



This is a repository copy of *Explaining Cross-national Variations in the Size of the Shadow Economy in Central and Eastern Europe*.

White Rose Research Online URL for this paper:
<http://eprints.whiterose.ac.uk/87289/>

Version: Accepted Version

Article:

Williams, C.C. (2014) Explaining Cross-national Variations in the Size of the Shadow Economy in Central and Eastern Europe. *Debatte*, 22 (2). 241 - 258 . ISSN 1469-3712

<https://doi.org/10.1080/0965156X.2014.978103>

Reuse

Unless indicated otherwise, fulltext items are protected by copyright with all rights reserved. The copyright exception in section 29 of the Copyright, Designs and Patents Act 1988 allows the making of a single copy solely for the purpose of non-commercial research or private study within the limits of fair dealing. The publisher or other rights-holder may allow further reproduction and re-use of this version - refer to the White Rose Research Online record for this item. Where records identify the publisher as the copyright holder, users can verify any specific terms of use on the publisher's website.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

Explaining cross-national variations in the size of the shadow economy in Central and Eastern Europe

Colin C Williams, Professor of Public Policy, Sheffield University Management School,
University of Sheffield, Sheffield S10 1FL, United Kingdom. E-mail:

C.C.Williams@sheffield.ac.uk

Abstract

Cross-national variations in the size of the shadow economy have been variously explained to be a result of: economic under-development (modernization theory); high taxes, public sector corruption and state interference in the free market (neo-liberal theory) or inadequate levels of state intervention to protect workers (political economy theory). The aim of this paper is to start to evaluate critically these competing theories by comparing cross-national variations in the size of the shadow economy with the various aspects of the broader economic and social environment denoted as determinants of the shadow economy in each of the theories. The finding is that across Central and Eastern Europe, smaller shadow economies prevail in wealthier, more modern and equal societies and countries with higher levels of social protection expenditure, greater state intervention in the labour market, more effective social transfers and lower levels of poverty. No evidence is therefore found to support the neo-liberal suggestion that decreasing tax rates, de-regulating the economy and cutting back work and welfare expenditure by the state will reduce the shadow economy. The paper concludes by discussing the theoretical and policy implications of the findings.

Keywords: informal economy; undeclared work; corruption; tax evasion; Eastern Europe.

Introduction

The shadow economy plays a significant role in economies around the world, providing an alternative means of livelihood when the market and state for whatever reasons are unable to provide the necessary support people require. Indeed, these remunerated activities not declared to the state for tax, social security and labour law purposes are widely recognised to be not only pervasive and persistent but also expanding in many global regions (Buehn and Schneider 2012; Feld and Schneider 2010; ILO 2011, 2012, 2013a; Jütting and Laiglesia 2009; OECD 2012; Rodgers and Williams 2009; Schneider and Williams 2013; Williams 2014). In the European Union in 2013 for example, the size of the shadow economy was equivalent to 18.5 per cent of GDP (Schneider and Williams, 2013). Despite its valuable role in providing a much needed additional means of livelihood for many populations, however, this does not mean that a blind eye can be turned to such activity. This sphere results in many problems that cannot be ignored.

From a macroeconomic perspective, this sphere is a problem because it decreases tax revenues and may undermine the financing of, and trust in, social security systems. From a microeconomic perspective meanwhile, it causes unfair competition for legitimate businesses and leaves shadow enterprises unable to access credit in order to grow. It also results in poorer working conditions for those employed in the shadow economy since they lack access to the minimum wage, health and safety conditions, holiday entitlements and sick leave (Eurofound 2013; Vanderseyen et al. 2013). It is thus important to tackle the shadow economy. To explore how this might be done, the aim of this paper is to evaluate critically the competing explanations for its persistence

and prevalence which variously explain the shadow economy to result from: economic under-development (modernization theory); high tax rates, corruption and state interference in the free market (neo-liberal theory), or inadequate levels of state intervention in work and welfare arrangements so as to protect citizens (political economy theory).

In the first section, therefore, a brief review will be undertaken of the modernization, neo-liberal and political economy explanations for the cross-national variations in the size of the shadow economy. The second section then outlines the methodology used to evaluate critically these competing explanations. This examines whether there is a relationship between the cross-national variations in the size of the shadow economy across Central and Eastern European countries, estimated using Schneider's (2013) widely-used dynamic multiple indicators and multiple causes method, and cross-national variations in the various aspects of the broader economic and social environment deemed to be causal determinants by each of the theories. The third section reports the results. Finding no support for the neo-liberal theorization but evidence to support the modernization and political economy explanations, the concluding section will then discuss the implications for theory and policy.

At the outset, however, it is important to define the shadow economy. Some 45 different adjectives have been used to describe this form of work, including "atypical", "cash-in-hand", "hidden", "informal", "non-visible", "irregular", "unregulated", "underground" and "undeclared", all denoting what is insufficient, missing or absent from the shadow economy compared with the legitimate or formal economy. The strong consensus is that what is missing, absent or insufficient about work in the shadow economy is that this remunerated activity is not declared to the state for tax, social security and labour law purposes as should be the case, but it is legal in all other

respects (European Commission 1998, 2007; OECD 2012; Renooy et al. 2004; Pfau-Effinger 2009; Sepulveda and Syrett 2007; Schneider, 2013; Williams 2014).

Consequently, when an employment relationship possesses other absences or insufficiencies, such as when illegal goods and services are involved or the work is unpaid, this is not deemed part of the shadow economy but rather as belonging to the “criminal” or “unpaid” spheres respectively. Nevertheless, there are blurred edges to the shadow economy, such as whether work where reciprocal labour or gifts are given in lieu of money should be included (White 2009; Williams 2006). In this paper, the shadow economy includes only exchanges involving monetary transactions between the employer/purchaser and employee/supplier.

Explaining cross-national variations in the size of the shadow economy

To explain the cross-national variations in the shadow economy, three contrasting explanations have been proposed: “modernization” theory which purports that the shadow economy declines with economic development and modernization; “neo-liberal” theory which argues that the shadow economy is a direct result of high taxes, public sector corruption and state interference in the free market, and “political economy” theory which explains its pervasiveness to be a product of inadequate levels of state intervention in work and welfare which leaves workers unprotected. Each is here reviewed in turn.

