

eties (where human relations are more important) than to individualistic societies. But even in individualistic societies people do have a sense of 'shame' and 'face,' so this Japanese theory should be helpful in explaining, at least in part, the causes and effects of social influences in individualistic societies too.

*See also:* Cognitive Dissonance; Mass Communication: Empirical Research; Networks: Social; Opinion Formation

### Bibliography

- Cantril H, Gaudet H, Herzog H [1940] 1966 *The Invasion from Mars: A Study in the Psychology of Panic*. Princeton University Press, Princeton, NJ
- Festinger L 1957 *A Theory of Cognitive Dissonance*. Row, Peterson, Evanston, IL
- Heider F 1958 *The Psychology of Interpersonal Relations*. Wiley, New York
- Inoue T 1977 'Sekentei' no Kozo [The Structure of 'Sekentei']. Nihon Hoso Shuppan Kyokai, Tokyo
- Katz E, Lazarsfeld P F 1955 *Personal Influence*. Free Press, Glencoe, IL
- Klapper J T 1960 *The Effects of Mass Communication*. Free Press, Glencoe, IL
- Lazarsfeld P F, Berelson B, Gaudet H [1944] 1968 *The People's Choice: How the Voter Makes up his Mind in a Presidential Campaign*. Columbia University Press, New York
- McCombs M E, Shaw D L 1972 The agenda-setting function of mass media. *Public Opinion Quarterly* 36(2): 176-187
- Newcomb T M 1953 An approach to the study of communicative acts. *Psychological Review* 60: 393-404
- Noelle-Neumann E 1984 *The Spiral of Silence: Public Opinion—Our Social Skin*. University of Chicago Press, Chicago
- Sumner W G 1906 *Folkways: A Study of the Sociological Importance of Usages, Manners, Customs, Mores and Morals*. Ginn, Boston

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## Informal and Underground Economics

There is a widespread feeling that a substantial and increasing share of value-creating activities take place outside the official economy. This holds, in particular, for developing and transition economies, but also for high-income economies. Such activities are not recorded by the system of national income accounting, which has become the accepted standard in all countries of the world.

The existence and increase of an underground economy gives rise to four major sets of concerns. The economic and social conditions of individuals, households, and countries are evaluated in a biased way if one relies on the official statistics. Thus, the official number of unemployed persons may hide that an (unknown) share of them actually work and receive

wage income. As a consequence, the macroeconomic policies are likely to be too expansionary and social policy too excessive. A second concern is the loss of tax revenue, as underground activities escape taxation. A third concern interprets the underground economy as an indicator of an unhealthy relationship between citizens and government. The taxpayers are dissatisfied with the public services they get for their contributions and seek to redress the balance by escaping to the underground economy. It is feared that such a reaction makes a government unable to finance the public goods necessary for an economy and society. A fourth concern goes even further, and fears that an underground economy undermines the cement of society because it favors everyone acting in his or her own interests, while solidarity is renounced. In contrast to these concerns, the existence of an underground economy has also been seen in a positive light. Opponents of extensive state activity welcome the limits imposed on taxation and regulation, and applaud the dynamism and flexibility in the underground sector.

### 1. Denominations and Definitions

The phenomenon is known, and has been discussed in literature, under many different names: informal, unofficial, irregular, parallel second underground, subterranean, hidden, invisible, unrecorded, and shadow economy or moonlighting. In several languages, the term most often used is 'black economy' ('le travail au noir' in French, 'Schwarzarbeit' in German, and 'svarta sektor' in Swedish).

No single definition exists, but it depends on the purpose. The most precise and predominantly used definition seeks to relate the underground economy to officially measured national income: it comprises all presently not recorded productive (i.e., value-adding) activities which should be in the gross national product (GNP). This definition allows us to compare and to add the underground economy to GNP.

This definition excludes two major activities:

(a) Production that by convention is not part of GNP, in particular private household activities. The evaluation of its size has engendered a research area of its own. Depending on the approach and measurement technique in developed economies, the household sector comprises between 30 percent and 50 percent of GNP.

