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Tax distortions, household production, and black-market work

Jon Strand

Fiscal Affairs Department, International Monetary Fund, Washington DC 20431, USA

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Abstract

This paper studies an economy with high- and low-productivity households. Household services are produced either by households themselves or are purchased in a white or black market. Black market work is inefficient (efficient) when it otherwise would have been done in the white market (within the household). With low (high) tax wedges, the black market reduces (increases) welfare by competing with white-market production (own-household production). With intermediate tax wedges, the welfare effect of a black market is ambiguous: welfare is improved (reduced) when black services are demanded by low- (high-) productivity households. An increase in the tax wedge may then reduce the benefits from a black service market.

JEL classification: H21; H26; J22; J23
Keywords: Black markets; Household production; Tax wedges

1. Introduction

This paper studies effects of taxation on the distribution of household work in three parts of an economy: within the own household; as paid work in the legal ("white") sector subject to taxation; or as paid work in the illegal or informal ("black") sector where taxes are evaded. The focus is (1) on the extent to which taxation inefficiently pushes activity

E-mail address: jstrand@imf.org.

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out of the paid legal white sector into either the black or own-household sector, and (2) the relationships among marginal taxes, the distribution of work in the three types of activity, and allocative inefficiency.

The magnitude of the potential allocation problem is substantial. A large part of economic activity consists of services provided by and for the household. Scandinavian time-use surveys show that *own household work* activity (as different from *leisure* activity) is more than two-thirds of the volume of *regular paid* work in terms of hours. Much of this within-household work can be carried out by persons outside of the household who have a comparative advantage in such activities. As noted by Sandmo (1990), taxation of regular market work but not household work acts as a tax on market exchange and creates inefficiencies by pushing activity out of the paid sector into the household sector. In Scandinavian countries, taxes are high and the amount of own household work is high.

High tax rates, in addition, create a basis for a “black” or informal sector by giving people on the demand and supply sides incentives to transact furtively to avoid paying the taxes. The black or informal sector, most of which is in the personal services sector, is substantial in OECD countries and higher in general in low-income countries.[1]

I present here a model where household services can be produced by household members themselves or purchased on the “white” or “black” market. Labor productivity is highest in the white market and lowest in home production, with black market productivity intermediate. Individuals are of two types with different productivities. High-productivity individuals have a comparative advantage in “industrial” production versus household services production. Efficiency would require that all household work be carried out in the white market, since labor productivity is highest here for all workers. This is also the resulting allocation when the tax rate is sufficiently low so that neither home production nor black-market activity takes place. With high tax rates, sellers and buyers in the black market incur costly search and form pairwise probabilistic matches, and enter the black market until private gains from entry are dissipated. In equilibrium, either low- or high-productivity workers demand black-market services, but never both.

The welfare consequences of a black market depend on whether black services are demanded by households that otherwise would purchase such services in the white market, or by households that otherwise would produce their own home services. Welfare *increases* when the black market “steals” activity from households’ own home production, and *decreases* when it “steals” activity from the white market. I derive conditions under which the different cases arise. There is no monotonous relationship between the magnitude of taxes and the welfare consequences of a black market. As expected, a black market is favorable when taxes are “very high”, and unfavorable when taxes are “very low”. A novel (and surprising) result is that this relationship is less clear in intermediate cases: in the economy described by the model, a change from an intermediate to a somewhat higher level of general taxation may reduce the desirability of having a black market.

[1] See Pedersen (1998) and Schneider (2005) for surveys and data. de Soto’s (1989) study of “hidden” markets in Lima, Peru, that the “underground” economy (identified as the aggregate of the household and black sectors) constitute up to 60% of the total economy.