Modernization theory

During most of the twentieth century, the widespread belief was that the formal modern economy was steadily becoming ever more hegemonic and the shadow economy was viewed as a gradually disappearing remnant from a pre-modern mode of production

existing at the fringes of modern society. Economies with relatively large shadow economies are thus viewed as “traditional”, “under-developed” and “backward” whilst economies in which the modern formal economy is more dominant are delineated as “advanced” and “developed” (Boeke 1942; Geertz 1963; Gilbert 1998; Lewis 1959; Packard 2007). Applying this theory to explaining the cross-national variations in the size of the shadow economy, the argument is that in less developed and modern economies, the shadow economy will be larger. To explore the validity of this modernization theory, therefore, the following hypothesis can be tested:

Modernization hypothesis (H1): the size of the shadow economy reduces with economic development and modernization.

Neo-liberal theory

Although there are many varieties of neo-liberal thought, when those of a neo-liberal persuasion have discussed the shadow economy, they have tended to view it as a resistance practice to high tax rates, a corrupt state system and too much interference in the free market. Those working in the shadow economy are thus seen as breaking rules and regulations imposed by an excessively intrusive state and are viewed as a taking a rational decision to voluntarily exit the formal economy so as to avoid the costs, time and effort involved in operating legitimately (e.g., Becker 2004; De Soto 1989 2001; London and Hart 2004; Nwabuzor 2005; Sauvy 1984; Small Business Council 2004). Larger shadow economies are thus believed to be present in economies with higher taxes and public sector corruption and greater state interference, and the resultant solution is to reduce tax rates, tackle public sector corruption, deregulation and minimal state intervention. To test the validity of this neo-liberal explanation for the shadow

economy, the following hypothesis can be evaluated:

Neo-liberal hypothesis (H2): the size of the shadow economy is smaller in countries with lower tax rates, less public sector corruption and lower levels of state interference in the free market.

Political economy theory

In contrast to neo-liberals, political economists view the shadow economy as resulting from too little, rather than too much, state intervention in work and welfare arrangements. From this perspective, the shadow economy is seen as an integral component of contemporary capitalism and key facet of the downsizing, sub-contracting and outsourcing arrangements, enabling businesses to achieve flexible production, profit and cost reduction (Amin et al. 2002; Castells and Portes 1989; Davis 2006; Gallin 2001; Hudson 2005; Meagher 2010; Sassen 1996; Slavnic 2010; Taiwo 2013). The shadow economy is consequently viewed as unregulated, insecure and low paid employment conducted out of necessity by marginalized populations as a last resort in the face of no other options being available to them (Ahmad 2008; Castells and Portes 1989; Davis 2006; Gallin 2001; Hudson 2005; Sassen 1996). As such, the shadow economy results from the under-regulation of work and welfare provision and a lack of state intervention to protect workers, and the remedy is viewed to be greater state intervention in work and welfare arrangements (Davis 2006; Slavnic 2010).

Consequently, the shadow economy is seen as greater in countries with lower levels of state intervention to protect workers from poverty (Davis 2006; Gallin 2001; Slavnic 2010). To test the validity of this political economy theory, the following hypothesis can be evaluated:

Political economy hypothesis (H3): the shadow economy is smaller in countries with greater state intervention in work and welfare provision to protect workers from poverty.

Previous evaluations of the rival explanations

Until now, the vast majority of scholarship on the shadow economy has explained the shadow economy by adopting one or other of these theories. For example, Yamada (1996) explaining the shadow economy as a matter of choice adopts the neo-liberal theorization whilst Slavnic (2010) arguing that it is undertaken due to a lack of choice adopts the political economy theorization. On the whole, therefore, these theorizations have been treated as mutually exclusive and competing explanations.

Over the past few years, however, more nuanced explanations have begun to emerge when examining the shadow economy at a national and local level, and amongst population groups. For instance, the political economy theory has been argued to be more relevant to explaining work in the shadow economy among relatively deprived populations and neo-liberal theory to relatively affluent populations (Evans et al. 2006; Gurtoo and Williams 2009; Williams and Round 2010; Williams et al. 2012), that neo-liberal exit motives are more common amongst populations in developed economies and political economy exclusion motives among populations in developing countries (Oviedo et al. 2009) and that women are driven more by political economy exclusion rationales and men more by neo-liberal voluntary exit rationales (Franck 2012; Grant 2013; Williams 2011).

Here, attention turns towards whether a similar more nuanced approach which combines these theories is valid when explaining cross-national variations in the size of

the shadow economy. To fill this gap in the literature, the methodology used to explain the cross-national variations in the shadow economy across East European nations is now reported.

Methodology

Methods and data

Evaluating the size of the shadow economy is difficult because such monetary exchanges are by definition hidden from view. Indirect measurement methods are therefore often adopted. These use proxy indicators of the size of the shadow economy, including monetary proxies (e.g., the use of cash), non-monetary proxies (e.g., discrepancies in the labour supply figures across different surveys), income/expenditure discrepancies either at the aggregate or household level, or multiple proxy indicators (GHK and Fondazione Brodolini, 2009; Ram and Williams, 2008). The problem with direct surveys is that they produce lower estimates of its size than indirect methods, suggesting that respondents may be concealing their shadow work from researchers. Although there is no means of knowing whether this is the case, or whether indirect methods produce inflated estimates of its size, the consensus that has emerged across the practitioner and academic communities is to use indirect measurement methods to measure its size (European Commission, 1998, 2007b; OECD, 2012; Ram and Williams, 2008; Schneider, 2008).

This paper follows this consensus by using the most widely-used indirect measurement method to evaluate cross-national variations in its size, namely the DYMIMIC (dynamic multiple-indicators multiple-causes) method (for a detailed description, see Schneider, 2005). Rather than rely on one indicator, the advantage of this method is that multiple monetary and non-monetary indicators, related to the money

in circulation, level of tax morality and labour supply, are employed. Although this method has been subject to criticism in relation to the validity of the variables used (Breusch, 2005), the fact that it is the most widely-used method by agencies such as the World Bank (Schneider et al., 2010) make it an obvious choice. Moreover, and as will become apparent below, given that the correlations between the cross-national variations in the size of the shadow economy and cross-national variations in work and welfare arrangements (e.g., tax rates, social protection expenditure) are in the same direction whether the DYMIMIC method, direct survey estimates (Eurofound, 2013; Vanderseyen et al, 2013) or the averages of all indirect survey methods (Williams, 2013a) are used, there is no reason to assume that the results produced using the DYMIMIC method will be any different to the results produced using other measurement methods.

