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New Version

Tax Evasion, Shadow Economy and Corruption in Greece and Other OECD Countries: Some Empirical Facts

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- 6) Policy Measures to Reduce the Shadow Economy, Corruption and Tax Evasion**

1. Introduction

- (1) There are many political statements that tax evasion and the shadow economy as well as corruption are important and cause severe damage on the official economy.**
- (2) Hence, the goal of this lecture is *threefold*:**
 - (i) To present the size and development of tax evasion and of the shadow economy in Greece and in other OECD countries and to undertake an analysis of the causes.**

1. Introduction

(2) Hence, the goal of this paper is *threefold* (cont.):

(ii) For the first time an analysis of the problem of corruption in Greece is undertaken up to 2014, and the extent of its damage on the Greek official economy is shown.

(iii) Furthermore, policy measures to reduce tax evasion, the shadow economy and corruption are presented.

2. Theoretical Considerations and Estimation Procedure

2.1 Definitions

- (1) The *shadow economy* includes all legal production and provision of goods and services that are deliberately concealed from public authorities for the following four reasons:
- (i) to avoid payment of income, value added or other taxes;
 - (ii) to avoid payment of social security contributions;
 - (iii) to avoid having to meet certain legal standards such as minimum wages, maximum working hours, etc.; and
 - (iv) to avoid complying with certain administrative procedures.

2. Theoretical Considerations and Estimation Procedure

2.1 Definitions

The *underground (classical crime) activities* are:

(2) Underground (classical crime) activities are all illegal actions that fit the characteristics of classical crime activities like burglary, robbery, drug dealing, etc.

(3) Informal household economy consists of household enterprises that are not registered officially under various specific forms of national legislation.

(4) These two activities ((1) classical crime and (2) household production) are not included in the shadow economy activities. However, there are overlapping areas (e.g. for (1) prostitution and for (2) do-it-yourself activities).

2. Theoretical Considerations and Estimation Procedure

2.1 Definitions

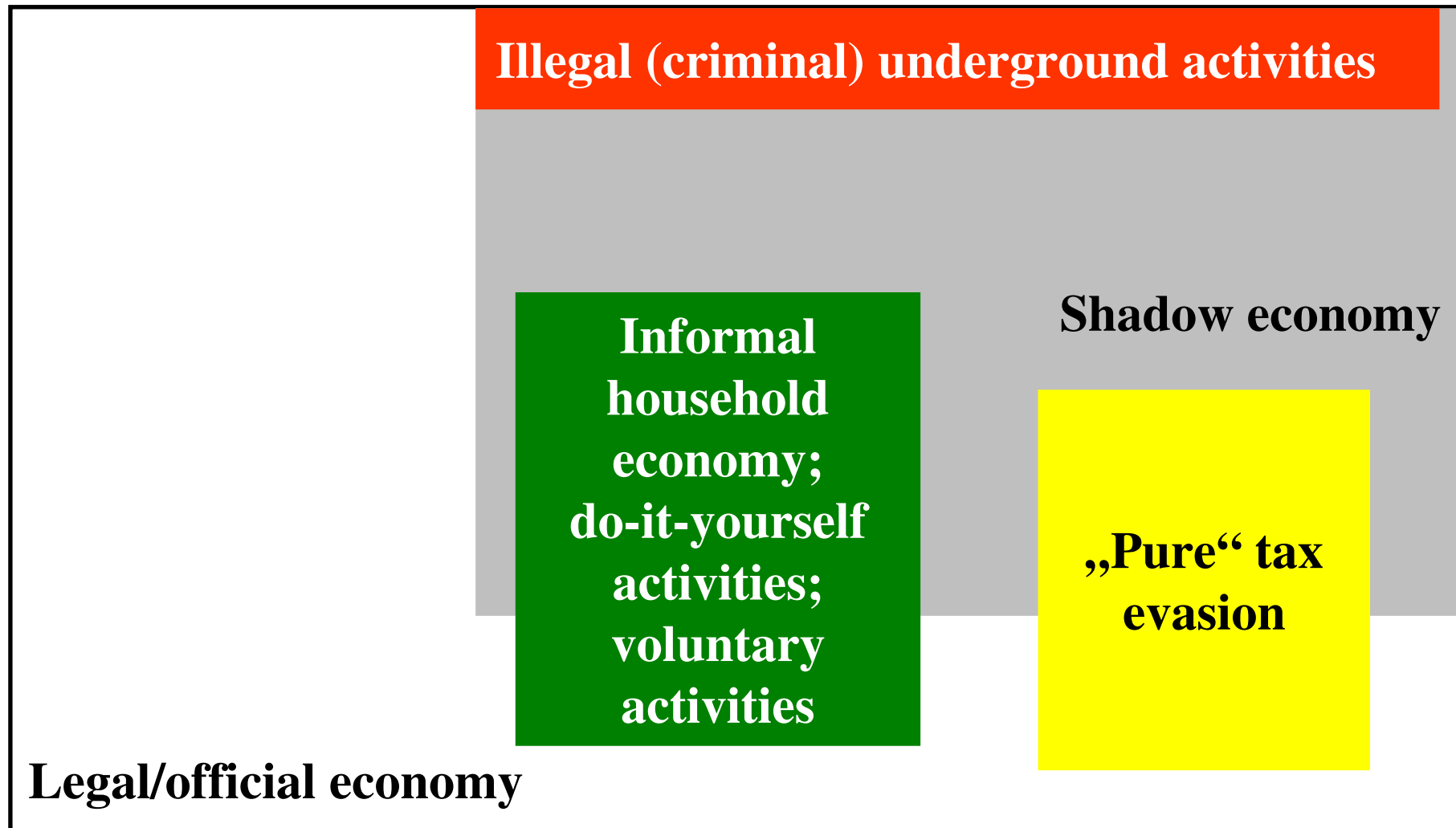
(5) *Tax evasion* is under- (or not) reporting capital and/or labor income, domestic or abroad.

(6) The extent of *corruption* is quite often measured/captured by the International Transparency Corruption Index since the year 2000 using the survey method.

