

Does the shadow economy pose a challenge to the economic and public finance policy? Some preliminary findings

Zusammenfassung:

Die Größe und das Anwachsen der Schattenwirtschaft stellt für viele Länder ein wirtschaftspolitisches Problem dar, indem zum einen Steuerausfälle befürchtet werden und zum anderen der Verlust von Arbeitsplätzen in der offiziellen Wirtschaft behauptet wird. In dieser Arbeit wird nicht nur die Größe der Schattenwirtschaft und deren Anwachsen gezeigt, sondern es wird diesen beiden Behauptungen nachgegangen und anhand erster empirischer Ergebnisse überprüft, inwieweit diese stimmen. Zusätzlich werden Vorschläge zur Verringerung der Schattenwirtschaft gemacht, die hauptsächlich darauf abzielen, das Volumen an Schwarzarbeit in die offizielle Wirtschaft zu überführen.

Abstract:

The size and development of the shadow economy of 21 OECD countries is presented and discussed. Then the hypothesis are put forward that a rising shadow economy leads (1) to tax revenue losses and (2) to losses of jobs in the official economy. Whereas the first hypotheses could be partially confirmed, the second one was rejected. Finally some policy recommendations are given how to legalize the shadow economy so that the “black” value added can be transformed into “official” value added.

JEL class: O17, O5, D78, H2, H26.

1. Introduction

The intensive discussion about the development of the shadow economy and illicit employment that has been taking place over the last ten years has been far from conclusive. On the one hand, it has been argued that illicit employment is partially responsible for such problems as increasing unemployment in the official sector, growing public debt and national pension deficit. On the other hand, it has been claimed that illicit employment is the individual's escape from unjust and burdensome restraints imposed by the government. Thus, the migration into the shadow employment is seen as a reaction to excessive constraints created by public institutions and bureaucracy.¹ Furthermore, as argued by sociologists and economists, the shadow economy generates a considerable share of social welfare in many countries. For example, the shadow economy is estimated to account for well above 25% of Italy's official GDP.

This study briefly discusses the question of whether the shadow economy only reduces welfare or whether it might have some positive impact on economic development. Section 2 presents some definitions and describes ways to measure the shadow economy. Section 3 reveals some facts about the development and size of the shadow economy in OECD countries. Section 4 examines the relationship between the shadow and official economy. Section 5 concludes with policy recommendations.

2. Defining and measuring the shadow economy

The definition of the shadow economy plays an important role in assessing its size. By having a clear definition, one can avoid a number of ambiguities and controversies. In general, there are two types of underground economic activity: illicit employment and the production of goods and services consumed within

¹ See Schneider and Badekow (2006).

the household.²⁾ The following analysis focuses on the former type and excludes illegal activities such as drug production, crime and human trafficking. The latter type includes the production of goods and services, consumed within the household or childcare and is not part of this analysis either. Thus, it only focuses on economic activities that would normally be included in national accounts but which due to tax or regulatory burden remain underground. Although such legal activities contribute to the country's value creation, they are not captured in the national accounts because they are produced in illicit ways (e.g. by people without proper qualification or without a master craftsman's certificate). From the economic and social perspective, soft forms of illicit employment, such as moonlighting (e.g. construction work in private homes) and its contribution to value creation can be assessed rather positively.

Although the issue of the shadow economy has been investigated for a long time, the discussion regarding the "appropriate" methodology to assess its scope has not come to an end yet.³⁾ There are three methods of assessment:

- (1) Direct procedures that are carried out at the micro level and aim at determining the size of the shadow economy at one particular point of time. An example of this method are surveys.
- (2) Indirect procedures that make use of macroeconomic indicators proxying the development of the shadow economy over time.
- (3) Statistical models that use statistical tools to estimate the shadow economy as an "unobserved" variable.

The calculations presented in Section 3 were computed using the DYMIMIC-procedure and the "currency demand" method⁴⁾.

2) For a broad discussion of the definition issue see, for example, Thomas (1992); Schneider, Volkert and Caspar (2002), Schneider and Enste (2002, 2006) and Kazemier (2006).

3) See Bhattacharyya (1999); Dixon (1999); Feige (1989); Giles (1999); Schneider (1986, 2001, 2003, 2005, 2006); Schneider and Enste (2000a; 2000b, 2002, 2006); Tanzi (1999); Thomas (1992; 1999).

4) These methods are presented in detail in Schneider (1994, 2005) and Schneider and Enste (2000b, 2002, 2006). Furthermore, these studies discuss advantages and disadvantages of the DYMIMIC- and the money demand methods and other estimation methods for assessing the size of illicit employment.

The estimation of the shadow economy is based on a combination of the currency demand method and the DYMIMIC-procedure.

The latter assumes that the shadow economy remains an unobserved phenomenon which can be estimated using quantitatively measurable causes of illicit employment, e.g. tax burden and regulation intensity, and indicators reflecting illicit activities, e.g. currency demand and official work time. A disadvantage of the DYMIMIC procedure is the fact that it produces only relative estimates of the size and the development of the shadow economy. Thus, the currency demand method⁵⁾ is used to calibrate the relative estimates by drawing on two or three values of the absolute size of the shadow economy.

3. The development and size of the shadow economy in German-speaking and other OECD-countries

Table 1 and Figures 1 and 2 illustrate the estimated development of the shadow economy in three German-speaking countries between 1975 and 2007. The development for **Germany** indicates that after a continuous growth of the shadow economy, as a share of the official sector, its size has been decreasing since 2004. Whereas in 2003 the shadow economy in Germany was estimated at 370.0 billion Euro, in 2004 it was only 356.1 billion Euro and, according to preliminary assessments, decreased to 346.2 billion Euro in 2005. It was forecasted that in 2006 the volume of the shadow economy in Germany was to further decrease by 0.7 billion Euro. However in 2007 the shadow economy will increase again because of the rise of the value added tax rate from 16 to 19%. Since the official economy continues to grow, the relation between the underground and the official sector is more balanced. While in 2003 the ratio of the shadow economy to the officially measured

⁵⁾ This indirect approach is based on the assumption that cash is used to make transactions within the shadow economy. By using this method one estimates the amount of money that would be necessary to generate the official GDP. This amount is then compared with the actual money demand and the difference is treated as an indicator for the development of the shadow economy. Based on this the value of value creation in the shadow economy is calculated.

