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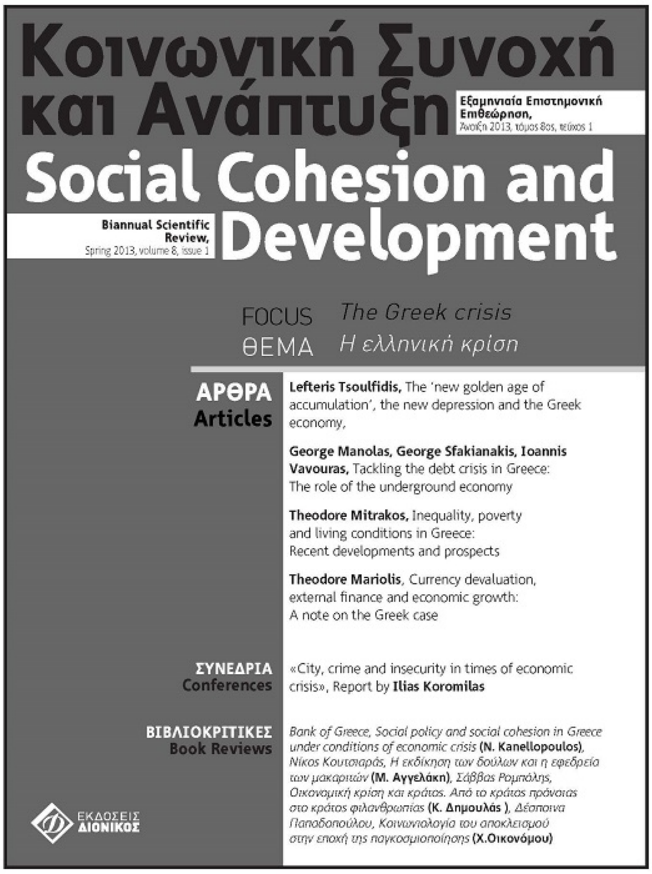
The Greek crisis



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Tackling the debt crisis in Greece: The role of the underground economy

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Η αντιμετώπιση της κρίσης χρέους στην Ελλάδα: Ο ρόλος της παραοικονομίας

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ABSTRACT

This paper aims at assessing the relative importance of the underground or shadow or hidden economy in the effort of tackling the current debt crisis. Examining the case of Greece, one of the EU countries that face serious sovereign debt problems, we emphasize the importance of controlling the hidden economic activity, that is of incorporating it into the official economy. Moreover, by analyzing the factors affecting the part of the economic activity which takes place outside the official sector, we evaluate the potential gains Greece could have obtained in case it could have converged to the best practice or even the average levels of the determining factors of the hidden economy prevailing in the rest of the OECD countries.

KEY WORDS: Underground economy, tax evasion, governance, regulation, tax burden

ΠΕΡΙΛΗΨΗ

Σκοπός της παρούσας εργασίας είναι η εκτίμηση της σχετικής σημασίας της παραοικονομίας στην προσπάθεια αντιμετώπισης της σημερινής κρίσης χρέους. Εξετάζοντας την περίπτωση της Ελλάδας, μια από τις χώρες της ΕΕ που αντιμετωπίζουν σοβαρό πρόβλημα δημόσιου χρέους, δίνουμε ιδιαίτερη έμφαση στην αντιμετώπιση της παραοικονομίας, δηλαδή στην ενσωμάτωσή της στο επίσημο ΑΕΠ. Επιπλέον, αναλύοντας τους παράγοντες που επηρεάζουν το τμήμα της οικονομικής δραστηριότητας το οποίο λαμβάνει χώρα εκτός του επίσημου τομέα της οικονομίας, παρέχουμε μια εκτίμηση του δυνητικού οφέλους που θα είχε η Ελλάδα από τον έλεγχο της παραοικονομίας στην περίπτωση που είχε τις καλύτερες επιδόσεις σε σχέση με τις χώρες-μέλη του ΟΟΣΑ ή ακόμη και στην περίπτωση που είχε τις μέσες αντίστοιχες επιδόσεις.