2. Theoretical Considerations and Estimation Procedure

2.1 Definitions

Figure 2.1: Legal, shadow, illegal and informal economy as well as tax evasion



Source: Friedrich Schneider, University of Linz, 2012

2. Theoretical Considerations and Estimation Procedure

2.2 Theoretical considerations about the shadow economy and tax evasion

What are the main causes determining the size of the shadow economy and of tax evasion?

(i) Tax and social security contribution burdens

The higher, the higher the tax evasion and the shadow economy, ceteris paribus.

(ii) Intensity of regulations

The higher, the higher the tax evasion and the shadow economy, ceteris paribus.

(iii) Public Sector Services

The lower, the higher the tax evasion and the shadow economy, ceteris paribus.

2. Theoretical Considerations and Estimation Procedure

2.2 Theoretical considerations about the shadow economy and tax evasion

What are the main causes determining the size of the shadow economy and of tax evasion (cont.)?

(iv) Tax morale

The lower, the higher the tax evasion and the shadow economy, ceteris paribus.

(v) Quality of public institutions

In particular, corruption is associated with larger unofficial (shadow) activities, while a good rule of law by securing property rights and contract enforceability, increases the benefits of being formal, ceteris paribus.

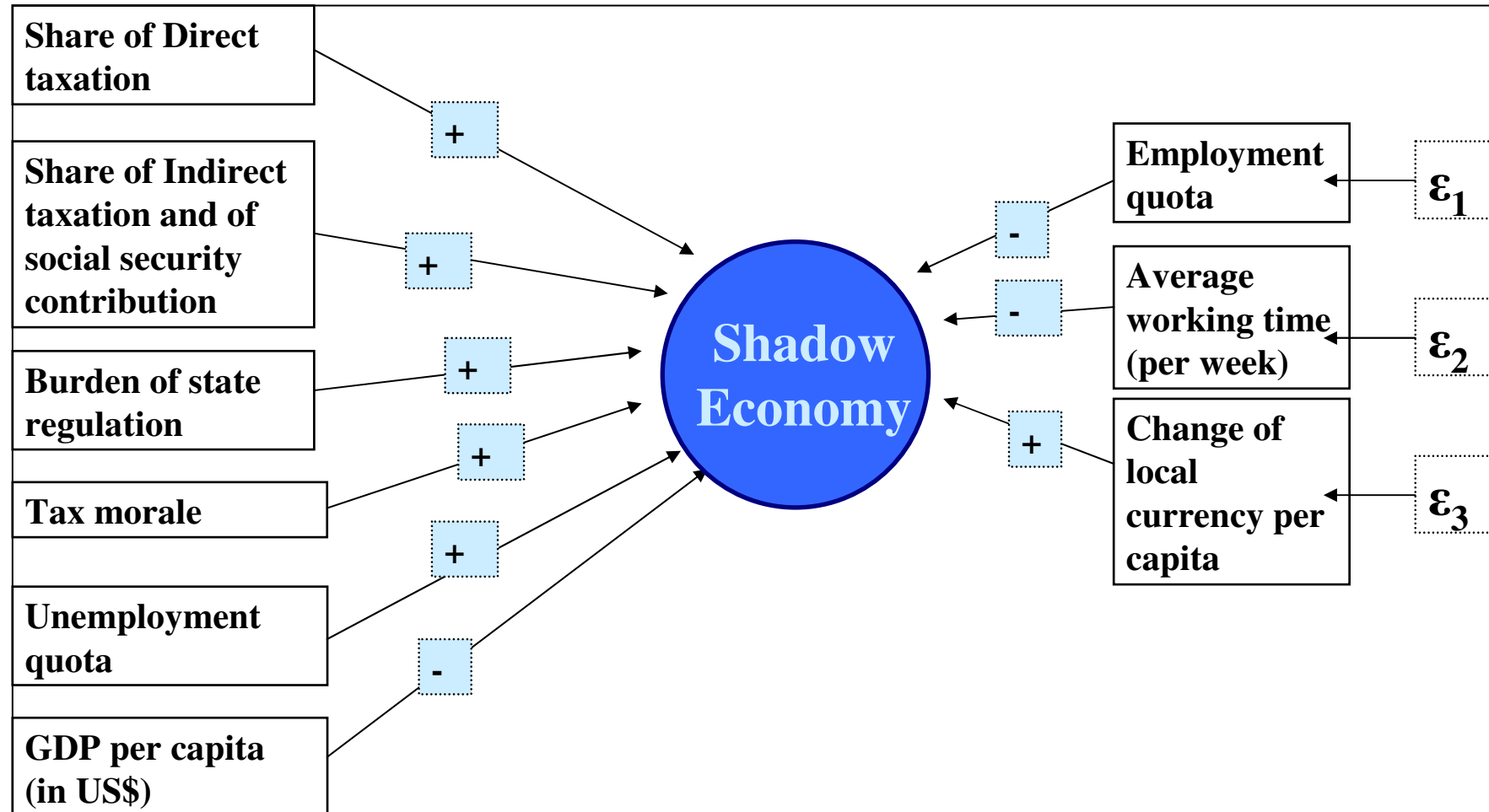
(vi) Federal (direct democratic) system

Decrease in tax evasion and the shadow economy, ceteris paribus.

2. Theoretical Considerations and Estimation Procedure

2.3 Estimation procedure of the shadow economy

Figure 2.2: MIMIC estimation procedure



Source: Schneider, Buehn and Montenegro (2010)

2. Theoretical Considerations and Estimation Procedure

2.3 Estimation procedure of tax evasion

Table 2.1: The kinds of shadow economy activities in Germany

Kinds of shadow economy activities	Size in % of official GDP	Proportion of the overall shadow economy
(1) Total shadow economy (estimated by the MIMIC and calibrated by the currency demand procedures)	15.0	100
(2) Material (used)	3.0–4.0	20–25
(3) Illegal activities (goods and services)	4.0–5.0	26–33
(4) Already in the official GDP included illegal activities	1.0–2.0	7–13
(5) Sum (2) to (4)	8.0–11.0	53–71
(6) Explicit shadow economic, but legal activities (position (1) minus position (5))	4.0–7.0	29–47
(7) Tax evasion (approx. 35% of the explicit shadow economy, driving forces: indirect taxation and self-employment)	1.4–2.5	10–16

Source: Buehn and Schneider (2013), p. 12.