GDP was said to be 17.1%, in 2006 a drop to 14.9% was forecasted, which lies below the level recorded in 1999.

Table 1: The shadow economy in Germany, Austria and Switzerland from 1975 to 2007 – estimated by currency demand and DYMIMIC-procedures¹⁾

Year	The size of the shadow economy (in % of “official” GDP)					
	Germany		Austria		Switzerland	
	in %	bn €	in %	bn €	in %	bn SFr.
1975	5.75	29.6	2.04	0.9	3.20	12
1980	10.80	80.2	2.69	2.0	4.90	14
1985	11.20	102.3	3.92	3.9	4.60	17
1990	12.20	147.9	5.47	7.2	6.20	22
1995	13.90	241.1 ²⁾	7.32	12.4	6.89	25
1996	14.50	257.6 ²⁾	8.32	14.6	7.51	27
1997	15.00	274.7 ²⁾	8.93	16.0	8.04	29
1998	14.80	280.7 ²⁾	9.09	16.9	7.98	30
1999	15.51	301.8 ²⁾	9.56	18.2	8.34	32
2000	16.03	322.3 ²⁾	10.07	19.8	8.87	35
2001	16.02	329.8 ²⁾	10.52	21.1	9.28	37.5
2002	16.59	350.4 ²⁾	10.69	21.8	9.48	38.7
2003	17.10	370.0 ²⁾	10.86	22.5	9.52	39.4
2004 ³⁾	16.12	356.1 ²⁾	11.00	23.0	9.43	39.5
2005 ³⁾	15.41	346.2 ²⁾	10.27	22.0	9.05	38.7
2006 ³⁾	14.86	345.5 ²⁾	9.70	21.2	8.48	37.0
2007 ³⁾	14.64	349.0 ²⁾	9.37	21.0	8.23	36.8

1) Comments: the size of the shadow economy is only conditionally compareable, because the money demand estimation functions (DYMIMIC-estimation functions) were assessed in different ways and did not include the same number of explanatory variables.

2) From 1995 on values for East and West Germany are given.

3) Estimated.

Source: Own calculations (2007).

Figure 1: The size of the shadow economy (in % of "official" GDP) in Germany, Austria and Switzerland over the period 1975-2007; calculated with the DYMIMIC and currency demand approach

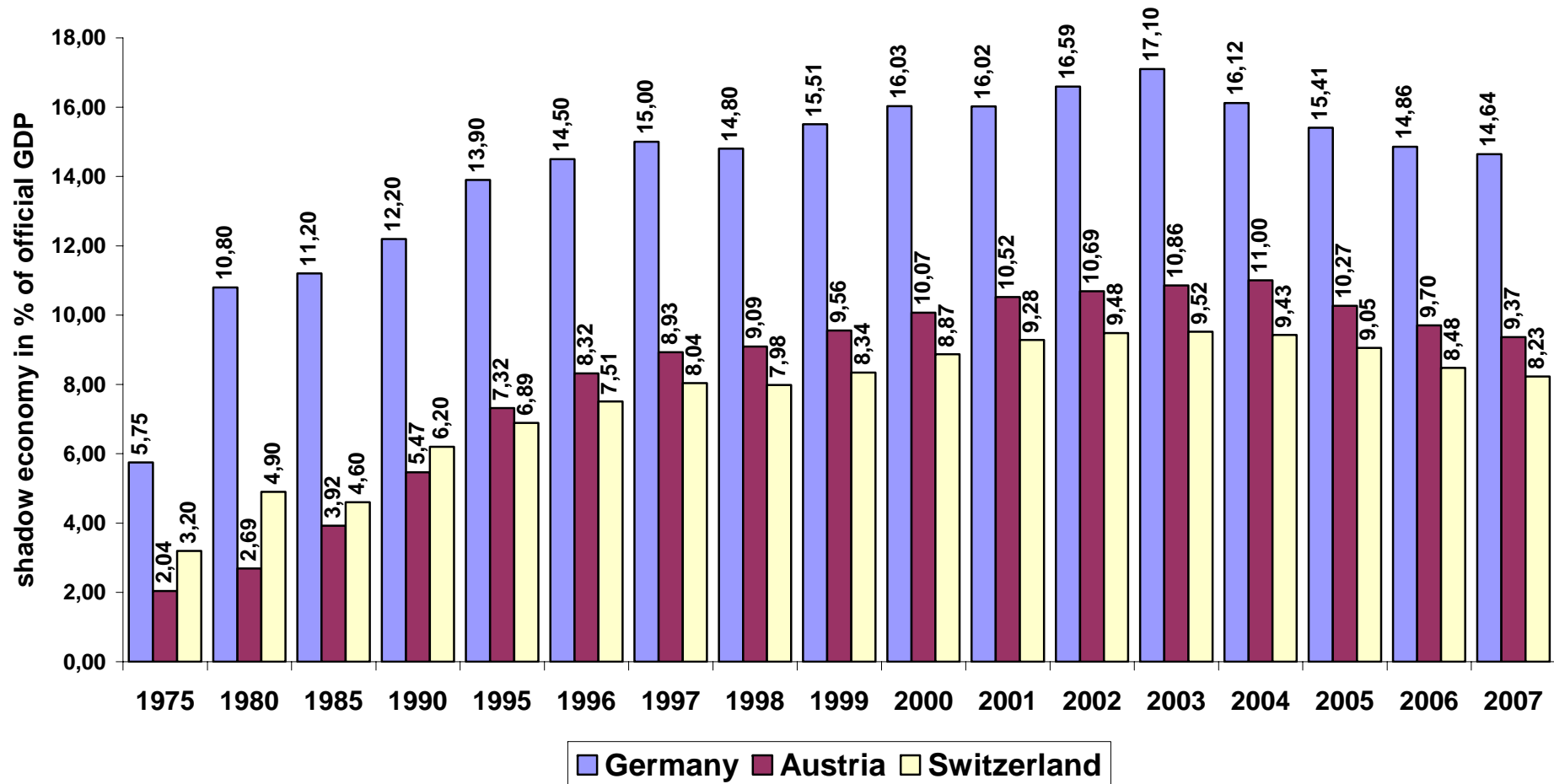
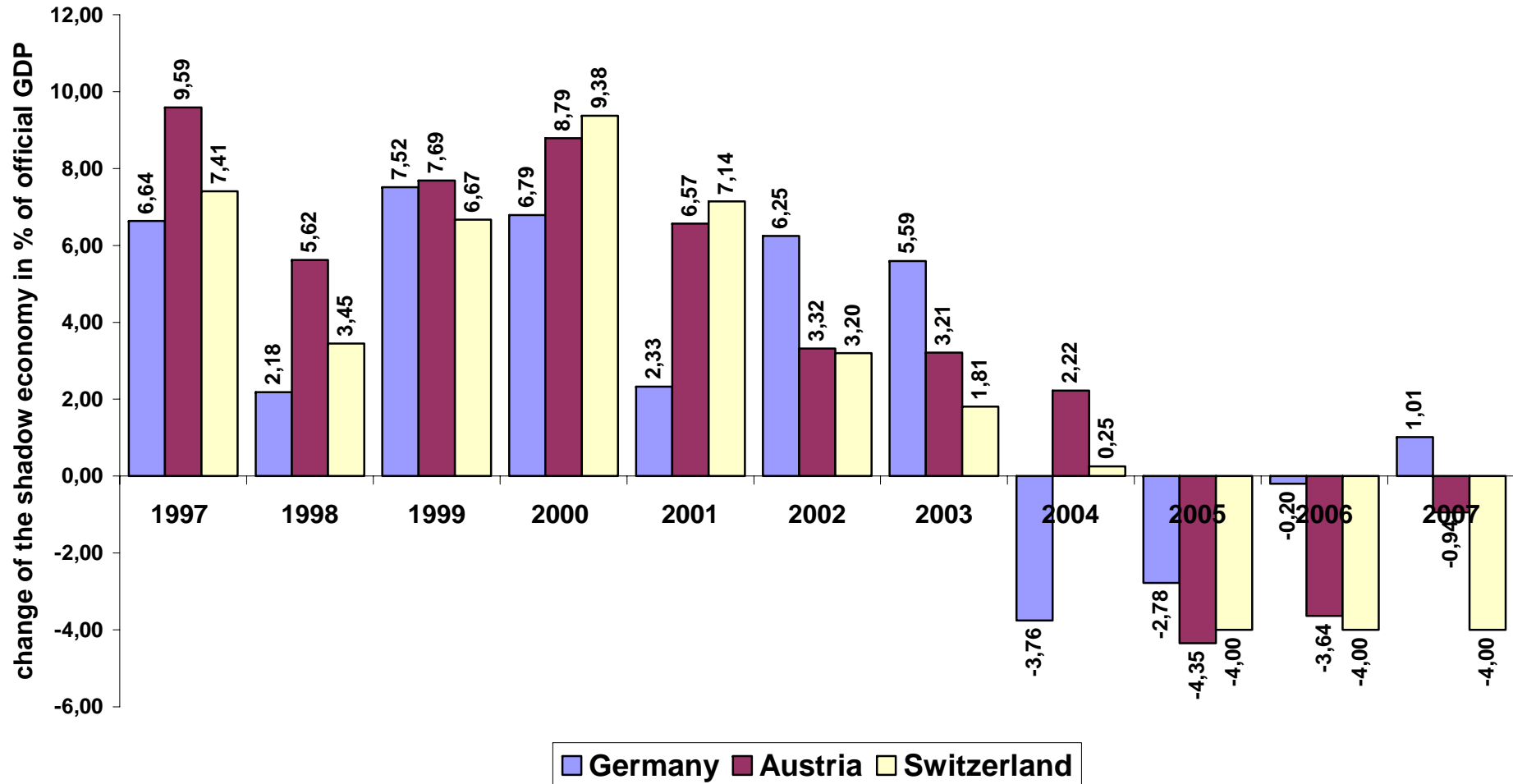