(b) Tax evasion is not value-adding but redistributive and is therefore not included as such in the above definition (e.g., when taxes on interest payments are evaded). However, in general, no taxes are paid on underground activities (such as moonlighting for house building) which are value-adding. Thus, underground activities and tax evasion are related, but certainly not identical. Tax evasion has also become a research area of its own. For the United States,

between 1973 and 1992 for example, it has been estimated that 17 percent of total taxes owned have been evaded.

The underground economy should not be identified with illegality. Some activities are perfectly legal but are not subject to taxes (e.g., because of their small size), and therefore escape measurement in official statistics. Other activities are legal as such, but taxes are evaded. Finally, on illegal activities (such as drug production and distribution), no taxes are paid.

Broader definitions of the informal and underground economy, depending on their purpose, include private household production and redistributive activities. In the following, the more narrow definition considering unrecorded productive activities will be focused on.

## 2. *Measurement Approaches*

The major effort of economists has been to measure the size of the underground economy relative to official GNP; its size compared to other countries, and its development over time. The other social sciences, especially sociology, have put more emphasis on the structure: who participates where? The respective studies often provide highly detailed analyses of particular regions, industries, and types of underground activities. A considerable part (it varies strongly from country to country) of informal activity is undertaken as a second job and part-time. This allows underground workers to be eligible for social security benefits and makes detection more difficult. Not surprisingly, casual work is dominant (if not the only kind of work) for illegal immigrants. In developed economies, casual work is most prevalent in the following sections: in agriculture (especially seasonal labor), in construction, and in the services sector, particularly in repairs (automobiles and other) and cleaning, in hotels and restaurants, as well as in wholesale and retail trade. Accordingly, among the occupations with most illegal work are cleaning persons, waiters, people working at home, construction and mechanical workers.

In the 1980s and 1990s, the quest to measure the size of the underground economy led to interesting methodological innovations, i.e., the challenge to 'measure the invisible' resulted in new measurement methods. Three general sets of measurement approaches can be distinguished.

### 2.1 *Direct Approaches*

An obvious way to analyze the underground economy is to undertake surveys among (supposed) suppliers and demanders of casual services. This method allows us to gather a detailed picture of the structure of this sector. However, because a substantial part of these activities is illegal, the interviewees may not be

prepared to disclose their involvement. Somewhat surprisingly, research suggests that disclosure is not a serious problem. Typically, men are more involved in the underground economy than women, the young more than the old, people without work more than employed people, and the most prominent sectors are construction and all kinds of services. In contrast, where substantial capital assets (which are visible) are needed, less underground activity is observed.

A second direct approach is based on auditing of tax returns undertaken by tax collection and social security administrations. A sample of tax-payers is scrutinized in depth and under threats of sanctions for failing to collaborate. This approach provides detailed information on the biggest evaders, in particular the self-employed, who have better opportunities for concealment. Capital income also lends itself easier to evasion than labor income. Tax audits have proved unable to reveal all tax evasion, and are limited to taxable activities. As a large part of tax evasion is redistributive, that part is not relevant to the narrow definition of the underground economy.

The two direct methods (surveys and tax auditing) have the disadvantage of permitting point estimates only. Moreover, it is unlikely that they capture all 'shadow' activities, so they can be seen as providing lower bound estimates. They are unable (at least at present) to provide estimates of the development and growth of the shadow economy over an extended period of time. They have, however, one considerable advantage—they can provide detailed information about shadow economy activities and the structure and composition of those who work in the shadow economy.

### 2.2 *Indirect or Discrepancy Approaches*

The underground economy is reflected in discrepancies showing up in various markets. Persons working in the unofficial sector are able to *spend* more than their officially recorded income. The discrepancy between the two may be observed at the level of individual households, as well as in the aggregate national accounts. This approach is questionable, as this expenditure–income discrepancy may either be due to measurement errors (which is indeed often the case) or to reasons unrelated to the underground economy (e.g., the use of credits, or reductions in wealth).