Measures

To generate statistical indicators and data on the characteristics of the broader economic and social environment that each theorization deems to have an influence on the size of the shadow economy, official data sources have been used and data collated for 2012, the same year as the estimates for the size of the shadow economy (European Commission 2011, 2013, Eurostat 2007, 2010, 2013a,b,c, OECD 2013a,b,c,d, World Bank 2013, 2014). The only indicators and data taken from non-official sources are on perceptions of public sector corruption, extracted from Transparency International's corruption perceptions index for 2012 (Transparency International 2013) and bureaucracy quality taken the Inter-Country Risk Guide (ICRG 2013). In each case, data is taken from the most recent year available and compared with Schneider's estimates for that year.

To evaluate the modernization thesis, several indicators are employed that have previously been used to evaluate the tenets of this thesis (ILO 2012; Yamada 1996; Eurfound 2013), namely:

- GNI per capita based on personal purchasing power standards (PPS) (World Bank, 2014);
- the ICRG indicator of bureaucracy quality which measures the institutional strength and quality of the bureaucracy and thus the level of modernization of government in nations (ICRG, 2013). High points are given to countries where the bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services. Countries lacking the cushioning effect of a strong bureaucracy receive low points because a change in government tends to be traumatic.

To evaluate the neo-liberal thesis that the size of the shadow economy results from high taxes, public sector corruption and state interference in the free market, indicators previously used (Eurofound, 2013; Vanderseyen et al., 2013; Williams, 2012, 2013a,b) when evaluating these tenets of neo-liberal thought are here used, namely:

- Total tax revenue as a percentage of GDP. Total tax revenue here includes: all taxes on production and imports (e.g., taxes enterprises incur such as for professional licenses, taxes on land and building and payroll taxes), all current taxes on income and wealth (including both direct and indirect taxes) and all capital taxes (OECD, 2013b);
- Taxes on income and profits as a percentage of GDP (OECD, 2013c);
- Implicit tax rates (ITR) on labour, which is a summary measure of the average effective tax burden on the income of employed labour. This is the sum of all direct and indirect taxes and employees' and employers' social contributions levied on

employed labour income divided by the total compensation of employees (Eurostat 2010);

- Tax revenue as a percentage of GDP (World Bank, 2013);
- The total tax rate as a percentage of GDP (World Bank, 2013) ;
- Transparency International's 2012 Corruption Perceptions Index (CPI) is used (Transparency International 2013). This is a composite index of perceptions of public sector corruption that draws on 14 expert opinion surveys and scores nations on a 0-10 scale, with zero indicating high levels and 10 low levels of perceived public sector corruption.

Meanwhile, and to analyse both the neo-liberal thesis that state interference leads to larger shadow economies, as well as the political economy thesis that larger shadow economies are a product of a lack of state intervention in work and welfare arrangements, indicators are analysed previously used when evaluating the assumptions of neo-liberal and political economy thought (Eurofound, 2013; Vanderseypen et al., 2013; Williams, 2013a,b), namely:

- the percentage of the total population at risk of poverty, defined here as persons with an equivalized disposable income below the risk-of-poverty threshold, which is set at 60 per cent of the national median equivalized disposable income, after social transfers (Eurostat 2013b);
- the inequalities in the distribution of income (Eurostat 2013c), measured by evaluating the ratio of total income (by which is meant equivalized disposable income) received by the 20 per cent of the population with the highest income (top quintile) to that received by the 20 per cent of the population with the lowest income (lowest quintile);

- the level of severe material deprivation inability to afford some items (at least 4 on a list of 9) considered by most people to be desirable or even necessary to lead an adequate life.
- the level of equality in a society, as measured by the gini-coefficient (European Commission 2011).
- the effectiveness of state redistribution via social transfers. Here, the poverty level is again defined as the proportion of the population with an income below 60 percent of the national median income, and then the reduction in percentage points of poverty after social transfers is calculated to determine the effectiveness of state redistribution (European Commission 2013), using the formula: $100*(B-A)/B$ where B= at-risk of poverty before social transfers excluding pensions, and A= at risk-of-poverty;
- level of total social expenditure per head of population at current prices and taking into account personal purchasing power standards (PPPs) (OECD 2013d); and
- state expenditure on labour market interventions aimed at correcting disequilibria (Eurostat, 2013e). This covers all public interventions in the labour market aimed at reaching its efficient functioning and correcting disequilibria which explicitly target vulnerable groups, namely: the unemployed; those employed but at risk of involuntary job loss; and people currently inactive but who would like to work.

Analysis

To analyse the relationship between the cross-national variations in the size of the shadow economy and the various characteristics of work and welfare regimes which these competing theorizations deem to determine the size of the shadow economy, and given the small sample size of just 10 countries and lack of necessary controls to

include in a multivariate regression analysis, it is only possible here to conduct bivariate regression analyses of the relationship between the size of the shadow economy and the different characteristics of the wider regulatory environment. To do this, Spearman's rank correlation coefficient (r_s) is used due to the non-parametric nature of the data. Nevertheless, and as will be shown, despite being limited to bivariate regression analysis, some meaningful findings are produced regarding the validity of the different theoretical perspectives.

Findings

Across these ten Central and Eastern European countries, the shadow economy constitutes 24.6 per cent of GDP. As Figure 1 reveals, however, there are marked variations across countries in the size of the shadow economy ranging from 15.5 per cent of GDP in Slovakia to 31.9 per cent of GDP in Bulgaria.

INSERT FIGURE 1 ABOUT HERE

How, therefore, can these cross-national variations in the size of the shadow economy be explained? Here, each theory is evaluated in turn.

