

The Shadow Economy: A Bibliometric Analysis

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Abstract

The article deals with the analysis of the areas of research related to the shadow economy. The results of analyses show that financial market and financial intermediates become an essential part of the issues and that the topic of the problem of poverty among the urban population, low income, drugs abuse and problems of female employment, gender inequity in income in the papers which analyzed the shadow economy issues are very popular. The aim of the paper is to analyze the tendency in the scientific literature on the shadow economy to identify future research directions. For the analysis, the tools of VOSviewer, Scopus and Web of Science (WoS) analyses were used. This study is based on 5361 papers from Scopus and 3773 papers from Web of Science. The time sample of research was not limited for analysis. Time analysis showed that in 2014-2015 the number of papers dealing the shadow economy began to increase. At the same time, the focal point of research moved from general issues (estimation of shadow sector, impact on labour market etc.) to problem of transition from the informal to the formal Economy. In 2019 the number of papers which analyzed the the shadow economy was increased by 95 % compared with the 2014 year, according to Scopus database – by 29%. Mostly the papers with keyword “shadow” (informal, hidden etc.) economy were published under the following subject area, according to Scopus: Social science; Economics, Econometrics and Finance; Business, Management and Accounting; Environmental Science; Arts and Humanities, and according to WoS: Business Economics; Sociology; Public Administration; Government Law; Development Studies; Social Sciences Other Topics; Environmental Sciences Ecology; Area Studies. Most articles focused on shadow economy were published by the scientists from the USA, United Kingdom, India, Germany and South Africa. In 2019 considering the findings from Scopus the high ranked Studies in Systems Decision and Control, Journal of Business Ethics, Journal of Contemporary Asia, Cities stated to publish papers devoted to shadow economy. Such results prove that informal economy theme and its transition to formal is in the ongoing trends of the modern regulation. The findings from VOSviewer identified six clusters of the papers which investigate the shadow economy from the different points of views. The first most significant cluster merged the paper which contained the keywords as follows: informal sector, informal economy, unemployment, gender, urban economy, labour market, corruption etc. The papers in the second largest cluster deal with poverty among urban population, low income, drugs abuse and problems of female employment, gender inequity in income. The third biggest cluster focuses on criminal and ecological aspects of shadow economy.

Keywords: Shadow Economy, Shadow Sector of Economy, Informal Economy, Informal Sector of Economy, Underground Economy, Underground Sector of Economy, Hidden Economy, Hidden Sector of Economy.

JEL Classification: O17, E26.



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Introduction

Since the appearance of the terminology "informal economy" in the 20 century, it and its role in economic development have been hotly polemicized. Some scientists define the informal economy as a ground for entrepreneurial talents' rising or a margin of safety during financial crises. Others view, arguing that informal entrepreneurs consciously avoid regulation and taxation. At the same time, others see the informal economy as a support and livelihood source for the poor and unqualified workers. Each of these points of view is correct

regarding specific components or aspects of the informal economy. The terminology "shadow" (hidden, informal, underground etc.) economy in publications related to shadow economy started to be used more frequently after the World Health Organization Guidelines for the decriminalization of illicit drugs and when many countries are imposing stricter requirements on the quality of food, children's toys and other household items with aims for the use of safe chemical compounds., both by academics and law professionals. This paper presents a literature review of the articles dedicated to different aspects of the shadow economy, relationships, and co-citations. The first study aim is summarizing the level of paper about the shadow economy and connected spheres. Second, we will tie in published material devoted to the shadow economy to define the terminology of what areas have strong connections with shadow economy issues. Although, the first mention of the informal economic sector is associated with (Lewis, W. A., 1955) or (ILO, Geneva, 1972) and traditionally analyzed with the labor market, the vast range of modern scientists in the papers analyzing the shadow economy act in the same way in the context of its estimation, labour market, financial system, etc. Considering this, we used the simple of papers published in Clarivates, ScienceDirect, Scopus or Web of Sciences and the link between keywords in the sphere shadow economy (impact on economic growth, level of skills of employees in the hidden sector, calculation of its correlation with depth of financial crises, etc.) to propose future areas of study.