ΛΕΞΕΙΣ-ΚΛΕΙΔΙΑ: Παραοικονομία, φοροδιαφυγή, διακυβέρνηση, κρατικές ρυθμίσεις, φορολογικό βάρος

1. Introduction

In many European countries and other advanced economies, to restrict our analysis only to the economically developed world, the current economic crisis led to high public sector deficits and debt, albeit with different starting points and final impact on other economic variables. Due to this fact, the interest rate spreads of many EU peripheral economies (including Greece) soared. The adoption of various adjustment programmes in many countries to reduce public sector deficits and debt had as it was expected a negative impact on their real GDP and employment levels. As a result, many economies started recording negative growth rates. GDP reduction associated with increased unemployment tends to reduce public sector revenues and to increase social protection expenditures. The need to proceed with fiscal consolidation plans brought up the urgency of increasing fiscal revenues by controlling the underground economic activities that by definition are associated with extended tax evasion. A phenomenon that is expected to increase in a period of economic crisis.

The issue of the underground economy has become a subject of considerable interest since the beginning of the 1970s. The economic literature on the measurement of the shadow economy (see, indicatively, Blades 1982, Frey and Pommerehne 1982, 1984, Giles 1997, Thomas 1999, Schneider 2004 and Schneider et al. 2010) as well as on the determinants of the phenomenon is already very extensive (see, among others, De Soto 1989, Drecher and Schneider 2010 and Singh et al. 2012).

Regarding the case of Greece, it must be stressed that the Greek policy makers started to grasp the problem of the existence of a large hidden economy in Greece only after 1992, when the need for fiscal consolidation became imperative in order to fulfill the criteria of fiscal discipline imposed by the Treaty of Maastricht (Vavouras and Karavitis, 1997). The relevant research focusing on the Greek shadow economy, especially on the measurement of the phenomenon, is also very extensive. Indicatively, we could refer to the work of Pavlopoulos (1987), Negreponti-Delivani (1990), Vavouras et. al. (1990), Kanelopoulos et. al. (1995), Agapitos and Mavraganis (1995), Schneider and Enste (2000), Manolas and Vavouras (2001), Tatsos et al. (2001) and Schneider (2011). On the basis of these studies, it is becoming clear that the hidden economy is very large in Greece throughout the last decades. According to Schneider (2011), the size of the hidden economy in Greece seems to have increased at the beginning of the crisis (from 24.3% of GDP in 2008 to 25.2% in 2010, while in 2011 and 2012 it is estimated to have decreased to 24.3% and 24% respectively).

The underground economy includes all output that goes unreported and therefore is "concealed" or "hidden" from taxation, mainly from income tax and VAT. A part of it pertains to legal activities, such as transactions between firms and retailers which are paid "off the counter", an agreement that enables both parties to avoid paying taxes. The remaining part is the product of illegal activities, such as prostitution, drug trafficking and so on. According to Schneider, Buehn, and Montenegro (2010), the "underground economy includes all market-based legal production of goods and service that are deliberately concealed from public authorities to avoid the payment of income, value added or other taxes, to avoid payment of social security contributions, having to meet certain legal labor market standards, such as minimum wages, maximum working hours, and safety standards, and complying with certain administrative procedures".

In the rest of this paper we will attempt to assess the relative importance of the underground economy in a strategy of overcoming the current debt crisis. By considering the case of Greece, one of the European Union countries that face serious sovereign debt problems, we emphasize the importance of combating the hidden economy that is the importance of incorporating the unreported economic activities into the official economy. More specifically, by analyzing the factors affecting the part of the economic activity which takes place outside the official sector, we evaluate the potential gains Greece could have obtained, in case it could have converged to the best practice or even the average levels of the determining factors of the hidden economy prevailing in the rest of the OECD countries.

The paper is organized as follows: In section 2 we examine the impact of the underground economy on the size of the public debt. In section 3 we analyze the main determinants of the underground economy. In section 4 we investigate some equity implications of the underground economy. Finally, in section 5 we provide some concluding remarks and some policy proposals.