3. Estimation and Size of the Shadow Economies in Greece and in Other OECD Countries – 3.1 Econometric results

Table 3.1: MIMIC model estimations (standardized coefficients)

Specification	1	2
<i>Causes</i>		
Personal income tax	0.40*** (4.80)	0.39*** (4.74)
Indirect taxes	0.21*** (2.67)	0.24*** (2.97)
Tax morale	-0.22*** (2.51)	-0.21*** (2.38)
Unemployment	0.55*** (5.56)	0.53*** (5.47)
Business freedom	-0.35*** (4.06)	-0.35*** (4.20)
Self-employment	0.33*** (3.18)	0.27*** (2.57)
Rule of Law	-0.08 (1.03)	-
GDP growth	-0.27*** (3.35)	-0.29*** (3.52)
Education	-0.31*** (3.51)	-0.26*** (2.83)
Corruption	-	0.14 (1.56)

3. Estimation and Size of the Shadow Economies in Greece and in Other OECD Countries – 3.1 Econometric results

Table 3.1: MIMIC model estimations (standardized coefficients) (cont.)

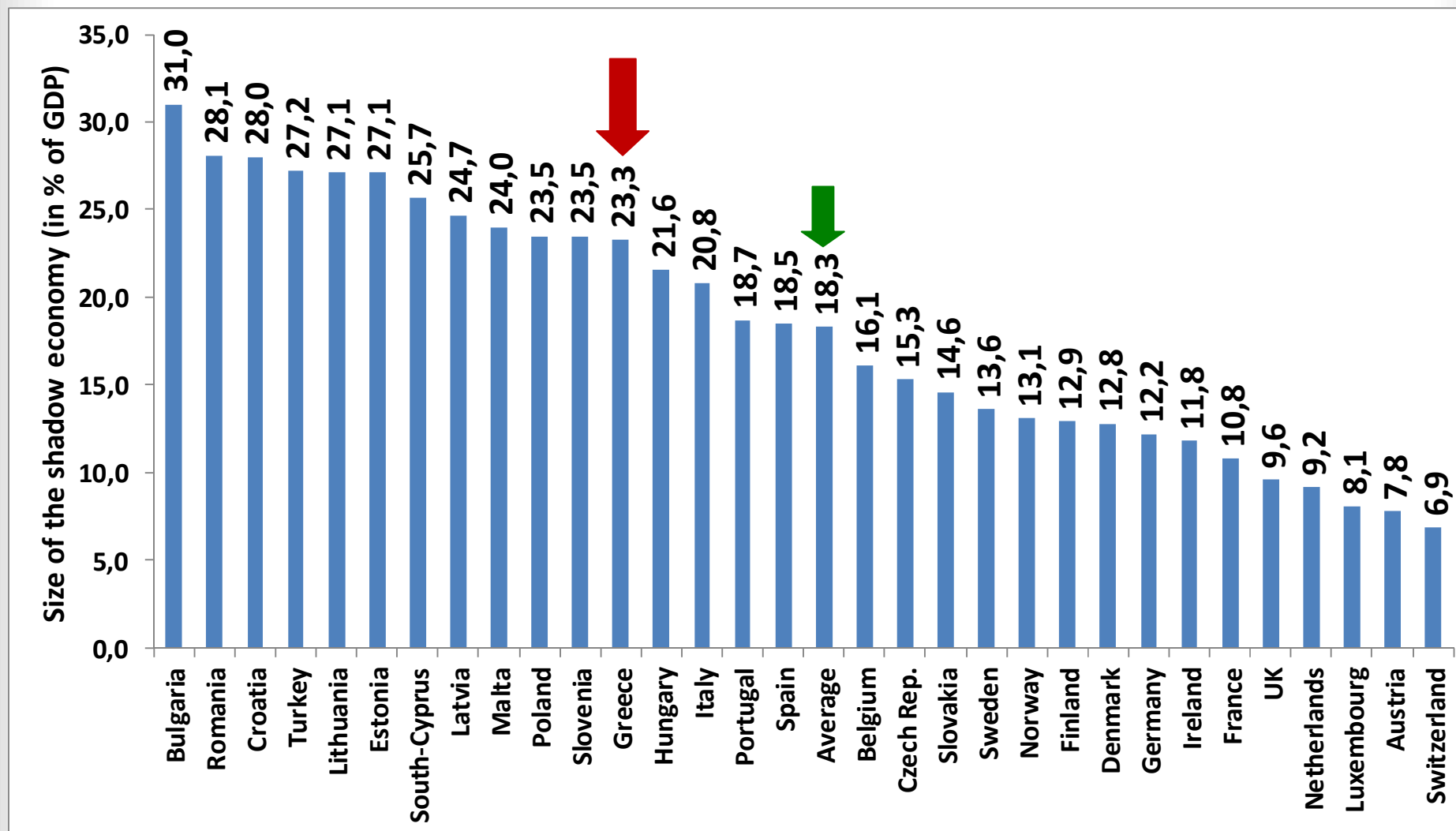
Specification	1	2
<i>Indicators</i>		
GDP pc	-0.51	-0.50
Currency in circulation	0.10* (1.69)	0.08 (1.26)
Labour force participation	-0.50*** (6.48)	-0.51*** (6.46)
Observations	151	151
Degrees Freedom	52	52
Chi-square	32.51	34.57
RMSEA	0.00	0.00

Note: The sample includes 39 OECD countries and the estimation period is 1998 to 2010. Absolute z-statistics are reported in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Source: Schneider and Buehn (2012), p. 17.