Literature Review

The widespread use of the shadow economy terminology in academic literature relates to many areas, including informal urban economy, unemployment and informal employment, the impact of the informal sector of the economy on the state of environmental pollution, rural-urban migration, crime, etc. As we noted earlier, Nobel laureate Arthur W. Lewis was the first author who mentioned "informal sector" when listed in his paper (Lewis, W.A., 1955) some of the sources of infinite elasticity of labor supply: "...underemployment in urban areas, in what has now come to be called the informal sector...". But in many papers published by the International Labour Organisation, ILO claims primacy in applying this definition, especially about the whole economy. Thus, according to paper (ILO, Geneva, 1972), the term "informal sector" was first coined in 1972, at the outcome of a comprehensive ILO employment advisory mission to Kenya, and was later converted to "informal economy" to underline the fact that informality is not a "sector," but a particular way of carrying out economic activities. Interestingly, that in the paper (Bangasser, P.E., 2000: 10), "The (Kenya mission) report acknowledges that the informal sector idea originated not with the high-level foreign "development experts" brought in for the mission but from the work and the staff of the Institute or Development Studies of the University of Nairobi, a fact which has been generally forgotten since then. In other words, it was not the ILO that invented the informal sector concept. It came out of the thinkers and analysts of the Third World". Also on primacy in implementation of definition "informal economy" pretended paper (Hart, K., 1973), where the term informal economy was used to describe the activities undertaken by those who have been unsuccessful at earning an adequate income in the formal system. According to the Scopus database, the oldest publication, which focused on the shadow economy and published in 1974, is paper (Werlin, H.H., 1974). In this article, the authors examine the extent to which the ILO's proposals for handling problems arising in the "informal sector," within which hawkers and squatters are considered the most troublesome, are likely to be accepted by the Kenya government and the Nairobi City Council. This paper discussed the urban problem of employment policies and the informal sector of the economy. The most recent paper, according to Scopus, is (Rigon et al., 2020). In this article, the discussion on informality encompasses both the distinction drawn between informal and formal settlements and between informal and formal economic activities.

The oldest paper in this sphere, according to WoS database, is paper (Joshi et al., 1975), in which the authors examined the employment problems of the city of Abidjan in the Ivory Coast, which were created by three sets of imbalances: between the qualifications and aspirations of the indigenous labour force, and between these and the occupational structure of the demand for human resources in the formal sector of the urban economy, as well as the possibilities for human resources absorption in the informal sector and infrastructure expansion, before dealing briefly with the social problems of population pressure. The newest article in the "urban informal economy" sphere is paper (Young, G., 2020). In this study author draws on the extensive literature on informal economic activity more generally, with a focus on cities, to outline three contrasting perspectives on its significance for peacebuilding. He also claims that any effort to incorporate informal urban economies into peacebuilding processes must prioritize democratic inclusion, grassroots organisation, and formal employment creation if they are to have a meaningful impact on the urban poor's lives. A separate area of research is the shadow financial sector. The first work, according to the Scopus database, was published in 1991 (Fernando, N., 1991) and examines sources of informal savings and credit and the significant characteristics of the informal finance market. It is followed by a discussion of the significant arrangements of informal savings and credit in the economy. The newest paper (Canh, N.P., 2020) examines the influence of financial