2. The impact of the underground economy on the size of the public debt

The underground economy affects the size of the debt of a country through various channels. The most direct one is that of the impact of tax and social security contributions evasion on the general government revenues and expenditures and, thus, on the general government deficit. Higher tax and social security contributions evasion (i.e., a more extensive underground economy), drives to a higher public deficit and, *ceteris paribus*, to higher debt levels. This impact, which could be called as a "nominator effect" of the underground economy on the debt/GDP ratio, is followed by the relevant "denominator effect". Firstly, the immediate "accounting" impact is that, as not all activities are recorded, a lower official or recorded GDP increases the debt as a percentage of GDP; on top of this, however, high debt levels are negatively correlated with economic growth (Reinhart and Rogoff, 2010), further reducing nominal GDP. Moreover, the interrelationship between the underground economy and corruption (Dreher και Schneider, 2006) and the impact of the latter on public deficits shows another channel through which the hidden economy affects public deficits.

Simulation results (Vavouras et. al., 2012) show that if we had managed to incorporate the shadow to the official GDP of Greece, starting from the year 2006, the general government debt as a percentage of GDP would have been in the year 2010, depending on the size of incorporation, 79.8% or 112.2% compared to the actual 144.9% of GDP. To this improvement, the contribution of the denominator effect is estimated at 45%, with the remaining part being the impact of higher GDP on tax revenues. The impact of incorporating the shadow to the official economy would have been much higher if this incorporation had started earlier. This hypothesis suggests that if Greece had managed to tackle effectively its hidden economy in the previous years, it definitely would not have to face its recent debt crisis. These results make clear how important is the need for combating the hidden economic activities in Greece and how significant is, not only for theoretical considerations but more interestingly for policy purposes, the analysis of the factors that determine the size of the underground economy in the country.

3. The determinants of the underground economy

The factors that theoretically determine the size of the underground economy in a specific country are numerous. They could be distinguished to two broad categories: purely economic factors on one hand and on-economic factors the other, such as social, psychological, cultural, administrative, and so on. The relative importance of each factor varies at the level of each individual country and at the specific time of the evaluation. Generally according to the existing literature, the most important determinants of the underground economy are the following: [1]

i. *Tax burden.* It is related to the burden caused by the imposition of taxes and social security contributions. It is generally accepted that the increase of taxes and social security contributions is one of the main factors, and perhaps the most important one, for the increase of the shadow economy (Schneider and Enste, 2004). It is straightforward that high direct and indirect taxes in the official economy are directly related to the enlargement of the underground economy. A large part of tax evasion pertains to "hiding" income earned from a second employment, or from self-employment. The hidden economic activity is usually based on the mutual agreement between the two related parts, such as employer and worker or seller and buyer, mainly in order to avoid the payment of direct and indirect taxes, such as the VAT or income taxes. At the same time, a significant part of social security contributions evasion stems from the declaration of lower wages than the actual ones and, thus, from the payment of lower contributions for the social security, both from the part of employees and employers.

In the relevant neo-classical models, the marginal tax rate is considered as the basic factor determining the size of the underground economy. The higher the marginal tax rate, the stronger the effect "of substitution between labor and leisure" and the larger the distortion in the decision of a person to allocate time between labor and leisure. If a person could get an income from the hidden economy, then the substitution effect would be higher than the income effect and, thus, the individual would work less in the official economy (Schneider, 2003). Empirical studies for various European countries confirm the importance of the tax burden on the size of the underground economy. Cebula (1997) estimated that an increase of the marginal tax rate of the personal income tax in the USA by 1 percentage point, results, *ceteris paribus*, to an increase of the size of the hidden economy by 1.4 percentage points. Similarly, Chianini, Marzano and Schneider (2008), using data for the Italian economy, found that an increase by 1 percentage point of tax evasion increases the tax rate by 0.3%, while the reverse increases the tax evasion in the long-run by 0.48 percentage points.

ii. *The existence of a large number of regulations in the economy*: State regulations target to the control of markets by imposing rules and restrictions on their operation. They take the form of laws or other regulations and they mainly pertain to the labor market, the employment of foreigners, restrictions on free trade, etc. As a result, they limit the choices of individuals in the context of the official economy (Schneider and Enste, 2000). These regulations lead to an increase in the cost of labor in the official economy, creating incentives for employment in the shadow economy rather than in the official economy.