Another discrepancy may be observable in the *labor market*. A decline in official participation rates, or a low participation rate compared to other countries, may be an indication of unofficial work. But again, the discrepancy may be related to other factors. Moreover, this approach is unable to isolate those persons who are at the same time active in the official and the unofficial economy (which seems often to be the case, according to other approaches).

A third discrepancy may be visible in the *monetary market*. The dominant approach starts with the

assumption that underground transactions are paid in cash in order to make detection more unlikely. The size of the underground economy is reflected in the amount of cash used in a country beyond that used for official transactions. This approach is elegant and easily applicable because the amount of currency is well documented. The assumption that unofficial activities are transacted in cash is, however, questionable. Empirical research suggests that between 20 percent and 30 percent of the unofficial activities are not paid in cash, i.e., either by payment in kind or via a bank. This fact is especially bothersome for the currency demand approach when the share of cash payments changes over time and differs between countries. A significant portion of some currencies is held outside the country issuing it; thus the US dollar is widely used in South America and Asia. Again, the discrepancy is influenced by many factors unrelated to the underground economy, such as the use of credit cards. Finally, it is problematic to infer the size of the unofficial sector from currency transactions, because the velocity of cash circulation may differ between the official and the unofficial sector. Some of the difficulties just mentioned have been successfully addressed by more recent research. Thus, the use of credit cards and the amount of currencies outside a country have been taken into account. Most importantly, instead of comparing the actual use of cash to the one deemed necessary for the official economy, a cash demand function is empirically measured, i.e., econometrically estimated. This allows us to check for influences (such as changes in the interest rate or the increasing use of cash substitutes) unrelated to the underground economy. Moreover, the extra use of cash has been directly attributed to causal factors, in particular to an increase in the tax and social security burden. Figures for the size and development of the shadow economy can be calculated by comparing the difference between the development of currency when the direct and indirect tax burden and government regulations are held at their lowest value, and the development of currency with the current (higher) burden of taxation and government regulations. The currency demand approach is one of the most commonly used approaches.

The most recent discrepancy approach looks at *physical inputs*, in particular the use of electricity. How much electricity would normally be used to produce the official national income is calculated. The excess use can be attributed to the underground economy. This approach again has the great advantage of relying on easily available data, which is a distinct advantage for developing and transition economies. However, not all underground activities use much, if any, electricity, and the relationship between production and electricity used may change over time, or differ between countries, due to substitution and technical progress.

A general problem of all discrepancy approaches is that one has to assume a base year without under-

ground economy. Only then is it possible to attribute the existence and rise of a discrepancy to the underground economy.

### 2.3 The Model Approach

This method focuses on the causes and effects of the underground economy. By constructing a model, it seeks to identify the unobserved sector in between.

Three sets of factors are taken to be the main motivators of whether to engage in the unofficial economy:

(a) The burden of taxation and social security contributions as well as government regulations provide incentives to exit the official economy. The latter hinder or even prohibit activities in the official economy (e.g., because of lacking work permits, especially for foreigners), which provides an incentive to undertake them unofficially. This holds, of course, also for illegal activities such as the production and distribution of drugs. An important reason for exiting the official sector is the restrictions imposed on working time. Low work hours, long holidays, early retirement and, above all, unemployment, are important reasons for moonlighting.

(b) The expected punishment of working in the underground economy provides a disincentive for doing so. It consists of the probability of being caught and the size of punishment. For persons outside the established society (for example, illegal immigrants), or for self-employed persons, expected punishment is lower than for other persons, and therefore a higher rate of participation in the underground sector is likely.

(c) The moral costs are another disincentive to be active in the underground economy. A good citizen has moral qualms about undertaking a forbidden activity. These moral costs are closely related to 'tax morale' which motivates citizens to pay their dues to the state.