Evaluating the modernization hypothesis

To evaluate the modernization hypothesis which asserts that the size of the shadow economy reduces with economic development and modernization, firstly, the relationship between the size of the shadow economy and the level of economic development across these Central and Eastern European countries is analysed. As Figure 2a reveals, there is a strong significant relationship between cross-national

variations in the size of the shadow economy and cross-national variations in the level of GDP per capita ($r_s = -.708^{**}$). The direction of the relationship is that countries with higher levels of GDP per capita have smaller shadow economies.

INSERT FIGURE 2 ABOUT HERE

There is also a strong correlation between the size of the shadow economy in a country and the level of modernization of governance, measured using the ICRG bureaucracy quality indicator ($r_s = -.897^{**}$). As Figure 2b reveals, the shadow economy is smaller in countries with a higher quality of governance. These relationships, of course, cannot establish the directionality of the correlation in terms of a cause-effect relationship.

This, therefore, is a limitation.

Evaluating the neo-liberal hypothesis

Turning to an evaluation of the neo-liberal hypothesis that the size of the shadow economy is smaller in countries with lower tax rates, less public sector corruption and lower levels of state interference in the free market, firstly, the tax rates tenet can be analysed using a variety of tax rate measures. Starting with the relationship between the size of the shadow economy and the implicit tax rates (ITR) on labour, which is effectively the tax burden on labour, no statistically significant correlation is identified ($r_s = -.501$). Neither is any statistically significant relationship identified between cross-national variations in the size of the shadow economy and cross-national variations in either current taxes ($r_s = -.361$), taxes on income and profits as a percentage of GDP ($r_s = .500$), tax revenue as a percentage of GDP ($r_s = .333$) and the total tax rate as a percentage of GDP ($r_s = -.401$). However, there is a statistically significant association

between cross-national variations in the size of the shadow economy and cross-national variations in total tax revenue as a percentage of GDP ($r_s = -.653^*$). The direction of this association is that as total tax revenue rises as a share of GDP, the size of the shadow economy falls, which is the opposite to what neo-liberal theory suggests. There is thus no evidence to support the neo-liberal tenet that the size of the shadow economy is greater in nations with higher tax rates.

Examining the neo-liberal tenet that in countries with greater levels of public sector corruption, measured using Transparency International's perceptions of public sector corruption, the shadow economy is larger because citizens exit the formal economy to evade the corruption, no significant association is identified ($r_s = -.150$). Reviewing the neo-liberal hypothesis, therefore, there is no evidence that the shadow economy is correlated with either higher tax levels or greater levels of public sector corruption. Is it the case, therefore, that higher levels of state interference in the free market leads to larger shadow economies, as neo-liberals suggest? Or is it the case, as political economists argue, that the size of the shadow economy reduces with greater state intervention in work and welfare regimes?

Evaluating the political economy hypothesis

Figure 3 evaluates the political economy hypothesis that the cross-national variations in the shadow economy result from too little state intervention to protect people from poverty. Starting with the relationship between the shadow economy and poverty, Figure 3a reveals a strong statistically correlation between cross-national variations in the size of the shadow economy and cross-national variations in the proportion of the population at risk of poverty at the 0.01 level ($r_s = .864^{**}$). Countries with higher levels of poverty have larger shadow economies, doubtless because these marginalized

populations have nowhere else to turn but the shadow economy as a source of support and means of livelihood. It is similarly the case that there is a statistically significant association between cross-national variations in the size of the shadow economy and cross-national variations in the level of severe material deprivation ($r_s = .629^*$). As Figure 3b reveals, the shadow economy is larger in countries with higher proportions of the population living in severe material deprivation.

INSERT FIGURE 3 ABOUT HERE

Indeed, more equal societies are found to have smaller shadow economies. As Figures 3c and 3d reveal, there is a statistically significant correlation between cross-national variations in the size of the shadow economy and cross national variations in not only income inequality ($r_s = .784^{**}$) but also the gini coefficient ($r_s = .727^*$).

However, is the size of the shadow economy lower in countries in which there is greater state intervention? Examining the relationship between the shadow economy and social protection expenditure, the finding is that there is a statistically significant association between the cross-national variations in the size of the shadow economy and total social expenditure per head of the population at current prices and taking into account personal purchasing power standards (PPPs) ($r_s = -0.566^*$). As Figure 3e reveals, the greater is the level of social expenditure, the smaller is the shadow economy, suggesting that where state intervention provides alternative sources of social support negating the need for citizens to turn to the shadow economy to survive, the shadow economy is smaller. This is further reinforced when examining the extent to which the state reduces the proportion of the population at risk of poverty using social transfers. Figure 3f reveals a statistically significant correlation: the more effective are social

transfers in reducing poverty, the lower is the prevalence of the shadow economy ($r_s = -0.582^*$). This negates the neo-liberal view of state interference and supports the political economy view that greater state intervention reduces the shadow economy.

Similarly, Figure 3g displays that higher levels of state expenditure on labour market interventions to help vulnerable groups into the labour market are correlated with smaller shadow economies and this is significant at the 0.01 level ($r_s = -0.709^{**}$), thus again supporting the political economy thesis. Contrary to the neo-liberal thesis, therefore, countries with greater expenditure on social protection, social transfers and labour market interventions to help vulnerable groups have smaller shadow economies.

In sum, these bivariate regression analyses reveal that across Central and Eastern Europe, wealthier and more equal societies with greater expenditure on social protection, social transfers and labour market interventions are significantly correlated with smaller shadow economies. Indeed, this tentatively explains the larger shadow economies in Bulgaria and Romania for instance, which are generally less wealthy, less equal societies and have lower levels of social protection, social transfers and state intervention in the labour market compared with countries such as Slovakia, the Czech Republic and Hungary.

Discussion and conclusions

This paper has sought to advance understanding of the cross-national variations in the size of the shadow economy in Central and Eastern Europe by evaluating critically three competing explanations: “modernization” theory which purports that the shadow economy decreases with modernization and economic development; “neo-liberal” theory that the shadow economy is a direct result of high taxes, corruption and state interference in the free market and “political economy” theory that the shadow economy

is the outcome of deregulation that results in inadequate levels of state intervention to protect citizens. Reporting evidence from 10 Central and Eastern European countries, the finding is that wealthier, more modern and more equal nations, and those possessing higher levels of social protection, social transfers and state intervention in the labour market, have smaller shadow economies. This, as will now be discussed, has both theoretical and policy implications.