Johnson, Kaufmann and Shleifer (1997), as well as Johnson, Kaufmann and Zoido-Lobatón (1998) found that an increase by one unit of the indicator of regulation (which takes values from 1 to 5, with 5 to show that a country has stringent regulations), *ceteris paribus*, results to an increase of the hidden economy by 8.1 percentage points. Similarly, estimates of Friedman, Johnson, Kaufmann and Zoido-Lobatón (2000), using data from 76 developed and developing countries, show that an increase of the "indicator of regulations" by one unit, results to an increase of the shadow economy by 10 percentage points.

More specifically, institutional restrictions in the official labor market usually increase the labor cost, reinforcing thus the incentive of enterprises to absorb labor from the secondary or parallel labor market (illegal economic immigrants, individuals who receive unemployment benefits etc) rather than from the primary or official labor market. For example, the reduction of hours worked in France and Germany, increased the available time for leisure and could lead to an increase of employment in the shadow economy (Hunt, 1999). Similarly, part-time employment and early retirement could have similar results (De Gijsel, 1984). The more general conclusion from this category of empirical studies is that the increase in the number or the intensity of regulations in an economy (and not the improvement of their effectiveness) increases rather than decreases the activity in the underground economy.

iii. *The role of state*: The state affects the size of the underground economy through its ability of deterring and repressing tax evasion and from the degree of acceptance of its power that determines the level of "tax morality". More specifically, the ability of a state to reduce the tendency for tax evasion depends on the organizational effectiveness of tax services, the structure of the existing tax system and the degree of accounting organization of enterprises. The risk of being caught and punished is one of the main deterring factors for tax evaders. At the same time, the tax morality of individuals is connected to the perception they have for the state. If they believe that the state does not aim at promoting social prosperity or social welfare or that it is an ineffective organization that wastes the resources that it collects from its economic agents, individuals and firms, they could more easily turn to the hidden economy. On the other hand, countries with high corruption, especially in the public sector, also have an extensive hidden economy, since corruption affects governance negatively. Finally, it is often the case that the state, for various reasons, relaxes economic controls especially in pre-election times, strengthening thus the activity in the underground economy. For example, in Greece, the underground economy is not irrelevant with electoral circles. (Vavouras and Manolas, 2004).

Apart from Andvig et al. (2000) and Dreher and Schneider (2006), who have shown that a relationship exists between corruption and the hidden economy, the role of governance in relation to the underground economy has also been examined in various other studies, mainly in those of Torger and Schneider (2007) and Singh et al. (2012). In the first study, the authors used alternatively more than 25 variables which are considered to be related to governance and the quality of institutions and found the existence of a strong correlation with the hidden economy, while, in addition, the increase in tax morality decreases as it is expected the size of the underground economy. The empirical analysis of Singh et al. (2012) suggests that institutions are a more important determinant of the size of the underground economy compared to tax rates.

The empirical study of Manolas et al (2012), using panel data for a group of 19 countries for the 2003 – 2008 period, has found that the quality of governance, the regulatory framework in various markets and the tax burden are the most important factors affecting the part of the economic activity which takes place outside the official sector. These results were used to evaluate the potential gains Greece could obtain, in the case it could converge to the best practices or even the average levels of the determining factors of the rest of the OECD countries. More specifically, they found that Greece would benefit more by trying to reach the average level of the other OECD countries with respect to regulation of the product market, the labor market and government effectiveness, while Greece has a lot of ground to cover in trying to converge to this average, insofar as the control of corruption, government effectiveness and the regulation of the labor market are concerned. Most notably, the performance of Greece is impressively low regarding the control of corruption, as the rest of countries are performing (on average) almost 14 times better than Greece.

4. Equity considerations

From the above analysis it is clear that, by acting on the determinants of the shadow economy listed above, Greece could benefit in terms of fiscal consolidation gains. The overall impact of incorporating even parts of the unobserved economy into the official accounts and more specifically the reduction of the Greek shadow economy to its average OECD levels could well suffice to place public debt on a sustainable path. That is the effective control of the large Greek shadow economy is a sufficient condition to overcome the current debt crisis. However, taking into account the view often expressed that economic crises in general also have distributional effects (see, for example, Atkinson and Morelli, 2011) an additional question of high interest is raised. That is by controlling the shadow economy in Greece, one would expect the distributional effects of the crisis to be reinforced or mitigated?