development in two main sub-sectors on the shadow economy's size based on the balanced panel data set of 114 economies for 2002-2015. Authors concluded that financial institutions' efficiency had a more significant effect on the shadow economy. Besides, the non-linear nexuses between economic development and shadow economy were U-shaped for some financial indicators; financial depth and financial access positively impacted the shadow economy in the short run, while financial institutions appeared to reduce it. According to WoS, the first paper in this area was published 1980 (Miracle, M., 1980) and presented a preliminary report on a more extensive study of mobilization of resources in the informal sector of African economies, focuses mainly on the savings accumulated through clubs or associations but also surveys the evidence on mobile (often ambulatory) bankers operating in African marketplaces. The last paper in this area (Valencia, G.A.D., et al., 2020) deals with analyzing the incidence of informal financing on the economic benefits of informal traders located in Cucuta's Colombian cities, Villavicencio and Ibaguè, during the year 2017. Many publications deal with the government, policy and different institutions in decreasing the shadow economy level, etc. According to the Scopus database, the first work was published in 1982 (Petersen, H., 1982). It estimated that negative correlations between some kinds of public expenditures (or taxes) and the growth rate of real GNP should not be taken in proof of the growth-retarding effects which might ensue from increasing state activities and concluded that state activities had induced shifts of resources from the formal into the informal economy. The newest one is paper (Beqiraj et al., 2020) focused on counterfeiting and the economic effects of financial crime on Italy's trade during the economic crisis. It made the conclusion that the negative effects (the production (and exchange) of fake goods depresses the legal market that relies on intellectual property rights) outweigh the positive impact (supporting shadow-economic activities for the benefit of illegal workers, criminal organisations, and political clientele). According to WoS, the oldest article is paper (Feldbrugge, F. J. M., 1984), which gave the general character of the USSR's shadow economy, its specific sector, reasons, etc. The newest one – paper (Jahan et al., 2020), which uses data from 5,506 Brazilian municipalities to estimate institutions' effect on informal sector size.

The next area of publications is the correlation between the shadow economy and ecological problems or environmental pollution. According to the Scopus and WoS databases, the first work (Porter, R. A., 1983) was published in 1983. It arouses the problem of the informal sector and pollution of rural territory. The latest paper (Turcott Cervantes et al., 2020), in its strong correlation was detected between the development and implementation of legislation and policies on waste management and correct operation and a widespread presence of the informal sector in the service. According to WoS the most recent article (Goel, R.K. et al., 2020) presented results based on a panel of more than 130 nations and allowing for reverse causality, show both own- and border pollution reduce the underground sector consistent with the substitution effect. Another sphere of research is connections between the shadow economy and crime. The oldest article in this area, which references by Scopus, is paper (Scraton et al., 1984). The authors analyzed fifty-seven notes public sanctioning of corporate management's economic crimes and sanctioning for crimes typical of lower-class persons, understanding that persons from different socioeconomic classes have varying opportunities to engage in these offenses, work positions and class status, mostly taking to account the shadow economy. In a recent paper – article (Serrano-López, M., 2020), where the author describes the use of violence and corruption as profits maximizing factors for traffickers in the coca market. According to WoS, the oldest paper (Taylor, I., 1979). This article published a book review on the famous book (Henru, S., 1978) of Henru Stuart, that is a full-length contribution to what is a growth-point in the contemporary extension of the new deviancy theory into the investigation of empirical fields of investigation theft, fraud and other forms of property offence as species of regular social interaction in conditions of the hidden economy. The latest paper (Gupta, M.R., 2020) deals with the effects of economic globalization programs on criminal activities and the degree of skilled-unskilled wage inequality. Besides, many papers deal with education, skills and the hidden economy. According to WoS, the oldest article is a paper (King, K.J., 1975). It studied the acquisition of a wide variety of skills by low-income Kenya Africans, outside the scope of government and voluntary agency programs, that have important implications for the success of the government's official formal sector apprenticeship schemes, but indicates considerable difficulties for any attempt to identify this informal world as an independent sector of Kenya's broader economy. The most recent paper (Magidi, M., 2020) discovered that in Zimbabwe, the informal economy is also playing an equally important part in providing skills, especially to the disadvantaged groups of society, identify lack of recognition as one of the challenges that informal training programs encounter. The oldest paper in this sphere, according to the Scopus database (Watts, A. G., 1981), outlined the growing importance of three informal economies (the "black" economy, the "communal" economy, and the "household" economy) in education trends and the implications for careers education. The newest paper, which published the point of view of Alvaro Huerta, PhD, holds a joint faculty appointment in Urban & Regional Planning and Ethnic & Women's Studies at California State Polytechnic University, Pomona, scholar and practitioner of the informal economy. (Huerta, A., 2020) about the connection between education and acquisition of skills in

formal and informal economies. The findings proved that despite colossal range investigations of the shadow economy from different points of view, this problem was not analyzed yet considering various aspects of macroeconomic stability. In this case, the aim of the paper was to investigate the tendency in the scientific literature on the hidden economy to identify future research directions.