3. Estimation and Size of the Shadow Economies in Greece and in Other OECD Countries – 3.2 Results of the size of the shadow economy

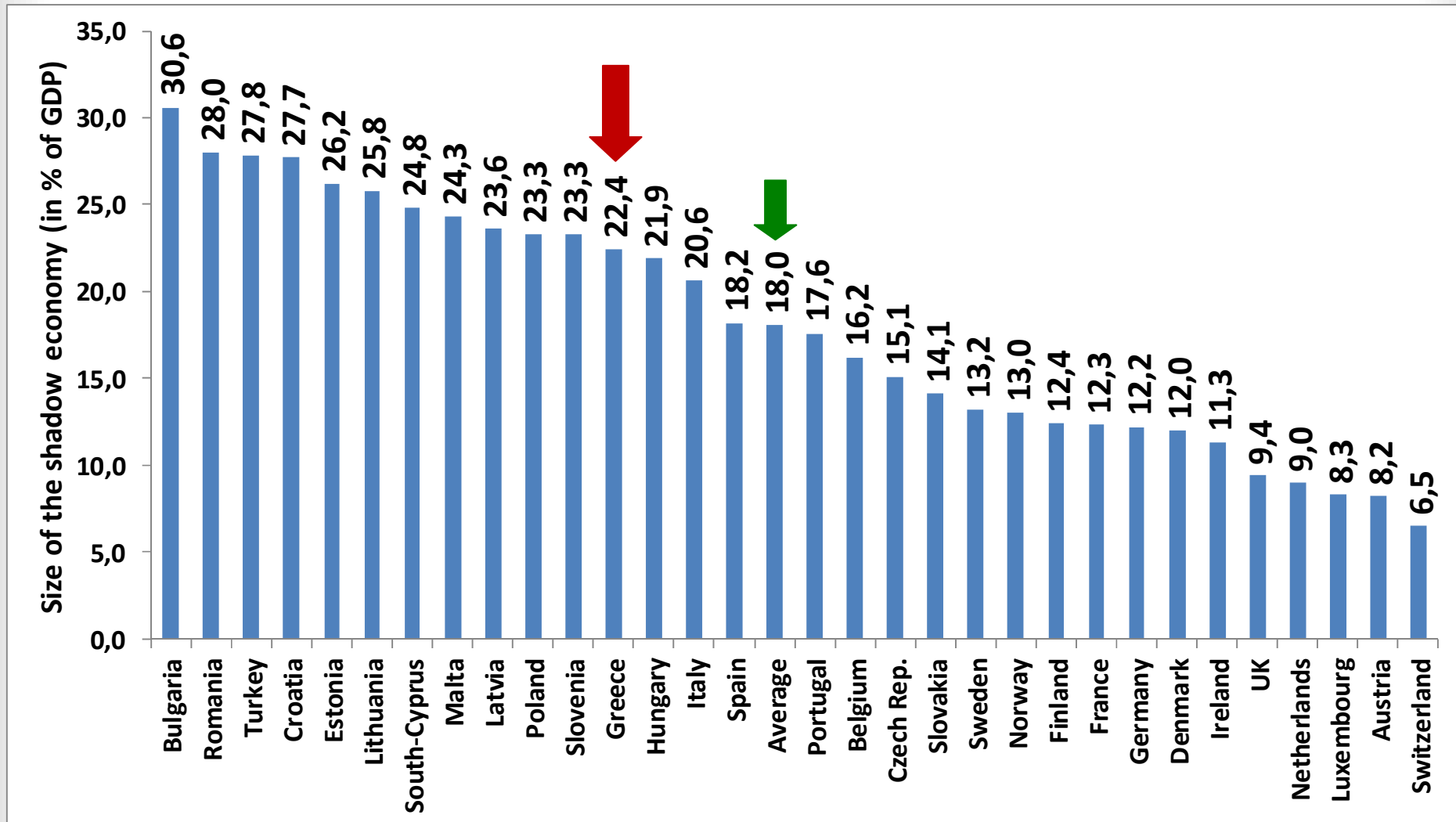
Figure 3.1: Size of the shadow economy of 31 European countries in 2014 (in % of GDP)



Source: own calculations, January 2014.

3. Estimation and Size of the Shadow Economies in Greece and in Other OECD Countries – 3.2 Results of the size of the shadow economy

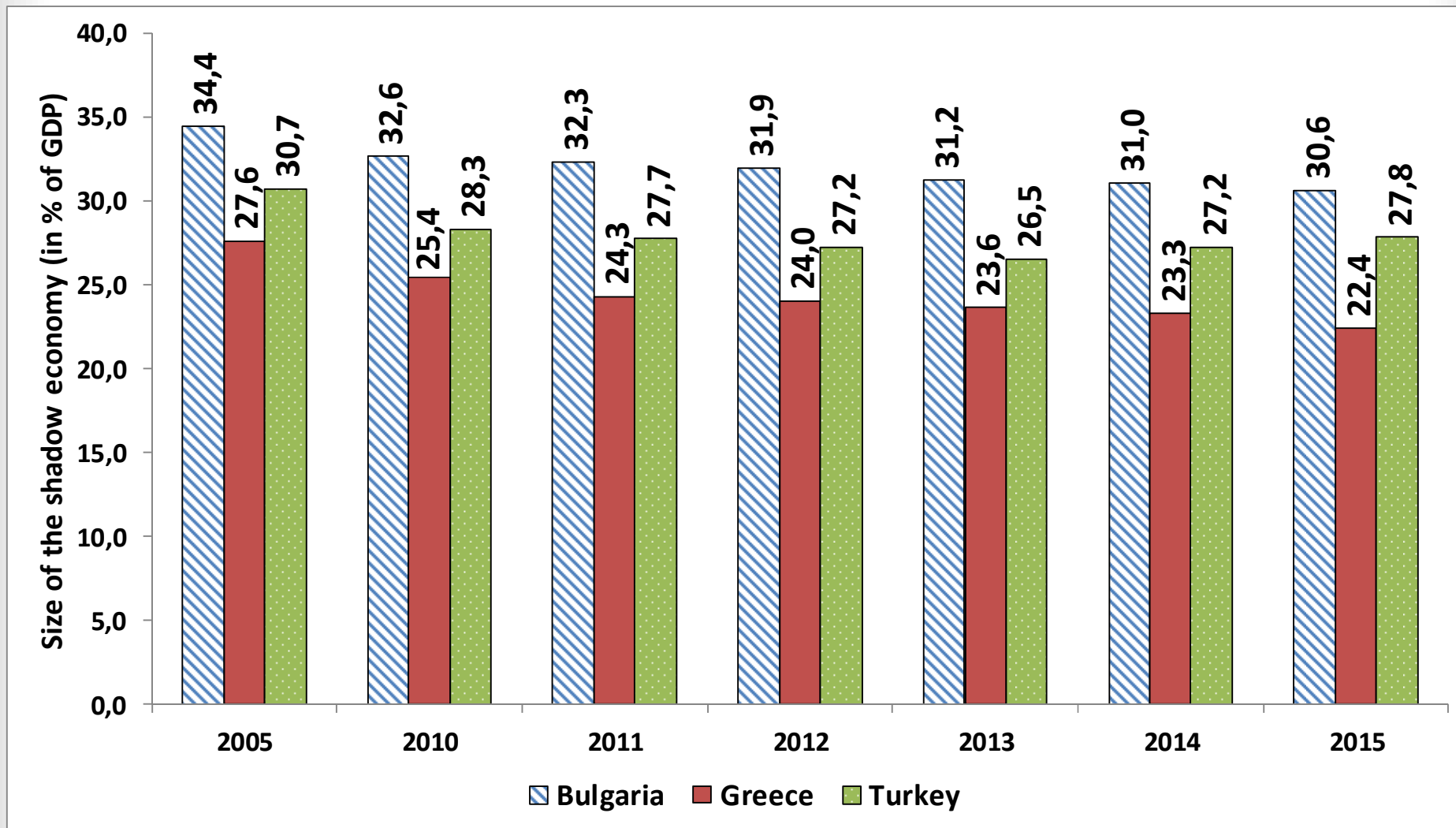
Figure 3.2: Size of the shadow economy of 31 European countries in 2015 (in % of GDP)



