

Chapter 2

Defining and Measuring Undeclared Work

2.1 Definition

Undeclared work as to the definition used subsequently describes income from productive economic activities which are legal and taxable, but on which income tax, social security contributions, VAT, etc., are not paid, because they are not reported to the tax, social security or customs authorities (Feld and Larsen 2005). These activities are not only deliberately concealed from public authorities in order to save taxes, but also to avoid certain legal labor market standards, such as minimum wages, maximum working hours, safety standards, etc., and to avoid certain administrative obligations, such as completing statistical questionnaires or other administrative forms (Feld and Schneider 2010). The prices and wages paid are less than the full market price, and buyer and seller are both aware of this and obtain an extra economic advantage in this way. Only activities which violate the German law against “Schwarzarbeit” are included in the definition. A direct translation of “Schwarzarbeit” is “black work” or “black activities”, but in this report we use the term “undeclared work” for “Schwarzarbeit”.

Trade in goods and services, payments in cash and in kind, and exchanges of goods or services between friends and neighbors are included. Evasion which benefits only one side (capital income tax evasion, sales at full market price that are not entered into the cash register, etc.) is not included. Undeclared work thus is one part of the domestic product which is not regularly or explicitly accounted for in the national accounts statistics, but has to be estimated. However, it does not include any illegal activities such as drug dealing, prostitution, gambling and so on. While we may seem to have used the terms “undeclared work”, “the shadow economy” and “undeclared earnings” interchangeably in the introductory chapter and also embedded the discussion into the broader tax evasion context, we are well aware of the fact that they may mean different things, although the boundaries between these different underground economic activities cannot be sharply defined. What is important for our purposes is the fact that the basic theoretical

underpinnings of these different activities remain the same and are obtained from the economic theory of crime (Becker 1968).

Undeclared work can be distinguished from other parts of the shadow economy by the fact that activities that are in themselves illegal are not included. For example, drug dealing is part of the shadow economy but not part of undeclared work. Undeclared work involves tax evasion and evasion of social security contributions, but it does not make up the whole amount of tax evasion in a country because evasion in connection with sales and services at full market price and the non-declaration of any form of capital or transfer income are not counted. Thus, undeclared work mainly involves labor as a production factor, only considering basically respectable activities that could just as well take place in the official economy. For example, work in the construction sector that is not declared to the tax administration, or childcare the income from which is undeclared, or work as a waiter/waitress in the tourist industry which is not officially notified to the tax authorities, all belong to undeclared work. Table 2.1 summarizes such informal or non-declared activities.

Obviously, not all informal economic activities are taxable according to German law. Do-it-yourself work is not, but, for example, (work paid with) reciprocal favors may be if there is a binding agreement between the parties or if the value is substantial and would normally involve a binding agreement (Pedersen 2003). The definition of undeclared work used in this report is not a canonical one because there is no canonical definition. However, it appears to be a useful definition.

2.2 Methods of “Measuring the Unmeasurable”

In particular, this definition is useful for the way we measure undeclared work. There is a broad discussion in the literature as to the most acceptable way of “measuring the unmeasurable”. Because the discussions by Thomas (1999),

Table 2.1 A taxonomy of informal (non-declared) economic activities

Type of activity	Monetary transactions		Non-monetary transactions	
Illegal activities	Trade in stolen goods; drug dealing and manufacturing; prostitution; gambling; smuggling; fraud; etc.		Barter of drugs, stolen goods, smuggling, etc; produce or growing drugs for own use; theft for own use	
Legal activities	Tax evasion	Tax avoidance	Tax evasion	Tax avoidance
	Unreported income from self-employment; wages, salaries and assets from unreported work related to legal services and goods	Employee discounts, fringe benefits	Barter of legal services and goods	All do-it-yourself work and neighbor help

Source: The table is from Feld and Schneider (2010, p. 112) but with a slightly changed heading

Schneider and Enste (2000, 2002), Pedersen (2003), Lyssiotou et al. (2004) and Feld and Schneider (2010) are already very extensive, it is not necessary to provide a comprehensive overview in this report. Still, a few remarks are warranted.