Methodology

The main hypothesis of investigation is to seek the increasing tendency on analyzing the shadow economy issues by the scientists. Thus, according to the paper (Vasylieva et al., 2020) the following scheme was used for investigation:

1. Identifying the quantity trends of publishing the articles, which is devoted to analyzing the shadow economy issues.
2. Allotting the main subject areas of publishing papers focused on the shadow economy.
3. Defining the most cited papers and Journals which contained the papers on the shadow economy.
4. Clustering the articles on the main areas for research to identify further directions for analyses.

The following keywords were chosen for the analysis: shadow economy, shadow sector of economy, informal economy, informal sector of the economy, underground economy, underground sector of the economy, hidden economy and hidden sector of the economy. This study found 5361 papers from Scopus and 3773 papers from Web of Science associated with mentioned keywords. The time for analysis included all possible time samples (1970-2020 according to WoS) to define first paper and different areas of research. VOSviewer tools allow allocating and visualising the network of keywords mentioned in articles and co-citation during the research of the shadow economy issues and define direction with strong relationships (according to Vosviewer site the closer keywords are located to each other, the stronger their relations). Scopus and WoS tools were used to investigate country affiliation, journal, citation, number of the papers, the subject area and citations.

Results

The findings of analysis present that the amount of paper which devoted to the shadow economy in the database Scopus has been on same level up to 2002-2003, but after this year stated rising, with an average growth rate of 10%. A similar situation is observed with the numbers of paper which focused on the shadow economy, which published in the journals indexed by the WoS database (average growth rate – 13%), thus this database shows a significant growth rate of publications in 2014-2015. It can be attributed by the active discussion of the Transition from the Informal to the Formal Economy Recommendation, which was adopted in 2015 by the International Labor Organization as a powerful tool to advance towards the attainment of Sustainable Development Goals, especially Goal 8, which aims to “promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”. In 2015 some papers which analyze the shadow economy, according to WoS database, was increased by 95% compared with the 2014 year, according to Scopus database – by 29% (Figure 1).

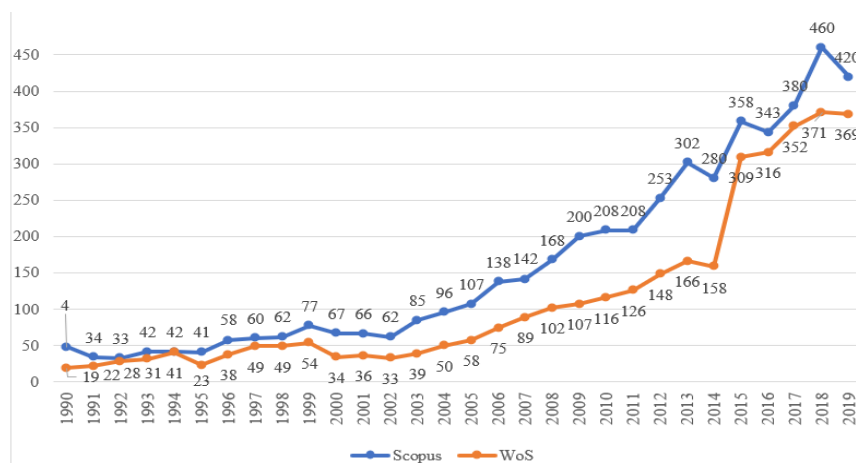


Figure 1. The number of documents in Scopus and WoS which contain the shadow economy issues