Figure 2: Yearly percentage change (+=increase, -=decrease) of the shadow economy in Germany, Austria and Switzerland over 1997-2007



An important reason for the change in the development of the shadow economy was the introduction of the expanded “Mini-Job” provision coming into force as of 1 April 2003. This legislation led to a reduction of illicit employment in 2004 and 2005 by 9 billion Euro. Further increase in the number of “Mini-Jobs” in 2006 is, however, not expected.

It is difficult to estimate to what extent the new measures for better coordination and more efficient actions against the shadow economy with the stricter legislation on combating the shadow economy introduced in August 2004 contribute to a successful reduction of illicit employment. According to the performed simulations, the new legislation reduced the shadow economy by 1.0 bn Euro in 2005. Overall, however, it remains ambiguous whether stricter legislation is an effective tool to reduce illicit employment. There are two reasons for that. First, the control effort necessary to eliminate such activities is very high. Second, in many cases citizens are not aware of law infringement. This is particularly true in the case of household goods and services production.

Some of the measures introduced by the government influence the shadow economy in 2006. However, as some of them counterbalance others, no significant changes in the development of the shadow economy can be expected. The simulations gave the following results (see Table 2):

- (1) The abolition of subsidies for private house builders that came into force as of 1 January 2006 lead to a growth of the shadow economy in 2006 by 0.2 - 0.35 bn Euro, because some households will attempt to replace state subsidies through seeking for other “income sources”. However, as this provision applies only to new claims, and not to subsidies already granted, the abolition of the subsidies for private house builders will have a more pronounced effect in the future. The more so, as many households applied for subsidies

in 2005. Thus, the impact of this action will amount to 0.5 – 0.8 bn Euro in 2006.

- (2) The new regulation on the tax deductibility of building maintenance and modernization as well as of child and home care cost as of 1 January 2006 is expected to be intensively taken advantage of and is to reduce the size of the shadow economy by 0.75 bn – 1.25 bn Euro, ceteris paribus.⁶⁾ The government's investment programme for 2007 expects that these measures will be intensively used, which should further reduce illicit employment by between 2.5 bn to 3.8 bn Euro.
- (3) The since 1.7.2006 increased social insurance rate (from 25 to 30%) of the commercial minijobs will lead to an increase of the shadow economy. First and preliminary calculations predict an increase in the volume of the shadow economy by between 400 and 700 Million Euro.