2.2.1 Indirect Methods of Measurement

There are indirect and direct methods of measurement. The indirect methods use macroeconomic data to assess the extent of tax evasion, the shadow economy or undeclared work. The first method starts from the observation that there must be something like tax evasion going on if people in an economy buy more products and services than they officially have money for, given their earned income according to income tax declarations. In the circular flow model of national accounting, the income measure should be the same as the expenditure measure of the domestic product. Of course, statistical discrepancies might occur just because the quality of the data is insufficient. This may obtain particularly in international transactions. Still, it is highly implausible that these statistical discrepancies should increase substantially over time. If both measures of the domestic product are independently accounted for in such a way that no adjustments are made inside the statistical office, the gap between income measures can be used as an indirect measure of tax evasion, the shadow economy or undeclared work. This method is called the income gap method and has been applied in particular in the studies on Swiss tax evasion by Weck-Hannemann and Pommerehne (1989), Pommerehne and Weck-Hannemann (1996), Pommerehne and Frey (1992), Frey (1997b), Feld and Frey (2002a, 2005) and Frey and Feld (2002). Other examples of estimates based on various discrepancies and residuals are Larsen (2002) and Viby Mogensen (2003), who estimate unreported personal income by examining discrepancies between Danish national accounts, including the undeclared work, and the primary tax statistics, which solely reflect the formal economy. The method was adopted by the Danish Tax and Customs Administration which continued the time series. In a similar fashion, the official participation rate in the labor market can be contrasted with the actual employment rate according to independent sources (Pedersen 2003).

The second indirect measurement method is based on monetary approaches. The first of these approaches is called the transactions approach and was developed by Feige (1989). This method starts from the famous Fisher equation of the quantity theory of money. Relating total nominal GNP to total transactions, the GNP of the shadow economy can be obtained by subtracting official GNP from total nominal GNP, assuming a base year in which the ratio of total transactions to total nominal GNP was normal, i.e. no shadow economy existed. The second monetary method, often used by Schneider (2004a, b) and also by Kirchgässner (1983), is the currency demand approach. This method starts from the premise that transactions in the shadow economy as well as undeclared work involve cash payments to a larger extent than transactions in the official economy, in order to leave no accounting traces. The size of the shadow economy is then simply inferred by simulating currency demand with and without tax variables.

The third indirect method is the electricity consumption method (Schneider and Enste 2000, 2002). Assuming that electricity serves as a good physical indicator of overall economic activity and that the estimate of electricity to GDP elasticity is close to one, a calculation can be made of how large the actual total GDP of a country is. The difference from official GDP provides an estimate of the shadow economy. Schneider and Enste (2000, 2002) also describe the more sophisticated econometric method developed by Lackó (1998), which also uses household consumption of electricity.

The fourth indirect method is the hidden variable approach as introduced by Frey and Weck-Hannemann (1984) and Weck-Hannemann et al. (1984). Three or four macroeconomic indicators, usually the participation rate, the growth of real GDP, currency demand and working hours, are used as indicator variables for the shadow economy and linked to explanatory variables such as different tax rates or the regulatory burden using LISREL techniques (structural causal modeling techniques or the MIMIC approach). In fact, this approach is a synthesis of different elements of other approaches, because it combines the currency demand approach, the income discrepancy method, and the employment approach. In the collaboration with Körner and Strotmann (2004) and in Feld and Schneider (2010), one of the present writers has also worked with the hidden variable approach in studying the shadow economy.

2.2.2 Direct Methods of Measurement

There are three main direct methods. In the first, undeclared work is measured by using surveys in which individuals are directly asked whether they carry out any undeclared work, either for cash payments or payments in kind. This is the method applied by Pedersen (2003) and Feld and Larsen (2005) for Germany (and other countries). According to Schneider and Enste (2000), this method is most popular in the Scandinavian countries.

The second direct method is based on actual tax auditing and other compliance methods (Engel and Hines 1999). It is the method of choice applied by the U.S. Internal Revenue Service (IRS). From 1963 to 1988, the IRS has conducted a periodic tax audit called the Taxpayer Compliance Measurement Program (TCMP). It was cancelled in 1995 because of complaints in Congress, but followed by the National Research Program (NRP) in 2001. Using a random sample of individual income taxpayers, the IRS has measured their net understatement of income, overstatement of deductions and exemptions, etc., and used the outcome to calculate tax evasion for the whole population. Less frequently, a similar procedure has been used for non-filers, whereby the IRS applies a tax gap method to micro-data on actual tax cheaters by calculating the discrepancy between the declared income and actual income of randomly audited individuals. These data have been extensively analyzed by U.S. research teams (see the survey by Andreoni et al. 1998; Slemrod and Yitzhaki 2002; Slemrod 2007). For a comprehensive Danish taxpayer compliance study, see the above-mentioned study by Kleven et al. (2011).

The third direct method aims at measuring tax morale instead of tax evasion. It could either be summarized under the direct methods to measure tax morale or under the indirect methods to assess tax evasion. In applying this method, the World Values Survey asks a representative sample of individuals to evaluate the evasion of taxes on an ordinal scale from 1 to 10, the higher value on the scale representing the greater acceptance of that action. Five series of this worldwide survey have already been conducted for Germany, i.e. for the years 1981, 1990, 1997, 1999 and 2006. Torgler (2003) has explored these data extensively in his Ph.D. thesis and has published analyses for almost every country for which these data have been collected. Feld et al. (2009) analyze the WVS tax morale data for (West and East) Germany until 1999. Körner and Strotmann (2004) have studied the same data. Similar data have been collected by the Rockwool Foundation Research Unit (Feld and Larsen 2005, 2008 and for the present study) and in a special Eurobarometer survey (2007).