Sources: Compiled by the authors using data from Scopus and WoS

The research proved that the shadow economy was analyzed according to data of Scopus in the framework of the subject area as follows: Social science – 35,96%; Economics, Econometrics and Finance – 22,53%; Business, Management and Accounting – 12,91%; Environmental Science – 5,44%; Arts and Humanities – 6,05%; and others (Earth and Planetary Sciences; Medicine; Engineering; Agricultural and Biological Sciences; Computer Science, etc.) – 17,11% (Figure 2). According to data of WoS, in the framework of the subject area, the shadow economy was analyzed as follows: Business Economics – 34,85%; Sociology – 5,75%; Public

Administration – 5,29%; Government Law – 5,17%; Development Studies – 4,37%; Social Sciences Other Topics – 4,33%; Environmental Sciences Ecology – 4,13%; Area Studies – 4,07% and others (Computer Science; Public Environmental Occupational Health; Urban Studies; Health Care Sciences Services; Engineering; Psychology; Geography; Demography, etc.) – 32,03% (Figure 3).

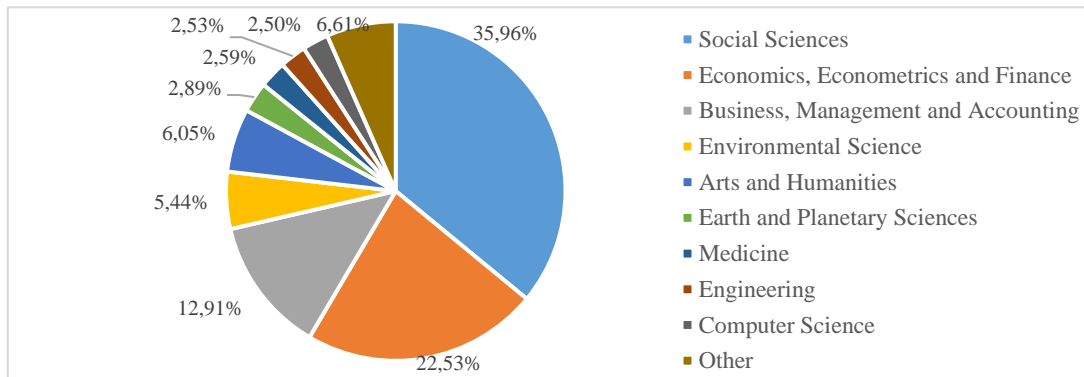


Figure 2. The subject area in Scopus for analysing the shadow economy issues

Sources: Compiled by the authors using data from Scopus

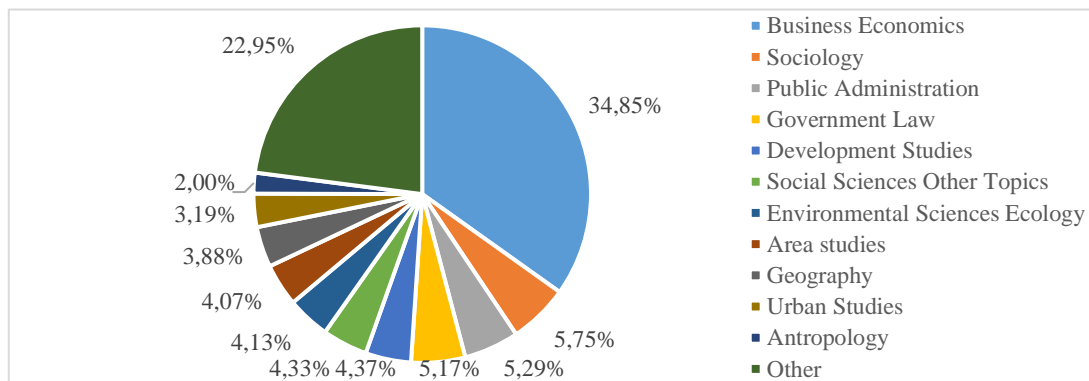


Figure 3. The subject area in WoS for analysing the shadow economy issues

Sources: Compiled by the authors using data from WoS

The country's analysis showed that mostly the scientist with the USA, United Kingdom, India, Germany, and South Africa affiliations investigated the shadow economy issues. According to the Scopus database, the top 20 countries' affiliation of the scientists studying the shadow economy issues is shown in Figure 4. Figure 4 also shows the number of publications from these countries in the WoS database.