The effects of the underground economy are reflected in the traces visible in the labor, money, and product markets discussed above. A specific econometric technique called 'unobservable variables approach' allows us to estimate the size of the underground economy. This technique seeks to identify the size of the underground sector, which cannot be observed itself, but whose causes (e.g., tax and social security burden, unemployment etc.) and whose effects (e.g., fall in the participation ratio) can be measured. This approach is the most comprehensive and builds on a well-structured behavioral model, but it requires a large amount of data. As these are often not available (in particular not for developing and transition economies), this approach is not generally applicable. The estimation technique moreover tends to be statistically fragile (i.e., small changes in specification and values of variables strongly affect the estimates).

### 3. Empirical Estimates

The following tables serve to indicate approximate magnitudes of the size and development of the underground economy, defined as productive, value-adding activities, which should be part of GNP. Table 1 presents a rough comparison of the size of the underground economies relative to GNP for a selection of Western European countries, Japan, and the United States for the mid-1990s, using the currency demand approach.

The South European countries (Greece and Italy) have an underground economy almost one-third as large as the officially measured GNP: followed by Spain, Portugal, and Belgium, having a shadow economy between 20 and 24 percent of (official) GNP. According to these estimates, the Scandinavian countries also have a sizeable unofficial economy (between 18 and 20 percent of GNP), which is attributed mainly to the high fiscal burden. The 'central' European countries (Ireland, The Netherlands, France, Germany, and Great Britain) have a smaller underground economy (between 13 and 16 percent of GNP), probably due to a lower fiscal burden and moderate regulatory restrictions. Smaller underground economies are estimated to exist in countries with relatively low public sectors (Japan, the United States, and Switzerland), and comparatively high tax morale (United States and Switzerland).

Table 2 provides a rough comparison of the size of the underground economy relative to official GNP for a selection of developing and transition economies for the beginning of the 1990s, using the physical

**Table 1**

Size of the underground economy relative to GNP in various European countries, mid-1990s. Estimation based on the currency demand approach

Greece	27–30 percent
Italy	
Spain	
Portugal	20–24 percent
Belgium	
Sweden	
Norway	18–23 percent
Denmark	
Ireland	
France	13–16 percent
Netherlands	
Germany	
Great Britain	
Japan	
United States	8–10 percent
Austria	
Switzerland	

Source: Compiled from Schneider and Enste (2000)

**Table 2**

Size of the underground economy relative to GNP in various developing and transition countries, at the beginning of the 1990s. Estimates based on the physical input (electricity) demand approach

Developing Countries	
<b>Africa</b>	
Nigeria	68–76 percent
Egypt	
Tunisia	39–45 percent
Morocco	
<b>Central and South America</b>	
Guatemala	
Mexico	40–60 percent
Peru	
Panama	
Chile	
Costa Rica	25–35 percent
Venezuela	
Brazil	
Paraguay	
Columbia	
<b>Asia</b>	
Thailand	70 percent
Philippines	
Sri Lanka	38–50 percent
Malaysia	
South Korea	
Hong Kong	13 percent
Singapore	
Transition Economies	
<b>Central Europe</b>	
Hungary	24–28 percent
Bulgaria	
Poland	16–20 percent
Romania	
Slovakia	7–11 percent
Czech Republic	
<b>Former Soviet Union Countries</b>	
Georgia	
Azerbaijan	28–43 percent
Ukraine	
Belarus	
Russia	
Lithuania	20–27 percent
Latvia	
Estonia	

Source: Compiled from Schneider and Enste (2000)

input (electricity) demand approach. Some of these countries (Nigeria, Egypt, and Thailand) are estimated to have an underground sector nearly three-quarters

**Table 3**

Growth of the underground economy relative to GNP for selected West European countries and the United States, 1960–95. Estimates based on the currency demand approach (rounded figures)

	1960	1995	Percentage point increase
Sweden	2 percent	16 percent	14.5 percent
Denmark	4.5 percent	17.5 percent	13.0 percent
Norway	1.5 percent	18.0 percent	16.5 percent
Germany	2 percent	13.2 percent	11.2 percent
United States	3.5 percent	9.5 percent	6 percent
Austria	0.5 percent	7 percent	6.5 percent
Switzerland	1 percent	6.7 percent	5.7 percent

Source: Compiled from Schneider and Enste (2000)

the size of officially recorded GNP. In many countries, the size is one-quarter to one-third of GNP. In Asian countries, with a comparatively low public sector, high tax morale, or high expected punishment (Hong Kong, Singapore), the underground economy is estimated to be similar to that in many 'Northern' European countries.