Table 2: Impact of the planned economic measures of the Grand Coalition on the shadow economy in 2006 and 2007 (as of 20.12.2006)

Measure	Increase/decrease of the shadow economy
1) Increase of the <u>VAT</u> from 16 to 19% (since 1.1.2007)	2007: + 3000 to + 5000 million €
2) <u>Increase of insurance fees</u> for commercial "Mini-Jobs" from 25 to 30 % (since 1.7.2006)	2006: +400 to +700 million € 2007: + 2500 to + 3500 million €
3) "<u>Rich tax</u>" at 45% on private income above €250000/€ 500000 p.a. (since 1.1.2007)	2007: + 600 to + 900 million €
4) <u>Abolition of the subsidies for private house builders</u> (since 1.1.2006)	2006: + 200 to + 350 million € 2007: + 500 to + 800 million €
5) <u>Health insurance fees increase</u> by 0.5% since 1.1.2007	2007: + 600 to + 900 million €
6) <u>Decrease in non-wage labour cost</u> (unemployment insurance	2007: - 1200 to – 2700 million €

⁶⁾ Based on the government's economic program data for 2006 and 2007.

from 6.5 to 4.2%) since 1.1. 2007	
7) <u>Tax deductibility</u> of building maintenance and modernization as well as of child and home care cost, retroactive since 1.1.2006	2006: - 750 to -1250 million € 2007: - 2500 to – 3800 million €
Net Effect for 2006	- 150 to - 250 million €
Net Effect for 2007	+ 3300 to + 4800 million €

Source: Own calculations.

Overall, the above listed measures lead to a decrease in the size of the shadow economy by 150 to 250 Million Euro. There are a number of other measures recently taken that are likely to affect the decision to migrate into the shadow economy. Examples include the combination of “Ich-AG” with the bridge-payment scheme, an increase of the threshold (from 350000 € to 500000 €) for the book-keeping obligation for start-ups or the increase of the actual turnover taxation threshold (from 125000 € to 250000 €) as of the 1 January 2006. Their impact can be estimated the earliest in 2007. One of the positive effects of the above measures will be a better coordination of anti-illicit employment activities between the government and the regional and local administration.

Apart from the above discussed measures such as the abolition of subsidies for private house builders and the new regulations on the tax deductibility of maintenance cost and child and home care, which are expected to reduce the size of the shadow economy by 2 to 3 bn Euro in 2007, there are other measures that will reinforce the economic activity in the underground sector. These include an increase of the value-added tax rate, an increase in the tax rate for individuals with high income, and an increase of the health insurance contributions by 0.5% as well as the decrease of the unemployment insurance contribution. The impact of these actions on

the development of the shadow economy in 2007 is estimated as follows (see table 2):

- (1) Due to the increase of the value-added tax in 2007, the shadow economy is estimated to grow by between 3.0 and 5.0 bn Euro.
- (2) The planned increase of the private income tax on individuals/families with income above 250000/500000 Euro p.a. to 45% will cause the shadow economy to grow by 0.6 to 0.9 bn Euro.
- (3) Due to the increase of social insurance contributions levied on “Mini-Jobs” in the commercial sector from 25% to 30% coming since 1.7.2006, illicit employment will increase by 2500 to 3500 million Euro, *ceteris paribus*.
- (4) Due to the increase of health insurance contributions by 0.5% as of 1 January 2007, the shadow economy will grow by 600 to 900 million Euro, *ceteris paribus*.
- (5) At the same time, the reduction of the unemployment insurance fees from 6.5 % to 4.2 % coming into force as of 1 January 2007, will reduce the size of the shadow economy by 1.2 to 2.7 bn Euro, where the increase of the increase social insurance contributions was already taken into account.

Whereas the decisions taken by the government in 2006 lead to a slight decrease of the shadow economy, it is expected that the shadow economy will grow in 2007 by between 3300 and 4800 bn Euro. In other words, the downward trend in the development of the shadow economy is likely to end.

Austria's shadow economy grew by 2.2% between 2003 (22.5 bn Euro) and 2004 (23.0 bn Euro). The major causes for this increase were the persistently high taxes and social security contributions, a result of the budget reform that took place in recent years. In contrast, in 2005 the shadow economy in Austria shrank for the first time to 22.0 bn Euro. This represents a drop of 4.35%, compared to the previous year! The cause for this decline was a tax decrease that came into force at the beginning of 2005. According to the estimations, the shadow economy in Austria

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continued to decline and reached volume of 21.2 bn Euro, i.e. a drop of 800 million Euro. This is attributed to the so-called “Dienstleistungsscheck” (service cheque) legislation that came into force on 1 January 2006. Consequently, the size of the shadow economy amounts to 9.7% of Austria’s GDP.

Between 2003 and 2004 the size of the shadow economy **in Switzerland** slightly increased from 39.5 bn SFR to 39,6 bn SFR, which represents a rise of 0,3% or even a stagnation when statistical inaccuracy is accounted for. Due to the planned stricter measures⁷ against illicit employment and a partial inclusion of household services in the official economy, the size of the shadow economy decreased in 2005 to 38.7 bn SFR or to 9% of the official GDP. This represents a drop by 900 Mio. SFR or 2.3%. Also in 2006 the Swiss shadow economy was estimated to decrease to the level of 37 bn SFR and amounted to 8.5% of the GDP.

In order to allow for an international comparison of the shadow economy with other OECD countries, Table 3 and Figure 3 (Figure 4 depicts the changes between 1997/98 and 2007) present the data for 21 OECD countries until 2007.

⁷ It is assumed that all measures were undertaken in 2005 and had an immediate effect!

Table 3: The size of the shadow economy in 21 OECD countries between 1989/90 and 2007
Estimated using the money demand and DYMIMIC methods (in % of official GDP)