Source: own calculations, January 2015.

3. Estimation and Size of the Shadow Economies in Greece and in Other OECD Countries – 3.2 Results of the size of the shadow economy

Figure 3.3: Shadow economy of Bulgaria, Greece & Turkey from 2005-2015 (in % of GDP)



Source: own calculations, January 2015.

3. Estimation and Size of the Shadow Economies in Greece and in Other OECD Countries – 3.2 Results of the size of the shadow economy

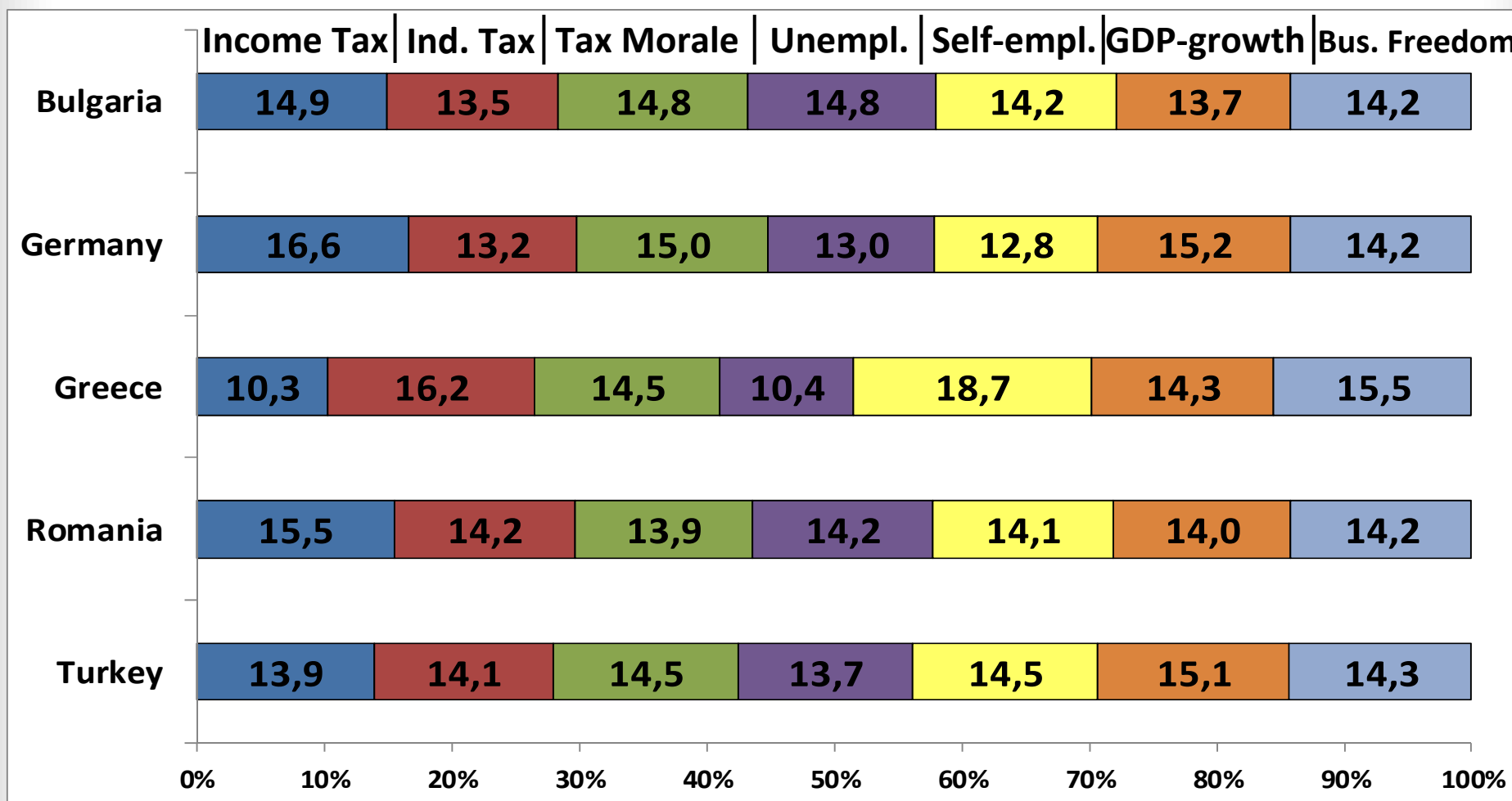
Table 3.2: Average standardized relative impact (in %) of the shadow economy determinants in 5 OECD countries from 1999 to 2010

Country/ Factor	Average size of the shadow economy	Personal income tax	Indirect taxes	Tax morale	Un- employ- ment	Self- employ- ment	GDP growth	Business freedom
Bulgaria	34,6	14,9	13,5	14,8	14,8	14,2	13,7	14,2
Germany	15,7	16,6	13,2	15,0	13,0	12,8	15,2	14,2
<i>Greece</i>	<i>27,0</i>	<i>10,3</i>	<i>16,2</i>	<i>14,5</i>	<i>10,4</i>	<i>18,7</i>	<i>14,3</i>	<i>15,5</i>
Romania	32,2	15,5	14,2	13,9	14,2	14,1	14,0	14,2
Turkey	30,6	13,9	14,1	14,5	13,7	14,5	15,1	14,3
<i>Average over 38 OECD countries</i>	<i>20,3</i>	<i>13,8</i>	<i>14,1</i>	<i>14,5</i>	<i>14,6</i>	<i>14,6</i>	<i>14,3</i>	<i>14,2</i>

Source: Schneider and Buehn (2012), p. 25.