Transition economies are estimated to often have substantial unofficial activities, many around one-quarter of GNP. An exception is ex-Czechoslovakia where, according to these estimates, the underground sector is clearly around 10 percent of GNP.

Table 3 reports estimates of the growth of the underground economy (relative to GNP) for selected Western countries and the United States, using the currency demand approach.

The Scandinavian countries (Sweden, Norway, and Denmark) and the German-speaking countries (Germany and Austria) exhibit a sizeable increase of the underground economy within the 35 years covered (1960–95), and tend to understate the respective effects on unemployment. Also the countries with a low share in the beginning (Switzerland and the United States) show a significant increase, with the US share more than doubled. Sizeable increases have been estimated, with few exceptions, for all types of countries and all kinds of approaches: the increasing importance of the underground relative to the official economy is a robust phenomenon. It has been attributed to many different causes, but the most important and most often cited ones are the rise in the burden of taxes and social security contributions, the increase in public regulations, especially on labor markets, as well as a long-term fall in civic virtue in the population.

#### 4. *The Effects of the Underground Economy on the Official Economy*

In order to study the effects of the underground on the official economy, the underground economies have been integrated into macroeconomic models; this

yields an extended macromodel of the business cycle, as well as tax and monetary policy linkages with the shadow economy. As a result, it becomes clear that these effects should be taken into account for tax and regulatory policies. The presence of a shadow economy tends to overstate the inflationary effects of a fiscal or monetary stimulus, and tends to understate the respective effects on unemployment. When the growth of the shadow economy and the 'official' economy are positively related (which is likely to be the case when entry costs into the shadow economy are low due to a low probability of enforcement), an expansionary fiscal policy has a positive stimulus for both the formal and informal economies. It has also been found that the US productivity slowdown over the period 1970–89 was vastly overstated, as the under-reporting of income, due to the more rapid growth of the US shadow economy during this period, was disregarded.

The underground economy is beneficiary insofar as it responds to the economic environment's demand for urban services and small-scale manufacturing. The casual sector provides the economy with dynamic and entrepreneurial spirit and can strengthen competition, increase efficiency, and put effective limits on government activities. The casual sector contributes to the creation of markets, increases financial resources, and transforms the legal, social, and economic institutions necessary for accumulation. Moreover, a substantial part (up to 70 percent) of the earnings gained in the shadow economy is quickly spent in the official sector and thus boosts the official economy. These expenditures tend to raise consumer expenditures as well as (mostly indirect) tax revenues.

#### 5. *Policy Consequences*

The growth of the underground economy over the few last decades and its effect on the official economy, both in general perception and scholarly research, has prevalently been evaluated as a negative development,

which should be counteracted. In particular, politicians and public officials have pointed out that the state's capacity to provide the desired public services is undermined because tax revenue is lost. But not all commentators share this view. Some see it as a welcome and effective limit on the tendency of governments to continually raise the fiscal burden, and to impose more and more bureaucratic restrictions on the economy and society. More generally, the rise of the underground economy is interpreted to indicate that the relationship between the state and the citizens is fragile and needs improvement. It has also been argued that many developing and transition economies would break down or function at a much lower level of production and welfare if the underground economy did not exist.

The fight against the underground economy is a recurrent theme in many countries. The dominant method is to increase deterrence. The probability of being caught is raised by more regular and intensive controls, often by the police. Punishment is raised by imposing higher fines and, in severe cases, prison sentences. Both consumers and suppliers of goods and services produced in the underground sector are targeted.