The answer to the above question is a two dimensional issue, since we have to examine what are the distributional impacts of economic crises and how the effective control of the shadow economy in a period of economic crisis affects the existing distribution of income. We have therefore to examine two hypotheses simultaneously: First the effects of the shadow economy on income distribution and second the effects of economic crisis on income distribution.

Although some empirical research on each single issue already exists, both issues have not been yet at the interest of any research study. Baldacci et al. (2002) for example have found that "a fall in GDP per capita in the wake of financial crisis is associated with an increase in the incidence of poverty and deterioration in income distribution, measured by the Gini coefficient". Bordo and Meissner (2011) also argue that crises seem to be associated with greater income inequality, since income at lower deciles seems to fall faster than that for the upper deciles after financial crises.

The debate about the relationship between the size of the shadow economy and income distribution and, even more, the direction of causality between the two, is still open. Despite early evidence that a positive correlation exists (see, among others, Rosser at al., 2000, 2003 and 2004 and Valentini, 2007), this view was heavily disputed and rebuked; as a result, currently there is no clear consensus among the experts in the field. Generally, in order to have a clear view on the distributional implications of the shadow economy we have to answer two critical questions. First, what is the income of those who decline to declare it and to pay the associated taxes and second what is the income of those that declare it and as a result face increased tax burden because of the existing tax evasion.

In trying to assess the possible impact of tackling the shadow economy in Greece, we performed a preliminary statistical analysis in two dimensions: Firstly, we calculated the correlation coefficient between the size of the shadow economy and the Gini coefficient for the cross section of countries used for the Manolas et al. (2012) study for the last year of the sample. The value for this coefficient is practically zero, implying the lack of a clear pattern (see also Figure 1). In order to verify this finding, we also calculated the correlation coefficient between the *change* in the size of the shadow economy for 35 countries and the *change* of the Gini coefficient (a calculation which is more relevant to the impact we are trying to assess). The reference period for the changes is the decade of 2000 (beginning – end) and, again, the coefficient is very low and statistically insignificant. In fact, again there is no clear pattern, as the size of the shadow economy was reduced in all 35 countries, with the Gini index increasing in 20 of them and decreasing in 15. In Greece, during the specific period the reduction of the shadow economy by 2.8 p.p. as a ratio to GDP was combined with a minor reduction of the Gini index (by 0.038 points, from 0.345 to 0.307). Despite this *ex-post* finding for Greece, however, the main conclusion of this section is that, as international evidence shows, there is no clear indication about how reducing the shadow economy in Greece is expected to affect the pattern of income distribution.