OECD-countries	Average 1989/90	Average 1994/95	Average 1997/98	Average 1999/00	Average 2001/02	2003	2004	2005 ¹	2006 ¹	2007 ¹
1. Australia	10.1	13.5	14.0	14.3	14.1	13.7	13.2	12.6	11.4	10.7
2. Belgium	19.3	21.5	22.5	22.2	22.0	21.4	20.7	20.1	19.2	18.3
3. Canada	12.8	14.8	16.2	16.0	15.8	15.3	15.1	14.3	13.2	12.6
4. Denmark	10.8	17.8	18.3	18.0	17.9	17.4	17.1	16.5	15.4	14.8
5. Germany	11.8	13.5	14.9	16.0	16.3	17.1	16.1	15.4	14.9	14.6
6. Finland	13.4	18.2	18.9	18.1	18.0	17.6	17.2	16.6	15.3	14.5
7. France	9.0	14.5	14.9	15.2	15.0	14.7	14.3	13.8	12.4	11.8
8. Greece	22.6	28.6	29.0	28.7	28.5	28.2	28.1	27.6	26.2	25.1
9. Great Britain	9.6	12.5	13.0	12.7	12.5	12.2	12.3	12.0	11.1	10.6
10. Ireland	11.0	15.4	16.2	15.9	15.7	15.4	15.2	14.8	13.4	12.7
11. Italy	22.8	26.0	27.3	27.1	27.0	26.1	25.2	24.4	23.2	22.3
12. Japan	8.8	10.6	11.1	11.2	11.1	11.0	10.7	10.3	9.4	9.0
13. Netherlands	11.9	13.7	13.5	13.1	13.0	12.7	12.5	12.0	10.9	10.1
14. New Zealand	9.2	11.3	11.9	12.8	12.6	12.3	12.2	11.7	10.4	9.8
15. Norway	14.8	18.2	19.6	19.1	19.0	18.6	18.2	17.6	16.1	15.4
16. Austria	6.9	8.6	9.0	9.8	10.6	10.8	11.0	10.3	9.7	9.4
17. Portugal	15.9	22.1	23.1	22.7	22.5	22.2	21.7	21.2	20.1	19.2
18. Sweden	15.8	19.5	19.9	19.2	19.1	18.6	18.1	17.5	16.2	15.6
19. Switzerland	6.7	7.8	8.1	8.6	9.4	9.5	9.4	9.0	8.5	8.2
20. Spain	16.1	22.4	23.1	22.7	22.5	22.2	21.9	21.3	20.2	19.3
21. USA	6.7	8.8	8.9	8.7	8.7	8.5	8.4	8.2	7.5	7.2
Unweighted average for 21 OECD countries	12.7	16.2	16.8	16.8	16.7	16.5	16.1	15.6	14.5	13.9

➔ Source: Own calculations, 2007, (Prof. Dr. Friedrich Schneider, University of Linz, Altenbergerstraße 69, A-4040 Linz/Auhof). Preliminary results.

Figure 3: The size of the shadow economy (in % of GDP) in 21 OECD-countries using the DYMIMIC and currency demand approach for 2007

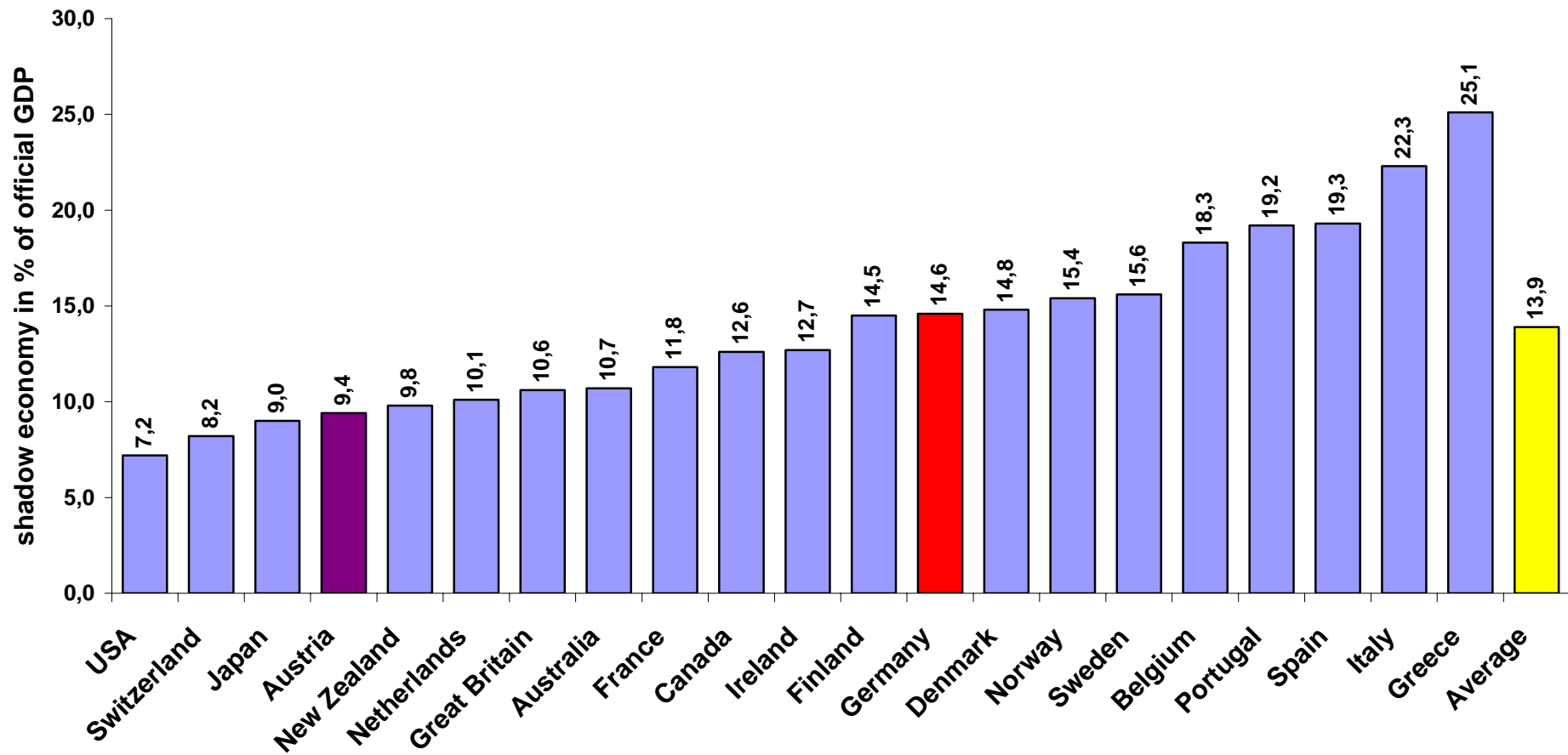


Figure 4: Increase (+) or decrease (-) of the shadow economy (in % of official GDP) of 21 OECD countries over 1997/98 to 2007