The success of such deterrence policies is rather doubtful. In the case of the underground sector related to drugs, prostitution, and alcohol prohibition, the effect has turned out to be at best weak, if not counterproductive. Many persons active in the underground economy move more deeply into illegality in order to make detection more difficult. As a result, the underground activities become more criminalized, and more difficult to observe and to influence. Well-organized and ruthless, organized crime (often called the Mafia) becomes more dominant.

A deterrence policy need not always be a failure, but the successes tend to be short run. Provided the demand for underground goods and services remains intact, the profit opportunities in the underground economy become so large that supply reappears and the underground economy recuperates. A less oppressive policy is to lure people into the official economy by legalizing parts of the underground economy, and by facilitating the move into the official economy (e.g., by granting an amnesty). Such measures have proved to be only moderately successful.

A positive approach to raise the motivation to stay in the official economy by improving the efficiency of public services, reducing the tax and social security burden imposed on labor, and/or by raising civic virtue, has been used only rarely. Many policy makers doubt whether such measures work at all. In any case, they are effective only in the longer run. One possibility is to adjust public supply more closely to what the citizens desire, and to lower cost for a given quantity and quality of public supply. This can be attempted by streamlining public sector activities (e.g., by New

Public Management). A more fundamental way is to improve the political process by opening the political arena to contending interests, and by strengthening the democratic participation rights of the citizens.

*See also:* Immigrants: Economic Performance; Work, History of; Work, Sociology of

### *Bibliography*

- Andreoni J, Erard B, Feinstein J 1998 Tax compliance. *Journal of Economic Literature* **36**: 818–60
- Cowell F A 1990 *Cheating the Government. The Economics of Evasion*. MIT Press, Cambridge, MA
- De Soto H 1989 *The Other Path: The Invisible Revolution in the Third World*. Harper and Row, New York
- Feige E L (ed.) 1989 *The Underground Economies. Tax Evasion and Information Distortion*. Cambridge University Press, Cambridge, UK
- Frey B S, Werner W, Pommerehne 1984 The hidden economy: state and prospect for measurement. *Review of Income and Wealth* **30**(March): 1–23
- Gaertner W, Wenig A (eds.) 1985 *The Economics of the Shadow Economy*. Springer-Verlag, Berlin
- Mars G 1994 *Cheats at Work. An Anthropology of Workplace Crime*. Dartmouth, Brookfield, CT
- Pozo S (ed.) 1996 *Exploring the Underground Economy: Studies of Illegal and Unreported Activity*. W. E. Upjohn Institute for Employment Research, Kalamazoo, MI
- Pyle D J 1990 *The Informal Economy*. Kluwer Academic Publishers, Utrecht
- Rogoff K 1998 Blessing or curse? Foreign and underground demand for the Euro notes. *Economic Policy: The European Forum*. **26**: 261–304
- Schneider F, Enste D 2000 Shadow economies: size, causes and consequences. *Journal of Economic Literature* **38**: 77–114
- Simon C P, Witte A D 1982 *Beating the System—The Underground Economy*. Auburn House Pub. Co., Boston
- Tanzi V (ed.) 1982 *The Underground Economy in the United States and Abroad*. Lexington Books, Lexington, MA
- Thomas J J 1992 *Informal Economic Activity*. Wheatsheaf, London
- United Nations 1993 *Inventory of National Practices in Estimating Hidden and Informal Economic Activities for National Accounts*. United Nations, Geneva
- Weck-Hannemann H, Pommerehne W W, Bruno S F 1984 *Schattenwirtschaft*. f. Vahlen, Munich

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### **Informal Reasoning, Psychology of**

Informal reasoning occurs when a given task, its components, and/or its outcomes vary in degree of certainty or acceptance. This is in contrast to reasoning found in tasks based upon logic and mathematics, which involve certainty and soundness. This article begins with discussion of terminology related to