may be an indication that in traditional families it is more likely that the elder man fills out the questionnaire.

Table 30.4 Marginal effects

Variable	Model 1	Model 2	Model 3
TrustGovernment	−0.085**	−0.092**	−0.047
PerceivedComplainceOthers	−0.037**	−0.037**	−0.028*

TrustGovernment = trust in government, PerceivedComplainceOthers = belief in others paying taxes. These variables together with the background variables are explained in the main text

Notes: The results show the marginal effects for the trust variables in the probit regressions of Table 30.1

Statistically significant at the * 10% level and ** 5% level

probability of evading by 3.7%. Clearly, the effect of trust in government is more important than the effect of one's perception of others' compliance. Very similar results are obtained in Model 2, where gender, family size, family income, and age are added as regressors. In Model 2, the negative marginal effect of trust in government on the likelihood of evasion is even larger than in Model 1. The results related to the explanatory variables confirm the existing findings that being a female and having a higher family income are significantly positively associated with higher tax compliance.

Things change slightly in Model 3, where we have added education. This reduces the marginal effects of both main explanatory variables on the probability that an individual will evade taxes. Apparently, some of the effects of trust are mitigated through education. To further investigate the relationship between education and trust in government, we ran a probit regression with TrustGovernment as the dependent variable and all of the personal characteristics of Table 30.1 as independent variables. Only education has a statistically significant effect on the trust an individual has in the government. The marginal effect is 0.113 with $p < 0.001$. This implies that the estimated difference between the lowest and highest education categories in the probability that they trust the government is over 45% points.[18]

The strong effect of education on trust explains the reduced effect of the latter variable in Model 3. Nevertheless, our results in Table 30.3 show the importance of individuals' trust in the government and their trust or belief in others paying taxes, when explaining the likelihood that an individual will evade taxes. These results are in line with existing findings on the role of the exchange between government and wider population (e.g., negative or positive perception of the government or trust in government) on compliance

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[18] It is unlikely that the differences between Model 3 on the one side and Models 1 and 2 on the other is caused by an omitted variable (education) bias in the latter two models. Recall that the correlation coefficient between the two main variables (TrustGovernment and PerceivedComplainceOthers) and education is low (all below 0.15), while a high correlation is a necessary condition for such a bias to occur.

(e.g., Feld and Frey 2002; Wahl et al. 2010; Daude et al. 2012; Kastlunger et al. 2013; Kogler et al. 2013; Ferrer-i-Carbonell and Gërxhani 2016).[19]

To put these findings in a more comparative perspective, it is worthwhile to compare tax evasion levels in Albania with those in other countries. Some evidence on this point is presented by Schaffer and Turley (2002). Their methodology involves computing the E/S (effective/statutory) ratio, which measures "effective yields" versus statutory levels of taxation in transition economies. They develop indicators like this for value added taxes, payroll, and corporate income taxes in 25 transition economies where data was available. Statutory VAT tax rates in Albania were 12.5%, the lowest of the 25 countries, but rates there for payroll and corporate taxes were about average (42.5% and 30%, respectively). The E/S ratio for VAT in Albania was 0.42, while this figure is not available for the other two types of taxes in Albania. The ratio of 0.42 is not much lower than the E/S ratio for VAT for the 25 transition economies, which is 0.45. In general, they find that progress in transition and the effectiveness of tax collection are positively related. Albania has the lowest tax rate for VAT, but VAT evasion there is not far from the average.

6   Concluding Remarks and Policy Implications

There is an abundant amount of research trying to understand the phenomenon of tax evasion. Indeed, the fact that so many people in so many countries, perhaps most strikingly the United States, pay their taxes even when it seems likely they could get away with evasion might be elevated to a paradox on the level of the paradox of voting. Both the basic acts of a citizen in a democracy—voting and paying taxes—appear to be irrational!

Recently, this literature has become particularly interesting, as concepts like "tax morale", "pro-social behavior", and "conditional cooperation" have been increasingly used to explain some of the large residual leftover when only deterrence variables are employed to explain compliance. In this chapter, we build on these ideas, but we retain the basic idea of public choice: the citizen pays taxes because she expects to receive public goods and services in return. We suggest a "trust-based political exchange" approach. First, we provide a precise definition of trust and show the relationship between the different kinds of trust (e.g., general trust vs. networks of trust between individuals) and between trust and related concepts like social capital. By focusing on

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[19] See Mascagni (2018) for an overview of experimental findings.