The major theoretical implication is that when analysing cross-national variations in the size of the shadow economy in Central and Eastern Europe, no support is found for the neo-liberal hypothesis (H2) that the shadow economy is a product of high taxes, public sector corruption and too much state interference. Instead, and validating the political economy hypothesis (H3), the size of the shadow economy appears to be a direct by-product of under-regulation and it is in more equal nations where the poverty rate is lower, there are higher levels of social protection, state intervention of the labour market and effective redistribution via social transfers that the size of the shadow economy is smaller. However, and as the modernization hypothesis (H1) asserts, wealthier economies measured in terms of GDP per capita and more modern countries measured in terms of the quality and stability of their government bureaucracy, have smaller shadow economies.

The tentative conclusion, therefore, is that there is a need to combine the modernization and political economy theories to explain the cross-national variations in the size of the shadow economy. Wealthier economies, with stable high quality government bureaucracies and those with lower poverty levels, more equality, greater levels of social protection, more effective redistribution via social transfers and greater state intervention in the labour market to protect vulnerable groups, have smaller shadow economies. What is now required is to evaluate whether these relationships hold

both when a wider range of nations and other global regions are evaluated as well as when time-series data is analysed for individual countries. This could usefully be explored in future research.

This relationship between the size of the shadow economy and the modernization of work and welfare arrangements also has clear practical policy implications for tackling the shadow economy. Over the past decade or so, a policy shift has taken place away from seeking to eradicate the shadow economy and towards a desire to facilitate its formalization as it has been recognized that the broader intention in tackling the shadow economy is to promote economic growth, decent work, fuller employment and bolster tax revenue to support wider societal objectives (Chen 2012; ILO 2013b; Williams and Lansky 2013). To achieve this formalization of the shadow economy, a policy debate has ensued around whether to use repressive measures and/or incentives (Dibben and Williams 2012; Eurofound 2013; Feld and Larsen 2012; ILO 2013b; OECD 2012; Williams and Nadin 2012). Here, however, and in stark contrast to this narrow conventional policy debate, the finding is that broader economic and social policy measures are also important. The overarching modernization of economies, reducing poverty, promoting equality, greater social protection and social transfers, and higher levels of labour market intervention to protect vulnerable groups, is found to be closely associated with the size of the shadow economy. Tackling the shadow economy, therefore, seems to require not only targeted policy measures but also the introduction of these broader economic and social policies. Whether this is confirmed when time-series data is analysed for individual countries, needs to be evaluated in future research. If a wider range of nations are analysed, then multivariate regression analysis could also be used to correlate how important each characteristic is to the final outcome whilst

controlling for other characteristics. This would overcome a major limitation of the current paper based on an analysis of just 10 nations.

In sum, this paper has revealed the strong correlation between the size of the shadow economy and the modernization of work and welfare arrangements. What is now required is for this to be applied longitudinally within countries as well as to a broader range of countries and global regions, using more refined multivariate regression analysis, so as to evaluate whether the relationship holds as well as which characteristics are most significantly correlated with smaller shadow economies. If this paper stimulates such research and also recognition and investigation of the broader policy changes required in work and welfare arrangements to reduce the size of the shadow economy, then it will have achieved its objective.

References

- Ahmad, Ali Nobel. 2008. "Dead men working: time and space in London's ('illegal') migrant economy." *Work, Employment and Society* 22: 301-18.
- Amin, Ash, Angus Cameron and Ray Hudson. 2002. *Placing the Social Economy*. London: Routledge.
- Becker, Kristina Flodman. 2004. *The informal economy*. Stockholm: Swedish International Development Agency.
- Boeke, Julius Herman. 1942. *Economies and economic policy in dual societies*. Harlem: Tjeenk Willnik.
- Breusch, Trevor. 2005. *Estimating the Underground Economy using MIMIC Models*. Canberra: School of Economics, Faculty of Economics and Commerce, Australian National University.

- Buehn, Andreas and Friedrich Schneider. 2012. "Shadow economies around the world: novel insights, accepted knowledge and new estimates." *International Tax and Public Finance* 19: 139–71.
- Castells, Manuel and Alejandro Portes. 1989. "World underneath: the origins, dynamics and effects of the informal economy." In: Alejandro Portes, Manuel Castells and Laura Benton (eds.), *The informal economy: studies in advanced and less developing countries*. Baltimore: John Hopkins University Press, 19-41.
- Chen, Martha. 2012. *The informal economy: definitions, theories and policies*. Manchester: Women in Informal Employment Global and Organising.
- Davis, Mike. 2006. *Planet of Slums*. London: Verso.
- De Soto, Hernando. 1989. *The Other Path*. London: Harper and Row.
- De Soto, Hernando. 2001. *The Mystery of Capital: why capitalism triumphs in the West and fails everywhere else*. London: Black Swan.
- Dibben, Pauline and Colin C. Williams. 2012. "Varieties of capitalism and employment relations: informally dominated market economies." *Industrial Relations: a Review of Economy & Society* 51: 563-82.
- Eurofound. 2013. *Tackling Undeclared Work in 27 European Union Member States and Norway: approaches and measures since 2008*. Dublin: Eurofound.
- European Commission. 1998. *Communication of the Commission on Undeclared Work*. Brussels: European Commission.
- European Commission. 2007. *Special Eurobarometer 284: undeclared work in the European Union*. Brussels: European Commission.
- European Commission. 2011. *Employment and Social Developments in Europe 2011*. Brussels: European Commission.

- European Commission. 2013. Employment and Social Developments in Europe 2013. Brussels: European Commission.
- Eurostat. 2007. Taxation trends in the European Union: data for the EU member states and Norway. Brussels: Eurostat.
- Eurostat. 2010. Taxation trends in the European Union: main results. Brussels: Eurostat.
- Eurostat. 2013a. GDP per capita in PPS, Available at <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00114>.
- Eurostat. 2013b. At risk of poverty rate by sex. Available at <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdsc260>.
- Eurostat. 2013c. Inequality of income distribution. Available at <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tessi010>.
- Eurostat. 2013d. Labour market policy interventions, <http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Labour_market_policy_interventions> (accessed February 14 2014).
- Evans, Mel., Stephen Syrett and Colin C. Williams. 2006. Informal Economic Activities and Deprived Neighbourhood, London: Department of Communities and Local Government.
- Feld, Lars and Claus Larsen. 2012. Undeclared work, deterrence and social norms: the case of Germany. Berlin: Springer Verlag.