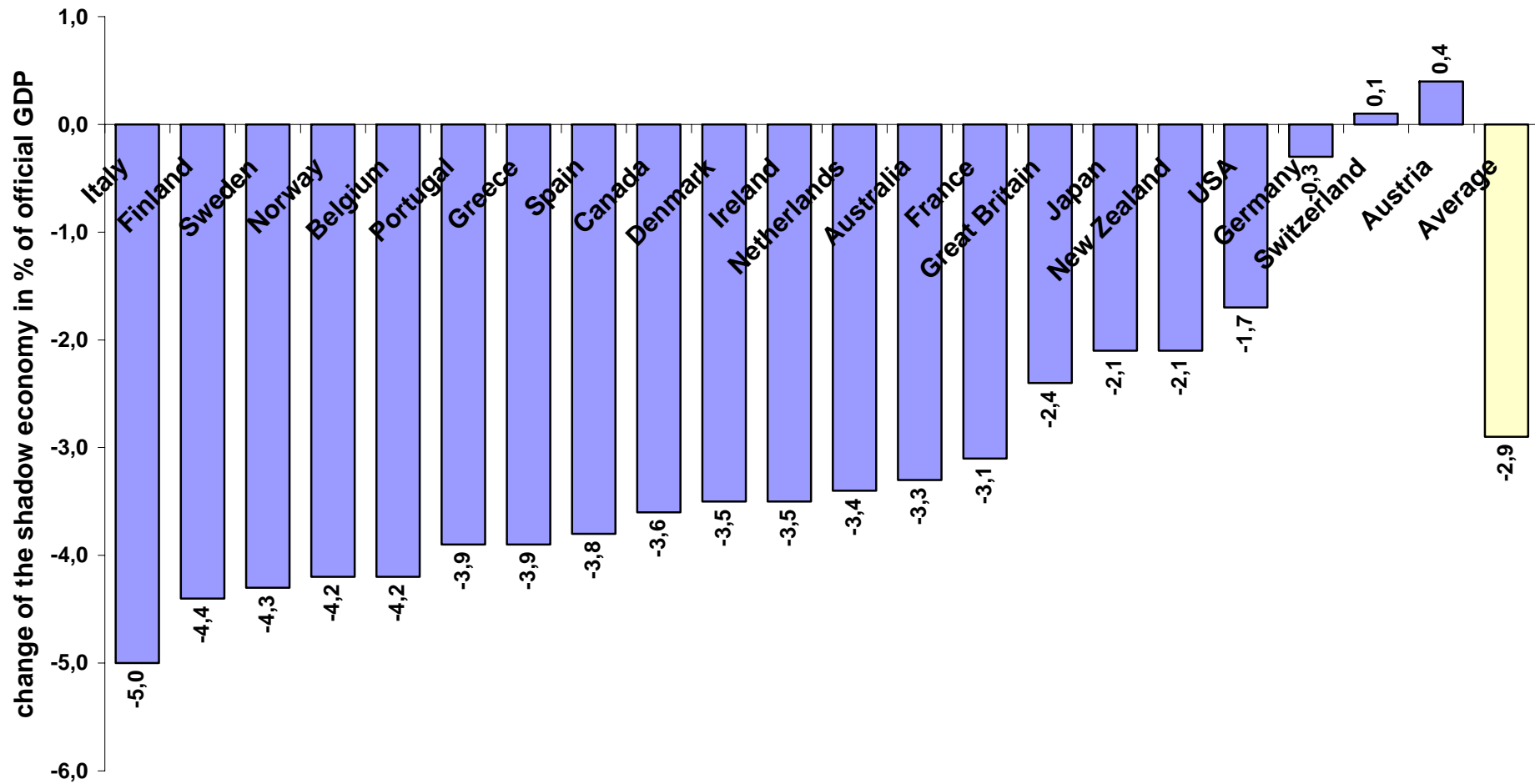


Table 3 and Figure 4 clearly reveal that since the end of 90's the size of the shadow economy in most OECD countries continued to decrease. The unweighted average for all countries in 1999/2000 was 16.8% and dropped to 13.9% in 2007.

Since 1997/98 - the year in which the shadow economy was the biggest in most OECD countries, it has continuously shrank. Only in Germany, Austria and Switzerland the growing trend lasted longer and was reversed only two or three years ago. The reduction of the share of the shadow economy in the GDP between 1997/98 and 2007 is most pronounced in Italy (-5.0%) and Sweden (-4.0).

Having a relatively large shadow economy, Germany lays in the middle of the ranking, whereas Austria and Switzerland are located in the lower bound. With 20% to 26%, South European countries exhibit the biggest shadow economies measured as a share of the official GDP. They are followed by Scandinavian countries whose shadow economies' shares in GDP range between 15 and 16%.

According to recent surveys, however, the readiness to undertake illicit employment as well as its acceptance are high in Germany. More than one half of the population would demand goods or services produced in the shadow economy if given such an opportunity. In other words, if asked "whether he/she needs a receipt/bill?", every second person would answer "no", saving at least the value-added tax. Around one third of the population is illicitly employed and, as a result, avoids paying high taxes and other contributions and escapes the rigidity of regulations.⁸⁾ The reasons for the differences in the size of the shadow economy between countries include, among others, that there are fewer regulations in the US compared to Germany, where everything what is not explicitly allowed is forbidden. The individual's freedom is limited in many areas by far-reaching state interventions. As a result, their necessity and eligibility are not recognised. Provocatively speaking: Italy's shadow economy is so large because much of what is forbidden is seen as legitimate. This is an equivalent to "the

8) See Forschungsstelle für empirische Sozialökonomik (2000); Lamnek/ Olbrich/ Schäfer (2000).

voting out the existing norms of the economy” (SVR, 1980/81, p.145). Without correcting the economic policy, Germany risks an escalation of a “South-European state of affairs”.

4. Interactions between the shadow and official economies

Despite the fact that no exact estimations are possible, the results of the empirical enquiry regarding the size and the development in Germany and other countries revealed that the issue of the shadow economy is of great importance. Thus, it is necessary to analyse the impact of the shadow economy on the official economy from the economic policy perspective. It must be noted that this regards not only the size of the shadow economy but also the feedback effect on the official economy. This is discussed in the context of allocation, distribution and stabilization effects and public finance⁹⁾.