In addition to direct and indirect methods, experimental methods could be considered as another possible approach to analyzing tax compliance. Laboratory experiments provide for the cleanest environment to analyze the theoretical predictions of the economic analysis of tax compliance. However, as is often the case in laboratory experiments in the social sciences, the high internal validity of the experiment is obtained in exchange for the price of a low external validity. The artificial conditions created in the lab do not allow for a full transfer of the results to the real world. With respect to the measurement of the extent of undeclared work or of tax evasion, this becomes clear immediately: experimental methods enable the analysis of the impact of deterrence on tax compliance, but do not allow for a measurement of the size of tax evasion. James Alm in particular has advocated the experimental analysis of tax compliance (see Alm et al. 1992a, b, 1992c, 1993, 1999, see also Torgler 2002, 2007 and Blackwell 2010 for surveys). There are also analyses by researchers from German-speaking countries who emphasize the experimental approach to tax compliance (Güth and Mackscheidt 1985; Feld and Tyran 2002; Güth et al. 2005).

2.3 A Comparison of Methods of Measurement

It is common knowledge in the scientific community that none of these measurement methods is without disadvantages. Any method has its flaws. The survey approach (the first direct measurement method described above) is sensitive to the formulation of the questions, and may not capture the total amount of undeclared work because the participants in the survey simply do not tell the truth. Even in face-to-face interviews, which promote the greatest degree of participation in the survey, a participant may lie. The incentives to reply truthfully to the questionnaire are increased if the interviewer can credibly promise to handle the information confidentially. The advantage of the survey method lies in the additional details that can be obtained from the respondents, so that a very well differentiated analysis of

undeclared work is possible. The survey method thus measures a lower limit of undeclared work in the economy.

The tax auditing method, as the second direct method mentioned above, also has its drawbacks. Tax compliance data are obtained from a restricted sample of the population, because the selection for audit is based on the properties of the tax returns submitted to the tax office. In addition, those taxpayers identified as tax cheaters could well reflect only the tip of the iceberg, because it is highly improbable that tax authorities would detect all tax cheaters even if they wanted to. Those taxpayers audited by the IRS certainly have an incentive to conceal any tax cheating, because they must believe that they face the threat of punishment if they are detected.

Indirect methods also all have their flaws. To name but a few: the survey of individual tax morale only measures hypothetical tax morale and not real tax compliance; the income gap method may only capture statistical errors; the monetary methods may over-estimate the rationality of the money market, and in addition, many transactions in the shadow economy take place without cash payments; the electricity approach is too dependent on the assumption that the shadow economy involves the use of electricity; and so on. The advantage of indirect methods is that they may circumvent all the strategic problems that emerge if individuals are directly approached with questions about or even audits of their tax honesty. It could thus perhaps be argued that the macroeconomic indirect methods provide for an upper boundary for estimates of tax evasion or the shadow economy.

Analyzing the data using the different approaches at different points in time reveals interesting characteristics of the data that might be used in an estimate of the “unmeasurable”. Moreover, it is most important for policymakers and scientists alike that they can find out which variables have an impact on tax evasion, tax morale, the shadow economy and undeclared work, whatever it is that is measured, and whatever method is used. If a set of policy instruments has consistent influences across tax compliance measures, the confidence in their use to achieve certain policy goals is substantially increased. This is the reason why experimental methods are a very important research tool in the analysis of tax compliance. Although it is the size of the shadow economy, of tax evasion or of undeclared work which attracts such enormous attention from the media and from policymakers, this is less important than the knowledge of which factors influence tax compliance in what directions.

2.4 The Method of Choice in this Study

In this report, we choose to measure undeclared work by the direct survey method not because we think it is a superior method of measuring undeclared work, but because using this approach allows us to focus strongly on undeclared earnings as defined above as distinct from both illegal activities and from capital income tax evasion and other kinds of tax evasion at full market price, where only one side

benefits. It is thus possible to focus on compliance behavior in the labor market. Moreover, the survey method provides the possibility of getting detailed information on the environmental conditions for undeclared work. A major disadvantage of the macroeconomic indirect methods lies in the fact that central variables of the economic analysis of crime, namely the probability of detection and the fines, are almost always left out of the analysis. This is corrected in our survey approach by directly asking people about their perception of the risk and the punishment that they would expect. Before we describe how we have designed the survey for this study in order to get detailed information and to minimize the disadvantages of the direct method, we present overviews of existing estimates of the size of the German shadow economy and some comments on deterrence policies in Germany.



<http://www.springer.com/978-3-540-87400-3>

Undeclared Work, Deterrence and Social Norms

The Case of Germany

Feld, L.P.; Larsen, C.

2012, X, 146 p., Hardcover

ISBN: 978-3-540-87400-3