- Feld, Lars and Friedrich Schneider. 2010. "Survey on the shadow economy and undeclared earnings in OECD Countries." *German Economic Review* 11: 109–49.
- Franck, Anne. 2012. "Factors motivating women's informal micro-entrepreneurship: experiences from Penang, Malaysia." *International Journal of Gender and Entrepreneurship* 4: 65-78.
- Gallin, Dan. 2001. "Propositions on trade unions and informal employment in time of globalisation." *Antipode* 19: 531-49.
- Geertz, Clifford. 1963. *Old Societies and New States: the quest for modernity in Asia and Africa*. Glencoe, IL: Free Press.
- GHK and Fondazione Brodolini. 2009. *Study on indirect measurement methods for undeclared work in the EU*. Brussels: European Commission.
- Gilbert, Alan. 1998. *The Latin American City*. London: Latin American Bureau.
- Grant, Rebecca. 2013. "Gendered spaces of informal entrepreneurship in Soweto, South Africa." *Urban Geography* 34: 86-108.
- Gurtoo, Anjula. and Colin C. Williams. 2009. "Entrepreneurship and the informal sector: some lessons from India." *International Journal of Entrepreneurship and Innovation* 10: 55-62.
- Hudson, Ray. *Economic Geographies: circuits, flows and spaces*, London: Sage, 2005.
- ICRG. 2013. *International Country Risk Guide (ICRG)*.
<<http://www.prsgroup.com/icrg.aspx>> (accessed December 2, 2013).
- ILO. 2002. *Women and Men in the Informal Economy: a statistical picture*. Geneva: International Labour Office.
- ILO. 2011. *Statistical update on employment in the informal economy*, Geneva: ILO Department of Statistics.

- ILO. 2012. Statistical update on employment in the informal economy, Geneva: ILO Department of Statistics.
- ILO. 2013a. Women and Men in the Informal Economy: statistical picture, available at http://laborsta.ilo.org/informal_economy_E.html (last accessed 18 February 2014).
- ILO. 2013b. Transitioning from the informal to the formal economy. Report V (1), International Labour Conference, 103rd Session (2014). Geneva: ILO.
- Jütting, Johannes P. and Juan R. Laiglesia. 2009. "Employment, poverty reduction and development: what's new?". In: Johannes P. Jütting and Juan R. Laiglesia (eds.), *Is Informal Normal? Towards more and better jobs in developing countries*. Paris: OECD, 17-26.
- Lewis, Arthur. 1959. *The Theory of Economic Growth*. London: Allen and Unwin.
- London, Ted and Stuart L. Hart. 2004. "Reinventing strategies for emerging markets: beyond the transnational model." *Journal of International Business Studies* 35: 350-70.
- Meagher, Kate. 2010. *Identity Economics: social networks and the informal economy in Nigeria*. New York: James Currey.
- Nwabuzor, Augustine. 2005. "Corruption and development: new initiatives in economic openness and strengthened rule of law." *Journal of Business Ethics* 59: 121-38.
- OECD. 2012. *Reducing opportunities for tax non-compliance in the underground economy*. Paris: OECD.
- OECD. 2013a. *Employment Outlook 2013*. Paris: OECD.
- OECD. 2013b. "Total tax revenue", *Taxation: Key Tables from OECD*, No. 2. doi: [10.1787/taxrev-table-2012-1-en](https://doi.org/10.1787/taxrev-table-2012-1-en).

- OECD. 2013c. "Taxes on income and profit", Taxation: Key Tables from OECD, No. 3.
doi: [10.1787/tax-inc-prof-table-2012-1-en](https://doi.org/10.1787/tax-inc-prof-table-2012-1-en).
- OECD. 2013d. OECD Social Expenditure Statistics, <http://dx.doi.org/10.1787/socx-data-en>.
- Oviedo, Ana Maria, Mark R. Thomas and Kamer Karakurum-Özdemir. 2009. Economic Informality: Causes, costs and policies – A literature survey. Washington DC: World Bank Working Paper No. 167, World Bank.
- Packard, Truman. 2007. Do workers in Chile choose informal employment? a dynamic analysis of sector choice. Washington DC: World Bank Latin American and the Caribbean Region Social Projection Unit.
- Pfau-Effinger, Birgit. 2009. "Varieties of undeclared work in European societies." *British Journal of Industrial Relations* 41: 79-99.
- Ram, Monder and Colin C. Williams. 2008. "Making visible the hidden: researching off-the-books work." In: David Buchanan and Alan Bryson (eds.), *Handbook of Organizational Research Methods*. London: Sage, 142-60.
- Renooy, Piet, Sylvie Ivarsson, Olga van der Wusten-Gritsai and Raymond Meijer. 2004. *Undeclared work in an enlarged Union: an analysis of shadow work - an in-depth study of specific items*. Brussels: European Commission.
- Rodgers, Peter and Colin C. Williams. 2009. "The informal economy in the former Soviet Union and in Central and Eastern Europe." *International Journal of Sociology* 39: 3-11.
- Sassen, Saskia. 1996. "Service employment regimes and the new inequality." In: Enzo Mingione (ed.), *Urban poverty and the underclass*. Oxford: Basil Blackwell, 142-59.
- Sauvy, Alain. 1984. *Le Travail Noir et l'Economie de Demain*. Paris: Calmann-Levy.