"trust-based political exchange", we argue that the level of compliance is related to the degree to which citizens trust the government to be honest and to provide services promised, and to the extent to which they trust or believe others pay their taxes. These hypotheses were tested using a unique data set from a household survey in Tirana, containing information on both tax evasion and the informal institutions with respect to taxes. The empirical test supports the hypotheses that when individuals trust the government and believe that other individuals pay taxes, they are more inclined to pay taxes themselves. The effect of trust in government in increasing compliance seems to be the strongest. This result remains even after controlling for background information like gender, family size, family income, age, and education, which also affect individuals' decision to evade taxes. A higher educational level in particular seems to contribute significantly to more trust in government and thus mitigates to some extent the relationship between trust in government and tax evasion.

Given the relevance of our findings to policy, we provide a few suggestions on what can be done. The framework outlined here suggests that one important avenue of solution to the problem of tax evasion is to develop and emphasize the logic of democracy, which is that there is an exchange relationship between the citizen and the government. This relationship can only be based on mutual trust, since a government cannot be sued if it does not deliver on its promises. Building trust implies de-emphasizing the relationship of coercion, implicit in economic models of taxation, which neglect the expenditure side of government. An alternative approach is to emphasize education, since more education has a positive effect on the propensity to pay taxes independently of its effect on trust-based political exchange. On both these findings, one implication of this approach is that the problem of tax evasion will not be solved by punitive measures and may in fact be worsened that way. This is in line with the work on criminal penalties which casts doubt on their effectiveness in solving the crime problem.[20]

One, obviously very difficult, line of reform is to take measures to increase trust in the government. Here, there is a distinction to be made between the rule of law and authoritarianism. Historically, the only strong governments Albania and Russia had have been authoritarian governments. These societies have not had experience with a government which is strong and implements the rule of law, both for itself and for its citizenry, but which is democratic. That is the only form of government which promotes voluntary tax compliance. Indeed, tax compliance will be promoted because the rule of law will be

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[20] See Wintrobe (2006) for amplification of this point.

enforced, including appropriate penalties for tax evasion, but within the parameters of democracy, where citizens feel their relationship to the state to be one of exchange and not coercion.

Appendix: Construction of Tax Evasion Variable from the Questionnaire

Table 30.5 shows that given that a respondent is obliged to pay the personal income tax:

1. C.1. = 2 indicates evasion because if those respondents whose personal income tax is supposed to be deducted by their employers say that it is not, this means that they are working on an unofficial basis. In case of an "official" employment, the employer is obliged by law to deduct personal income tax from the monthly salary. Consequently, if it is not, the tax on personal income is evaded.

Table 30.5   Personal income tax evasion variable (PITE)

	Question(s)[a]	Indication of evasion	PITE
Deducted tax on personal income	C.1.	C.1. = 2	+
Gross minus net personal income	C.2., C.3.	$C.2. - C.3. = 0$	+
Household monthly expenses on personal income tax	C.6.	C.6. = a	+
Payment of personal income tax	D.2.2.	D.2.2. = 0	+
Who pays the personal income tax	D.3.4.	D.3.4. = 1	+

[a]Question C.1. "Does your employer (state or private) deduct your personal income tax from your monthly salary"; Question C.2. "Could you tell us your total personal income for the last month, BEFORE paying taxes on personal income (be these paid by you or your employer) or on small business; house rent; electricity; water or any other household expenses? Note that your total personal income should consist of the incomes from all your personal sources of income during the last month"; Question C.3. "Could you tell us your total personal income for the last month, AFTER paying taxes on personal income (be these paid by you or your employer) or on small business; house rent; electricity; water or any other household expenses? Note that your total personal income should consist of the incomes from all your personal sources of income during the last month"; Question C.6. "Could you indicate, on average, your household's monthly expenses during the last month?"; Question D.2.2. "Would you mind telling us which of the following monetary obligation do you and your household pay?"; Question D.3.4. "Please indicate who pays your tax on personal income or your tax on small business?"

2. C.2. – C.3. = 0 indicates noncompliance because if the reported gross and net incomes are equal, one potential explanation is the evasion of personal income tax.

3. C.6. = a indicates evasion because the selected respondents report that they do not spend any money on personal income tax. Although the question asks for the household's monthly expenses, we believe this to be an indication of PITE due to the fact that the respondent is the main income earner of the household.

4. D.2.2. = 0 indicates evasion because the selected respondents report that they do not pay their personal income tax.

5. D.3.4. = 1 indicates evasion when the payment of personal income tax is expected and the answer is that nobody pays it.

There are five indications of personal income tax evasion. The observed responses indicating evasion varied from 11.5% to 31.4%. An important reason for this discrepancy is that respondents are reluctant to admit that they evade. Moreover, some respondents might not know the answer to some questions. As a consequence, it is not possible to obtain precise information. We adopt the simple, but intuitively sensible assumption that more indications of tax evasion make it more likely that a respondent is evading taxes. Hence, we simply count the number of times (out of five) that a respondent fulfilled the criteria listed above.

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