3. Estimation and Size of the Shadow Economies in Greece and in Other OECD Countries – 3.2 Results of the size of the shadow economy

Figure 3.4: Average standardized relative impact (in %) of the shadow economy determinants in 4 OECD countries from 1999 to 2010



Source: Buehn and Schneider (2013), pp. 17-18, and own calculations.

4. The Amount of Tax Evasion in Greece and in Other OECD Countries

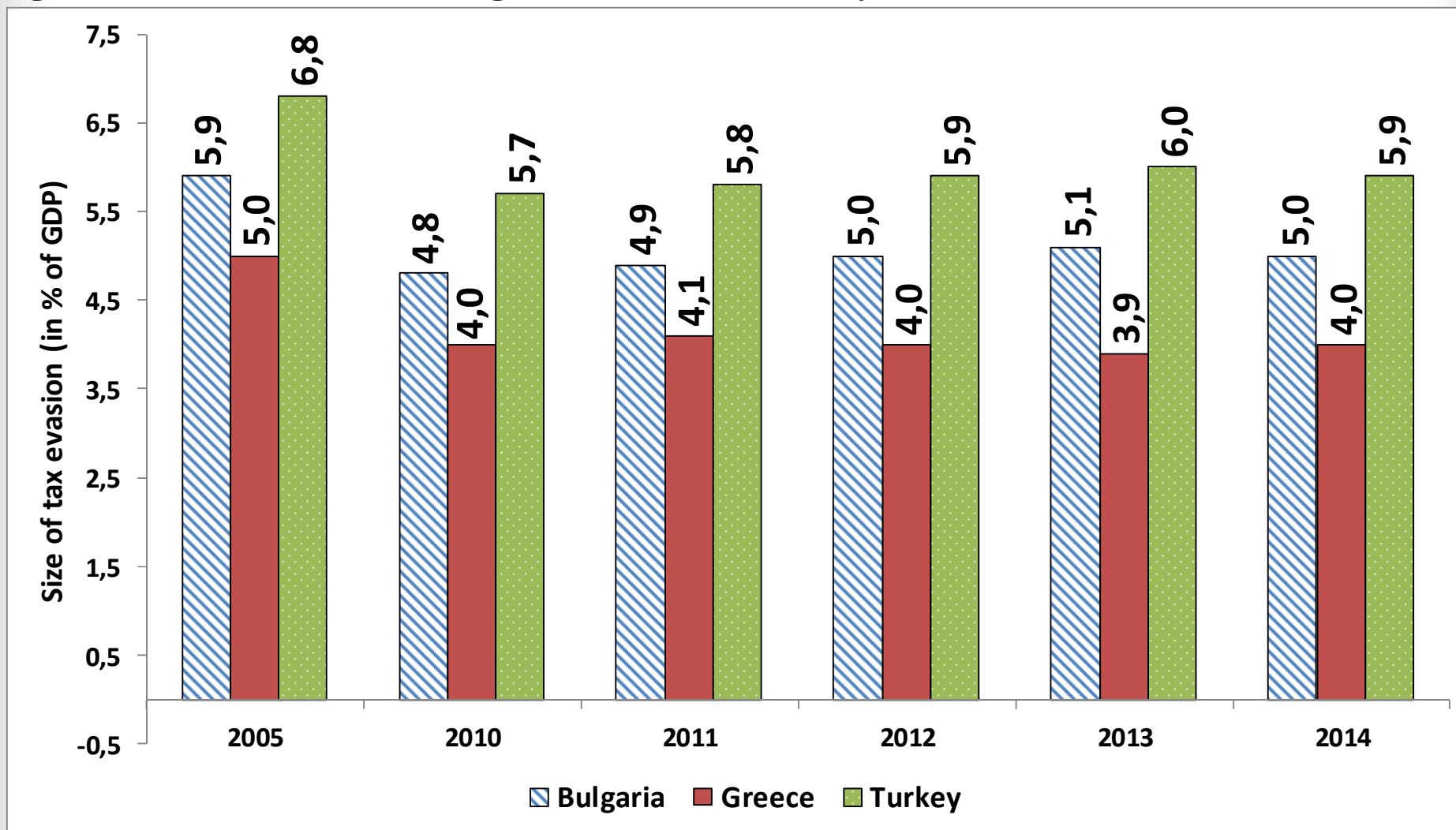
Table 4.1: Size and development of “pure” tax evasion (in % of GDP) in 5 OECD countries accounting for indirect taxation and self-employment as driving forces from 2000 to 2014

Countries/Year	2000	2005	2010	2011	2012	2013	2014	<i>Average</i>
Bulgaria	6.4	5.9	4.8	4.9	5.0	5.1	5.0	5.5
Germany	2.1	2.1	1.7	1.6	1.5	1.5	1.4	1.8
<i>Greece</i>	<i>5.3</i>	<i>5.0</i>	<i>4.0</i>	<i>4.1</i>	<i>4.0</i>	<i>3.9</i>	<i>4.0</i>	<i>4.6</i>
Romania	6.7	6.2	5.2	5.3	5.4	5.5	5.5	5.8
Turkey	7.3	6.8	5.7	5.8	5.9	6.0	5.9	6.5
<i>Average over five countries</i>	5.6	5.2	4.3	4.3	4.4	4.4	4.4	4.9

Source: Buehn and Schneider (2013), pp. 17-18, and own calculations.

