



## The not so dark side of trust: Does trust increase the size of the shadow economy?

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### ABSTRACT

This paper reports a negative relationship between the size of the shadow economy and generalized trust, in a sample of countries, both developed and developing. That relationship is robust to controlling for a large set of economic, policy, and institutional variables, to changing the estimate of the shadow economy and the estimation period, and to controlling for endogeneity. It is independent from trust in institutions and from income inequality, and is mainly present in the sample of developing countries. Those findings suggest that the tax compliance effect of trust dominates its role as a substitute for the formal legal system.

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### 1. Introduction

Much of the economic activity around the world does not take place in the official legal system, but in the informal or shadow sector instead. What De Soto (1989) dubbed the other path thus provides a livelihood and an access to otherwise unaffordable goods and services to many individuals who are excluded from the formal sector. At the same time, as Schneider and Enste (2000) point out, the shadow economy may also have wider effects, by either attracting productive resources or because a share of the income earned in the shadow economy is spent in the formal sector.<sup>2</sup> It also affects public policies, by affecting tax revenues or congesting public goods, and also by imposing a margin of error on economic indicators. The resulting underground or shadow economy furthermore represents a sizeable share of the economy, and not only in the developing world. Schneider (2005a, 2005b, 2007) reports that the shadow economy amounts on average to 39 percent in developing countries, and still tallies 16 percent of official output in OECD countries.

Given the prominence of the informal sector, its determinants have unsurprisingly attracted a lot of attention. Since De Soto's (1989) study, the dominant view is that participating in the informal sector is a way to escape heavy taxation

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<sup>2</sup> Schneider and Enste (2000) report that up to two-thirds of the income earned in the shadow economy are immediately spent in the formal sector, according to German estimates.

and cumbersome regulations. This view has found repeated empirical support, for instance in Johnson et al. (1997, 1998), Friedman et al. (2000), Dreher et al. (2009), and Dreher and Schneider (2010).

In that view, the role of culture is either overlooked or minimized. Yet, whereas culture was long neglected in economic studies, it is now making a come back. In particular, the recent literature on generalized trust now emphasizes its economic pay-offs. That literature has repeatedly reported that countries where people are more trusting enjoy higher incomes and grow faster. This result can for instance be found in Knack and Keefer (1997), Zak and Knack (2001), Beugelsdijk et al. (2004), and Tabellini (2010), although Berggren et al. (2008) report that it may be sensitive to the period of study and the presence of outliers. Trusting countries even enjoy greater life satisfaction, as observed by Bjørnskov (2003).

Most of all, trust is bound to play a special role in the informal sector. More precisely, it is likely to affect what Perry et al. (2007) refer to as the decision to exit the formal sector to the informal. First, trust can be a substitute to official contracts. As transactions in the shadow economy are by definition undeclared, agents who carry shadow transactions cannot rely upon the formal legal system to enforce agreements or settle disputes. This lack of legal protection may indeed be one of the main costs of informality, as De Soto (1989) and Loayza (1996) argue. In this context, trust may appear as a substitute to formal contracts. Namely, agents who trust each other may carry out transactions that would otherwise be impossible outside the formal legal system. According to this view, one should therefore expect trust to increase the size of the formal sector.

On the other hand, if generalized trust extends to the state, it may as well have the opposite effect. Wintrobe (2001) argues that increased trust should reduce tax evasion, a contention that is substantiated by Torgler's (2003) finding that trust is positively associated with tax morale. Moreover, Torgler and Schneider (2007) report that increased tax morale leads to a reduction of the size of the shadow economy. Those findings suggest that, if the shadow economy is a form of tax evasion, then one should expect its size to be negatively impacted by trust.

Which effect dominates is an empirical matter. This is why the present paper investigates the relationship between trust and the shadow economy. That investigation contributes to the literature in several ways. First, it puts forward an additional determinant of the size of the shadow economy. Johnson et al. (1997, 1998), Friedman et al. (2000), and more recently Dreher and Schneider (2010), have emphasized the impact of development, regulations, and institutional quality on the size of the shadow economy. They have however not investigated the impact of trust. Moreover, the present investigation also provides some new information on the kind of transactions that dominate the shadow economy. Namely, if informal transactions consist of spot small-scale deals, trust should matter little in the shadow economy. On the other hand, if transactions are more complex, trust may indeed play a facilitating role. Only in the latter case should one expect trust to be positively associated with the size of the shadow economy.

Second, determining the relationship between trust and the shadow economy also improves our knowledge of the effects of trust. It thus sheds light on the extent to which the effects of trust spill over the boundaries of the official sector. It also hinges on whether or not an informal institution, like trust, is a substitute or a complement to the official legal system. In this respect, it should also contribute to our understanding of the interplay of law and economic activities.

In a nutshell, we find robust evidence that trust is negatively correlated with the size of the shadow economy. This conclusion resists to the inclusion of a large set of variables controlling for the level of economic development, public policies, and the quality of the institutional and legal system. We moreover provide evidence that it is not driven by endogeneity, and that causality runs at least partly from trust to the size of the shadow economy. We also observe that the relationship is stronger in developing countries. Finally, we find evidence that it is not driven by trust in the government, which plays an independent role.

To reach those conclusions, the rest of the paper is organized as follows. The next section describes the determinants of the shadow economy that are used in our analysis. Section 3 describes our data and our main finding. The following section provides robustness checks. Section 5 shows that our main finding indeed pertains to generalized trust, as opposed to trust in the government. Section 6 concludes.

## 2. The measure of the shadow economy and its determinants

In this section, we describe the main estimates of the shadow economy that we used, then present explanatory variables, starting with trust then moving to control variables. We discuss their expected impact on the shadow economy.

### 2.1. Measuring the shadow economy

The largest existing dataset on the size of the shadow economy is provided by Schneider (2005a, 2005b, 2007), who calculates the size of the shadow economy of 145 countries, including developing, transition, and highly developed OECD countries, over the period 1999–2003. We therefore use that dataset as our workhorse measure of the shadow sector.<sup>3</sup> Schneider (2005a, 2005b, 2007) uses what he refers to as a “narrow” definition of the shadow economy. Namely, he defines the shadow economy as “all market-based legal production of goods and services that are deliberately concealed from public authorities for the following reasons: (1) to avoid payment of income, value added or other taxes, (2) to avoid payment of social security contributions, (3) to avoid having to meet certain legal labor market standards, such as minimum wages,

<sup>3</sup> We test for the robustness of our results by employing alternative estimates of the shadow economy below.

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