- Schneider, Friedrich. 2005. "Shadow economy around the world: what do we really know?" *European Journal of Political Economy* 21: 598-642.
- Schneider, Friedrich. 2008. (ed.), *The Hidden Economy*. Cheltenham: Edward Elgar.
- Schneider, Friedrich. 2011. (ed.), *Handbook on the Shadow Economy*. Cheltenham: Edward Elgar.
- Schneider Friedrich. 2013. "Size and development of the shadow economy of 31 European and 5 other OECD countries from 2003 to 2013: a further decline." http://www.econ.jku.at/members/Schneider/files/publications/2013/ShadEcEurope31_Jan2013.pdf (accessed February 6, 2014).
- Schneider, Friedrich., Andreas Buehn and Alain Montenegro. 2010. "New estimates for the shadow economies all over the world." *International Economic Journal* 24: 443-61.
- Schneider, Friedrich and Colin C. Williams. 2013. *The Shadow Economy*. London: Institute of Economic Affairs.
- Sepulveda, Leandro and Stephen Syrett. 2007. "Out of the shadows? formalisation approaches to informal economic activity." *Policy and Politics* 35: 87-104.
- Slavnic, Zoran. 2010. "Political economy of informalization." *European Societies* 12: 3-23.
- Small Business Council. 2004. *Small Business in the Informal Economy: making the transition to the formal economy*. London: Small Business Council.
- Taiwo, Olumide. 2013. "Employment choice and mobility in multi-sector labour markets: theoretical model and evidence from Ghana." *International Labour Review* 152: 469-92.

- Transparency International. 2013. Corruption Perceptions Index (CPI) (available at: http://www.transparency.org/research/cpi/cpi_2007 (last accessed 12 March 2013)).
- Vanderseypen, Guido, Teodora Tchipeva, Jorg Peschner, Piet Rennoy and Colin C. Williams. 2013. "Undeclared work: recent developments." In: European Commission (ed.), *Employment and Social Developments in Europe 2013*. Brussels: European Commission, 231-74.
- White, Richard. 2009. "Explaining why the non-commodified sphere of mutual aid is so pervasive in the advanced economies: some case study evidence from an English city." *International Journal of Sociology and Social Policy* 29: 457-72.
- Williams, Colin C. 2006. *The hidden enterprise culture: entrepreneurship in the underground economy*. Cheltenham: Edward Elgar.
- Williams, Colin C. 2011. "Reconceptualising men's and women's undeclared work: evidence from Europe." *Gender, Work and Organisation* 18: 415-37.
- Williams, Colin C. 2012. "Explaining undeclared wage payments by employers in Central and Eastern Europe: a critique of the neo-liberal de-regulatory theory." *Debatte: Journal of Contemporary Central and Eastern Europe* 20: 3-20.
- Williams, Colin C. 2013a. "Tackling Europe's informal economy: a critical evaluation of the neo-liberal de-regulatory perspective." *Journal of Contemporary European Research* 9: 261-79.
- Williams, Colin C. 2013b. "Evaluating cross-national variations in the extent and nature of informal employment in the European Union." *Industrial Relations Journal*, 44: 479-94.
- Williams, Colin C. 2014. "Out of the shadows: a classification of economies by the size and character of their informal sector." *Work, Employment and Society*, doi: 10.1177/0950017013501951.

- Williams, Colin C. and Mark Lansky. 2013. "Informal employment in developed and developing economies: perspectives and policy responses." *International Labour Review* 152: 355-80.
- Williams, Colin C. and Sara Nadin. 2012. "Tackling the hidden enterprise culture: government policies to support the formalization of informal entrepreneurship." *Entrepreneurship and Regional Development* 24 no. 9-10: 895–915.
- Williams, Colin C. and John Round. 2010. "Explaining participation in undeclared work: a result of exit or exclusion." *European Societies* 12: 391–418.
- Williams, Colin C., Sara Nadin, Aaron Barbour and Marlene Llanes. 2012. *Enabling Enterprise: tackling the barriers to formalisation*. London: Community Links.
- Williams, Colin C., John Round and Peter Rodgers. 2013. *The role of informal economies in the post-Soviet world: the end of transition?* London: Routledge.
- World Bank. 2013. *World Development Indicators*. Washington DC: World Bank, <<http://data.worldbank.org/data-catalog/world-development-indicators>> (accessed January 10, 2014).
- World Bank. 2014. GNI per capita, PPP (current international \$), <http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD> (accessed February 12, 2014).
- Yamada, Gustavo. 1996. "Urban informal employment and self-employment in developing countries: theory and evidence." *Economic Development and Cultural Change* 44: 244-66.