4. The Amount of Tax Evasion in Greece and in Other OECD Countries

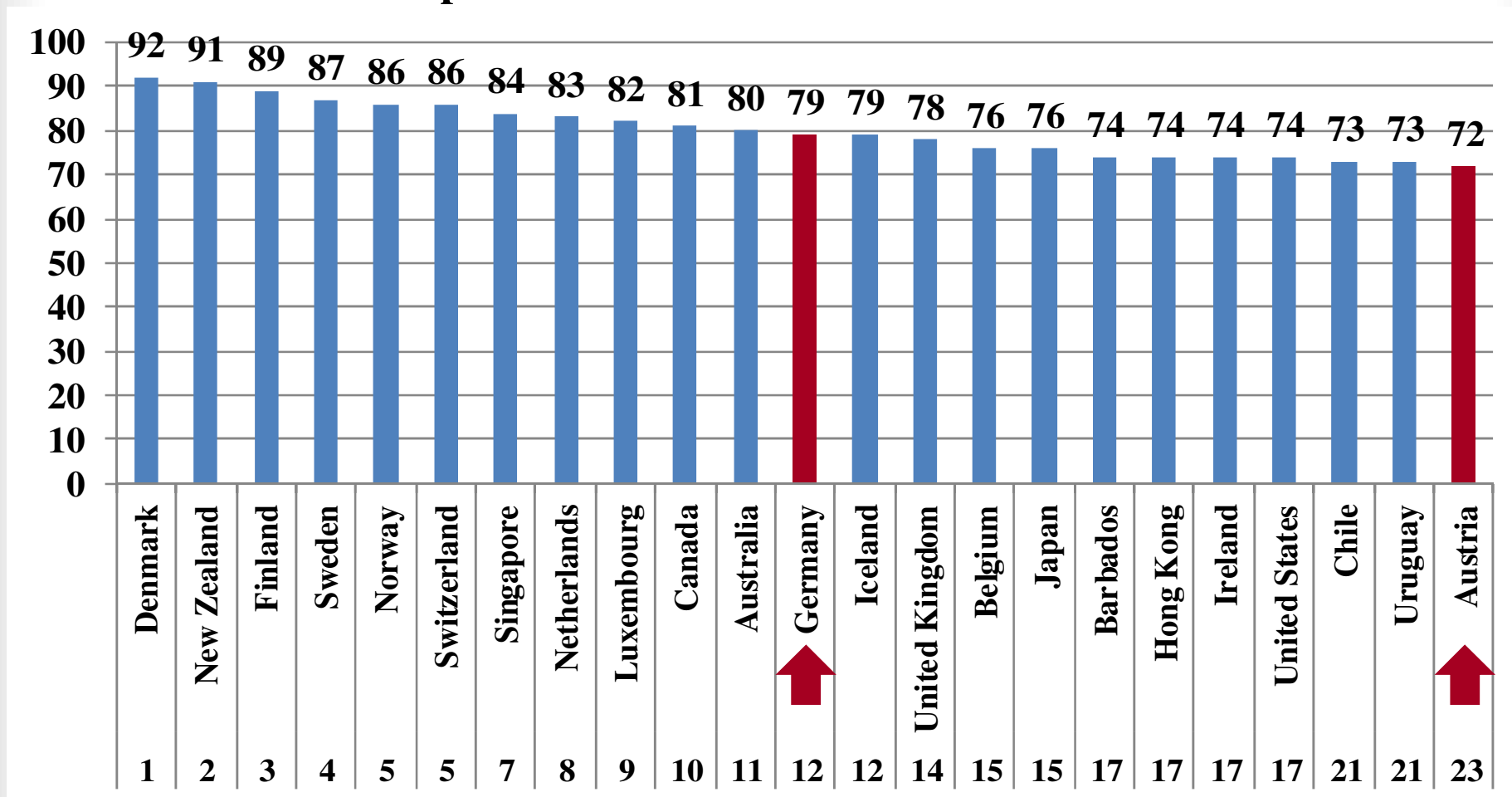
Figure 4.1: Tax Evasion in Bulgaria, Greece & Turkey from 2005-2014 (in % of GDP)



Source: Buehn and Schneider (2013), pp. 17-18, and own calculations.

5. The Effects of Corruption on the Official Economy

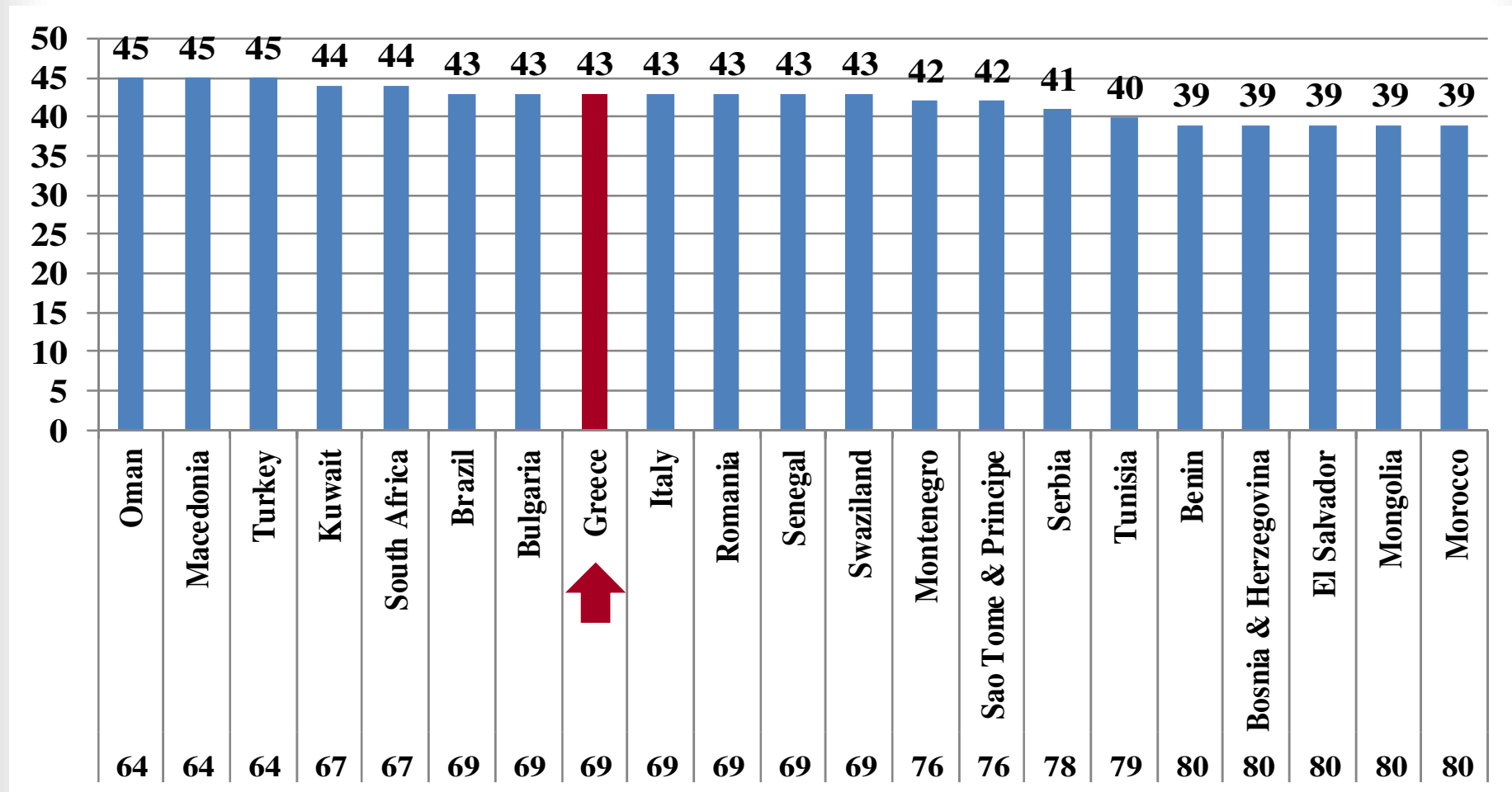
Figure 5.1: The extent of corruption in the year 2014 – the 23 countries with the lowest corruption