4.1. Allocation effects

When analysing the shadow economy from an economic perspective it is necessary to ask how it influences the allocation of the “official” production. This question is closely linked to the problem of economic growth. The necessity to curb the shadow economy is founded on the assumption that it distorts competition. In contrast to the shadow economy, the official sector must carry the burden of taxes and social insurance contributions and meet the requirements of regulatory bodies. This considerably increases the cost of doing business, which do not have to be incurred by firms or individuals operating underground. Thus, by not complying with regulations and avoiding paying taxes and social insurance contributions, they have a comparative advantage. Consequently, whenever firms active in the official economy are not able to deliver goods and services at comparable prices, they are confronted with revenue losses. Thus, the resources

9) The analysis is based on Schneider, Volkert and Caspar (2002).

allocation is not efficient, as the supply of the shadow economy is increased at the cost of firms from the official economy.

However, this one-sided way of arguing can be confronted with a more global view. It is plausible to assume that the reduction of the demand for goods produced in the official economy is compensated by an equivalent increase of the demand for the same goods produced in the shadow economy. Thus, the net effect is a demand switch between both sectors. Providing that the shadow economy requires the same amount of input services and products as the official economy, there is no negative impact on economic activities.

Furthermore, it can be argued that the shadow economy represents a reference model of the free market economy. Whereas the price system in the official economy is significantly held back by the regulatory and tax burden, prices in the shadow economy remain flexible. Thus, they still can be used as scarcity indicators and enable efficient allocation of production factors. However, in order to achieve sufficient transparency, which is an additional condition for allocation efficiency, the shadow economy has to be big enough.

The demand shift from the official to the shadow economy has other effects. Lower prices in the shadow economy stretch out consumers' budgets who have more income at their disposal. The same holds for producers due to the income saved on taxes and other contributions. This additional income can be either saved or consumed. Additional savings increase the size of the economy's capital stock, which, in turn, reduces interest rate and increases investments. If the additional disposable income is spent on consumption, the demand on other markets increases. Schneider (1998) showed that 2/3 of the income generated in the Austrian shadow economy is immediately spent on goods produced in the of-

ficial sector. Thus, the shadow economy has a strong stabilizing effect for the demand for durable and non-durable goods.¹⁰⁾

The demand for goods produced in the shadow economy does not necessarily lead to a reduction of the demand for official economy goods. It is likely that this demand exists because the low prices that can be offered only by producer operating in the shadow economy. In this case, the shadow economy creates additional demand. The same applies to the supply side. Thus, the shadow economy activates both types of resources, i.e. labour and capital, which are not deployed in the official sector. As a result, an expansion of economic activity can be observed.

Lastly, taking into account the production efficiency of the shadow economy, it can be argued that it exhibits an inferior productivity level, compared to the official economy. This effect may be due to high labour-intensity and low capital-intensity of the former sector. However, production factors deployed in the shadow economy are compensated according to their marginal production value. This, in turn, increases incentives and can compensate for the losses from the inefficient factor allocation. Yet, it is undisputable that, due to the control and concealment cost, efficiency losses arise in the shadow economy. On the one hand, the state deploys resources to curb the shadow economy down and, on the other hand, individuals operating underground exert effort to hide their activities. Since these resources are not used in the production process, they are finally wasted.¹¹⁾

4.2. Distribution effects

A number of arguments are based on the conjecture that underground economic activities countervail redistribution measures of the state. These are rather firms than private households that have a possibility to evade tax. Similarly, individu-

¹⁰⁾ For the case of Great Britain see Bhattacharyya (1999).

¹¹⁾ See Kirchgässner and Pommerehne (1986).

als with higher income have an advantage, compared to low-income households. There are two reasons for that. First, business and households with high income have an information and know-how advantage regarding the tax system. Second, employees have fewer income sources and, thus, fewer possibilities to evade tax. Tax evasion has two effects on income distribution. First, the intended redistribution is circumvented because individuals are not taxed according to their performance capacity. Second, due to lower tax revenue, the state needs to reduce expenditures. If this reduction applies to social benefit payments, the shadow economy increases the unequal income distribution.

However, the shadow economy does not only have negative impacts on income distribution. Since low-income households do not have the possibility to escape state intervention through “traditional” tax evasion, they make use of illicit employment. This enables them to improve their standard of living. These considerations indicate a levelling character of the shadow economy’s impact on income distribution. Which effect strictly dominates can be established empirically. To the author’s knowledge, however, there has been no attempt to investigate it.

4.3. Stabilisation effects

Another issue worth considering is the impact of the shadow economy on business cycle development. Does the shadow economy destabilize the official economy by increasing the volatility of the production in the official sector? Or, due to its balancing effects, does it strengthen economic activity? Since the activities within the shadow economy are, at least partially, not represented in the statistics, economic indicators such as unemployment, inflation and growth rates do not depict the actual state of the economy. These inaccuracies influence decisions in economic policy, which are based on statistical data that do not reflect the real state of the economic development and, consequently, might result in

taking inadequate measures. For example, the employment data can be twisted by individuals who are illicitly employed and at the same time remain either registered as unemployed or are neither unemployed nor work in the official sectors. Whereas in the former case the number of actually employed persons is underestimated, in the latter case the number of employed persons is too low.

Furthermore, in the course of the political dispute it is often argued that the shadow economy causes an employment reduction or prevents creation of new jobs in the official economy. This argument could be countered by stating that the employment in the shadow economy can be transferred without any difficulty to the official economy providing that the cost structure will be adjusted. The phenomenon of moonlighting and the fact that there is a demand for services because they can be competitively produced only in the shadow economy cast doubt on the friction free transfer from one sector to the other.

The impact of the shadow economy on the official rate of growth is not unambiguous. Taking into account goods and services produced underground the actual total production is greater than the officially reported value of GDP. However, whether the shadow economy production increases the rate of growth of the official economy depends on whether the rate of growth of the shadow economy exceeds that of the official sector. Empirical evidence supports this for a number of OECD countries. Furthermore, it has to be taken into account that at least part of the shadow economy growth results from the demand switch between both sectors, which does not have any impact on the economic growth.