Figure 1: Correlation between the size of the shadow economy and the Gini index

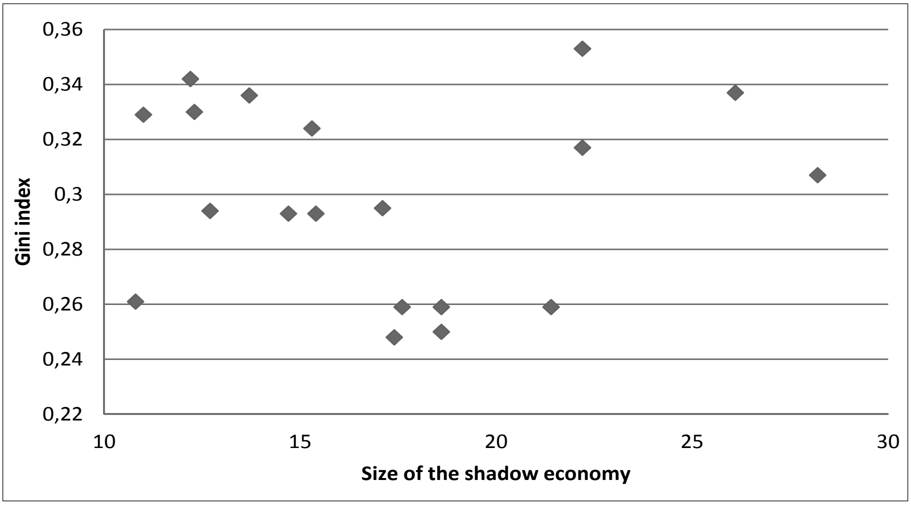
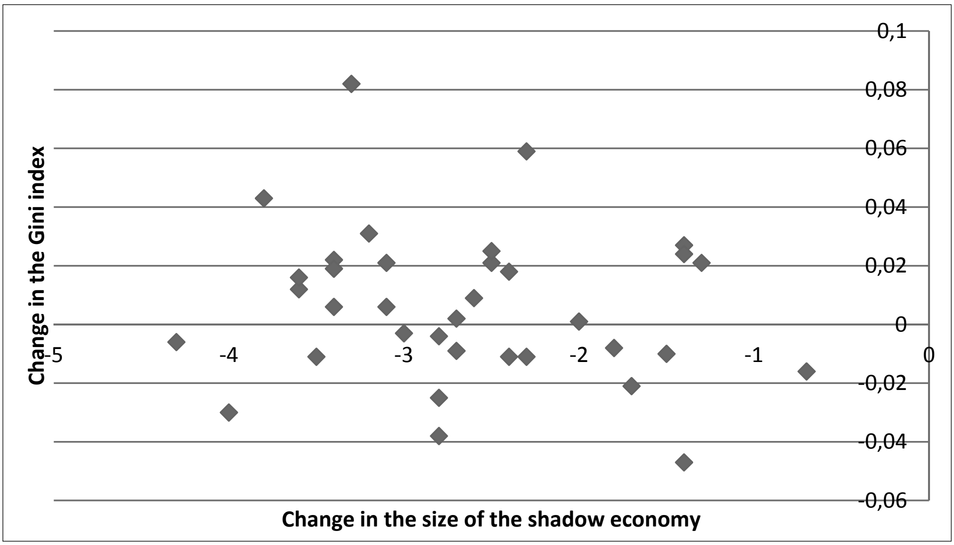


Figure 2: Correlation between the change of the size of the shadow economy and the change of the Gini index



5. Concluding remarks and policy proposals

The underground economy has many political, social and economic implications. The existence of a significant hidden component to total economic activity not only affects the reliability of the official data and the indicators based on these data, but also affects almost all the main aspects of economic policy. Moreover, in the current economic situation the need for fiscal consolidation made the necessity for containing tax evasion and underground economic activities imperative. As a result, policy measures towards reducing the off-market activities in the economy should be urgently adopted as a means to surface from the current tax crisis sooner than later.

The improvement in the effectiveness of the tax system is an important factor for the restriction of the underground economy in a country. The repression, but even more the prevention of tax offences, is a basic element in the effort to contain the hidden economy. Regarding prevention, this could be pursued through policies such as the rationalization of the tax burden, so that a "horizontal" and "vertical" tax justice exists and the tax burden corresponds to the real situation in the economy. Other relevant policies include the improvement of transparency of the tax system and the systematic control and cross-checking of data provided by tax-payers. As far as the repression is concerned, it is very important that penalties are imposed in an effective way that makes them reliable and applicable, promoting the concept of tax justice. Through these policies, tax morality will also improve, contributing thus to the restriction of the hidden economy in the long-run.

Regarding both prevention and repression of the underground economy, the role of ITCs is very important. It is a fact that the effectiveness of the state's controlling mechanism does not solely depend on new technologies, but also on the organization of the services in charge, as well as on the existence of a qualified and productive personnel. The increase of productivity of the entire public sector is necessary, improving the methods of organization and administration, combined with an improvement of the quality of use of the existing resources. This will result to containing public expenditure which, in turn, will reduce the tax burden and will boost the development of the official private sector, thus restricting the underground economy.

Finally, due to the close relationship between corruption and the hidden economy, the effective restriction of corruption in Greece is expected to have a significant impact on the reduction of the underground economy. Thus, policies for a reduction of the underground economy in Greece should primarily focus on the fight of corruption and on the improvement of the quality of governance.

Notes

* The views expressed in this paper are strictly personal and do not necessarily reflect those of the Hellenic Ministry of Finance.

1. See also Vavouras and Manolas (2004), chapt. 10.

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