Figure 1 Size of shadow economy in Central and Eastern European economies

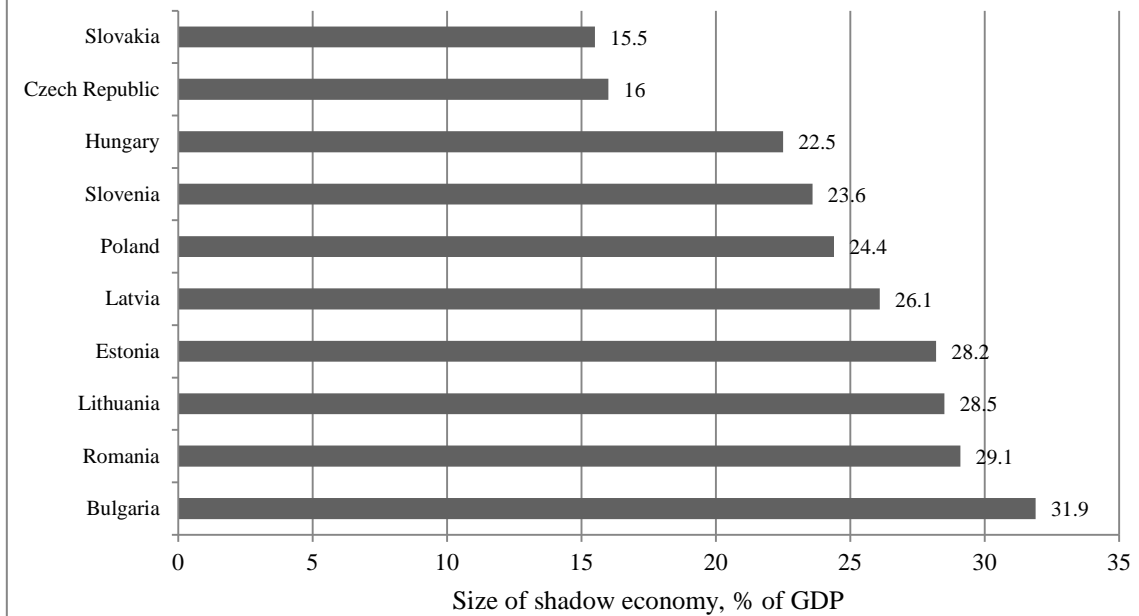


Figure 2 Evaluation of the modernisation hypothesis

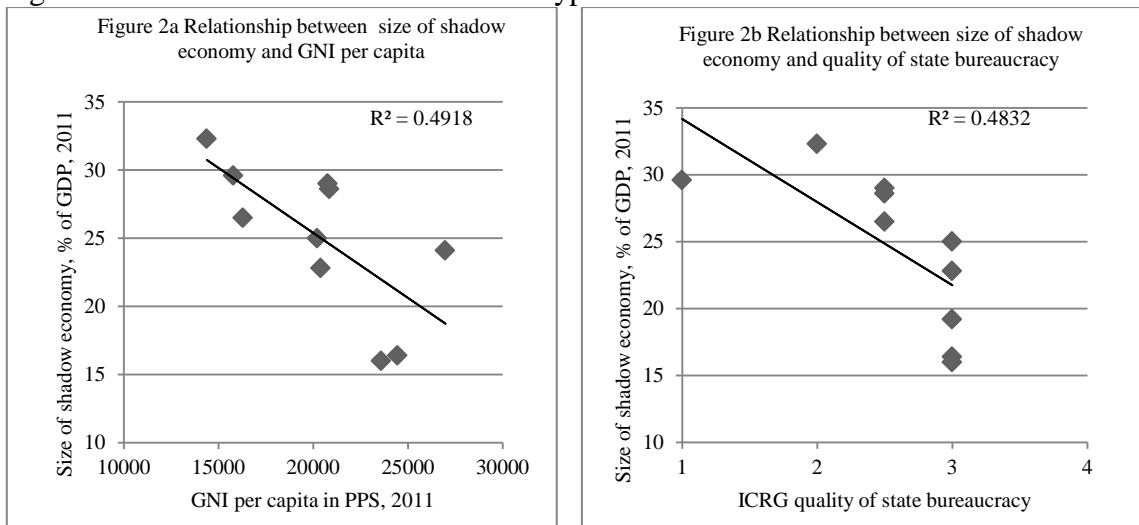


Figure 3 Evaluation of political economy hypothesis

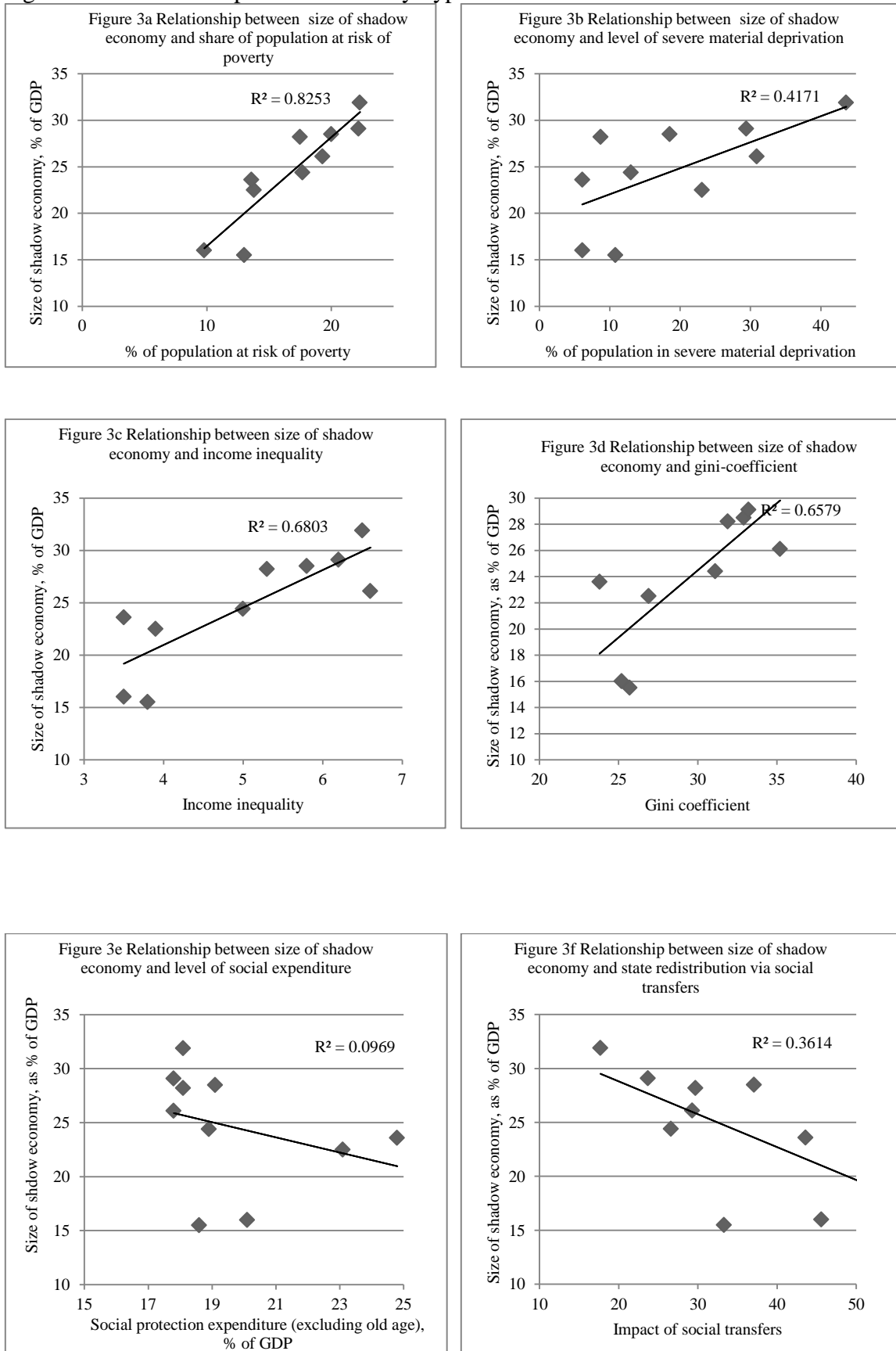


Figure 3g Relationship between size of shadow economy and level of labour market interventions