4.4. Impact on public revenues

Firms and individuals operating in the shadow economy elude the burden of tax and other deductions, which have to be paid by those who operate in the official economy. The decline in revenues of the national budget and social security system reduces their effectiveness or inhibits them from providing services. Alter-

natively, the maintenance of their services is only possible by getting into debt. Thus, the shadow economy reduces the revenues needed for social welfare. Although this argument is often quoted, particularly in the course of the political discussions, this issue has to be analysed more critically. Speaking of revenue decline is justified only when activities carried out in the shadow economy entirely replace those in the official sector. The theoretical analysis and empirical analysis clearly indicate that the shadow economy emerges as a result of the tax and contributions burden. The underground sector creates both demand and supply for goods and services, which at least to some extent would not be present in the official economy. Particularly in the case of Germany, empirical results show that 1/3 of the activities in the shadow economy substitute those in the official sector. The other 2/3 are of complementary nature. Thus, it is not justified to argue that the shadow economy creates only substitution effects with respect to the activities in the official sector. The actual reduction in tax and social contribution revenues due to the illicit employment might be lower than commonly assumed.

Another objection against the revenue decline thesis can be based on the fact that activities within the shadow economy increase the total production value of the economy. First, the unofficial sector demands input products and raw materials, which if bought within the official sector increase the revenue from the value-added tax. Secondly, the shadow economy generates income that, when spent, increases revenues in other sector of the economy and, consequently, increases tax revenues. Overall, the authors' calculations indicate that the losses in revenues from taxes and from social insurance contributions amount to around 20% of the GDP generated in the shadow economy.

4.5. Conclusion

The discussion on the impact of the shadow economy on the official sector showed that no quantitative assessments can be made regarding the effect of the illicit employment on allocation, distribution and stabilization and public finance. It is particularly difficult to find the net effect of all tendencies. Thus, it has to be noted that this study is only based on preliminary theoretical results. This is certainly a weakness of the above impact analysis. However, even newer approaches that describe the interactions between the shadow economy and the official sector using simulation models have not delivered more robust results yet.¹²⁾

5. Measures against and reducing the shadow economy

The rigidity of the European and particularly German labour market and the tax and social system contributions burden are certainly two important causes of the relatively large shadow economy in some European OECD countries, compared to the US. Thus, in order to reduce the scope and size of the illicit employment and the shadow economy, one has to tackle these issues with appropriate reforms. If the necessary measures are not taken, the incentive to move from the underground economy to the official sector will decrease. Furthermore, stricter criminal law will not solve the problem, because German and Austrian citizens do not perceive illicit employment as law infringement and, as a result, 2/3 of them would not report illicit economic activities to the authorities.¹³⁾

From an economic and social policy perspective, the question of what the state could do in order to reduce the size of the shadow economy is repeatedly raised; in other words, whether it is possible to transfer the millions of working hours

¹²⁾ See Schneider, Hofreither and Neck (1989) and Neck, Hofreither and Schneider (1989).

¹³⁾ See Kirchgässner (2003, 2006).

and the hundreds of jobs from the shadow into the official economy. It is doubtful that this can be achieved only through legislation measures, i.e. more severe penalties,¹⁴⁾ because 2/3 of the value added in the Austrian and German shadow economies is created by self-employed and employees. In other words, illicit employment is a common phenomenon across the entire country. Furthermore, German and Austrian citizens do not perceive illicit employment as law infringement. Only 2/3 of the society in both countries sees it as a minor violation of law.

In order to curb illicit employment down policy makers should concentrate on its causes. Some steps in the right direction have already been made in recent years. However, attempts to reduce non-wage labour cost were only moderately successful. These measures belong to the most important and efficient ones. At the same time, their enforcement demands social consensus, which requires also that other taxes, e.g. energy tax, will be increased. The increase of the value-added tax rate coming into force as of 1 January 2007 is contraproductive to the measures aiming at a reduction of the shadow economy. Thus, it is worth considering reimbursing VAT on labour intensive services (the so-called Luxembourg model) in order to strengthen the supply of those services by the official economy. Some European neighbour countries have retained an option to levy a reduced VAT rate on labour intensive services for a limited period of time. Such measures lead obviously to a decrease in tax revenues, but if they succeed in transferring some part of services produced into the official economy (25-33%), the tax losses will be partially compensated. This recommendation could be introduced in such sectors as old building reconstruction, the catering and tourism, i.e. sectors that are particularly harmed by high labour cost.

It is obvious that the shadow economy represents a challenge for both economic and national policy. As already mentioned, in order to succeed in transferring

¹⁴⁾ See Feld and Larsen (2006) and Feld and Frey (2002, 2007).

illicit employment into the official sector, it is necessary to concentrate on the causes. The most important ones include the growing burden of taxation and contributions related to labour in the official sector. Stricter penalties address only the results of the shadow economy are expensive and elaborate and do not necessarily eliminate the core problem. In the middle and long run, the size of the shadow economy can be efficiently reduced only through such measures as lowering the non-wage labour costs, introducing flat-rate tax and social security contributions for side jobs and the increase of the tax-free amount. Other measures include the reduction of regulatory burden and the decrease of the value-added tax rate on labour intensive services. Furthermore, in the short term, the government should stop granting construction subsidies for services.

It is much easier to move from the official sector into the shadow economy than to come back from it. In particular, because it is rather difficult to immediately find income alternatives. Thus, the above measures will not have an instant effect. Applying them, however, guarantees a success in stabilizing or even restraining the shadow economy in the long run. The main problem is, therefore, not the lack of measures but rather the lack of the will on the side of the policy makers to take necessary steps despite likely resistance.

To conclude, it is necessary to answer the question of whether the decreasing size of the shadow economy is a blessing or a curse for Germany and other OECD-countries. Assuming that $2/3$ of all activities in the shadow economy complement those in the official sector, i.e. those goods and services would not be produced in the official economy without input from the shadow economy, the development of the shadow economy can lead to more value added “creation”. Similarly, the decline of the shadow economy production will increase the social welfare only if a larger part of it is transferred into the official economy. If it is not the case, both the official and the unofficial production the overall (to-

tal) value added will decrease. It is therefore necessary to introduce such economic and fiscal measures that increase the incentive to move the production from the unofficial sector into the official economy. Only then will the decline of the shadow economy be a blessing for the entire economy.

Furthermore, it should be considered that declining social security and health insurance contributions, a result of the growing shadow economy, are most harmful for public institutions. Thus, it should be a part of the fiscal and economic policy agenda to create more jobs in the official sector, which will increase social security and health insurance contributions. Only in this case will the decline of the shadow economy be a blessing for public institutions as well.

6. References

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