Source: Transparency International, Berlin, 2014.

5. The Effects of Corruption on the Official Economy

Figure 5.2: The extent of corruption in the year 2014 – position of Greece: rank 69 with a score of 43!



Source: Transparency International, Berlin, 2014.

5. The Effects of Corruption on the Official Economy

Table 5.1: Development of corruption and its damage to the Greek economy over 2004 to 2014¹⁾

Variable	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Damage in billion euros¹⁾	21.0	21.0	20.5	20.1	19.7	24.4	26.5	27.3	25.8	23.2	21.0
CPI Corruption Transparency Index²⁾	43	43	44	46	47	38	35	34	36	40	43
Rank of Greece²⁾	49	47	54	56	57	71	78	80	94	80	69

1) Economic Damage = reduced GNP caused by corruption; own calculations.

2) Source: CPI Transparency (Value 100=no corruption, Value 0=highest possible corruption), Berlin, 2014.

5. The Effects of Corruption on the Official Economy

Table 5.2: Development of corruption and its damage to the Austrian economy over 2004 to 2014¹⁾

Variable	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Damage in billion euros¹⁾	12	11	12	14	13	15	15	16	18	18	17
CPI Corruption Transparency Index²⁾	84	87	86	81	81	79	79	78	69	69	72
Rank of Austria²⁾	13	10	11	13	12	16	15	16	25	26	23

1) Economic Damage = reduced GNP caused by corruption; own calculations.

2) Source: CPI Transparency (Value 100=no corruption, Value 0=highest possible corruption), Berlin, 2014.

6. Policy Measures to Reduce the Shadow Economy, Corruption and Tax Evasion

6.1 Shadow economy

(1) To reimburse the VAT on labor intensive services (the so-called Luxemburg Model) in order to strengthen the incentive to supply those services in the official economy.

(2) Household investments (e.g. in Germany 1.200 euros per household per year) should be tax deductible; hence, if you need a bill, you cannot do it in the shadow economy.

6. Policy Measures to Reduce the Shadow Economy, Corruption and Tax Evasion

6.1 Shadow economy (cont.)

(3) The use of the policy instruments of (increased) punishment and detection rates should be applied in special areas where the shadow economy activities are connected with organized crime (e.g. the case of prostitution).

(4) Decrease of the public burden of taxes and social security payments as part of the wage costs.

6. Policy Measures to Reduce the Shadow Economy, Corruption and Tax Evasion

6.2 Tax evasion

Five concrete measures against *tax evasion* and for a more efficient tax collection:

(1) A tax amnesty could be installed. If evaded tax revenues are declared and/or brought back to Greece a flat rate of 25 or 30% should be paid. Afterwards a high punishment should be installed.

(2) The introduction of a monetary incentive scheme for tax collectors; e.g. 5% of those additionally collected revenues are used to buy better equipment for them and to pay a bonus.

6. Policy Measures to Reduce the Shadow Economy, Corruption and Tax Evasion

6.2 Tax evasion (cont.)

(3) Potential evaders could get a letter from the tax office arguing that there is some evidence of potentially evaded tax revenues, offering them to pay 20% tax rate of this sum and nothing further happens or they have a tax inspection with all consequences.

(4) Every Greek household can deduct a certain amount of paid value added taxes, e.g. 500 € out of a collection of a turnover of 7.000 € and bills showing the value added taxes.

6. Policy Measures to Reduce the Shadow Economy, Corruption and Tax Evasion

6.2 Tax evasion (cont.)

(5) Small businesses or enterprises pay a fixed amount of taxes of 1.000 (5.000) € from a turnover from 15.000 to 30.000 (31.000 to 50.000) € and the normal rate from 51.000 € turnover. From the tax authorities only the turnover is checked.

6. Policy Measures to Reduce the Shadow Economy, Corruption and Tax Evasion

6.3 Corruption

A successful fight against *corruption* is the third big policy challenge for the Greek government – four measures:

(1) Firms which provide bribes and/or are corrupt should be banned from public contracting for 3-5 years.

(2) Whistle blowing (blowers) should be actively supported by government institutions. (Monetary) incentives should be installed for the detection of corruption.

(3) Public employees and politicians should immediately lose their offices and pension rights if they take bribes.

(4) Strict compliance measures should be installed.

**Vielen Dank für Ihre
Aufmerksamkeit!**