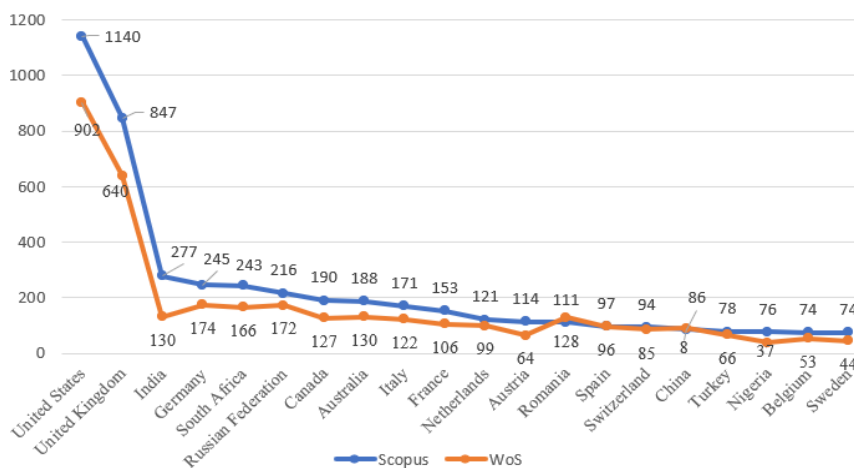


Figure 4. Top 20 country's affiliation of the scientists which investigated the shadow economy issues

Sources: Compiled by the authors using data from WoS and Scopus

Besides, considering the findings from Scopus in 2019, such high ranked journals as Studies in Systems Decision and Control, Journal of Business Ethics, Journal of Contemporary Asia, Cities began to publish more papers on shadow economy issues. Only one from the five top Journals, indexed by Scopus, which published the papers on the shadow economy, is high ranking journal (SNIP>1) (Table 1). According to WoS, this

indicator (SJR>1) is 2 from 5. According to Scopus database, 8 of 10 most cited papers were published by the high ranked Journals. The most cited papers were published by the Peruvian economist Hernando de Soto Polar in 1989 in book “The other path: the invisible revolution in the Third World” (De Soto, H., 1989) (Table 1). According to WoS database, the same situation of publishing – 8 of 10 most cited papers were published by the high ranked Journals (Table 2). In 2007 Thorsten Beck, professor of banking and finance at Cass Business School in London, research fellow of the Centre for Economic Policy Research (CEPR) and the CESifo, the founding chair of the European Banking Center, scientist of the research department of the World Bank together with Asli Demirgüç-Kunt, Chief Economist of the Europe and Central Asia Region of the World Bank and Meghana Ayyagari published article (Ayyagari, M., 2007) which cited by Scopus ranking journal 338 times (Table 3) and by WoS ranking journal 290 times (Table 4). In this paper authors presented their finding that several dimensions of the business environment, such as lower costs of entry and better credit information sharing relate to a larger size of the SME sector, while higher exit costs – to a larger informal economy.

Table 1. The top 5 Journal, indexed by Scopus, which published the papers on the shadow economy

Title of the Journal	Covered by Scopus	Subject area	Cite Score 2019	SJR 2019	SNIP 2019	Number of the papers
World Development	1973 to 2021	Social Sciences: Development, Sociology and Political Science, Geography, Planning and Development; Economics, Econometrics and Finance: Economics and Econometrics	7.1	2.223	2.880	56
Indian Journal of Labour Economics	1996, 1998 to 2013, 2015 to Present	Economics, Econometrics and Finance: Economics and Econometrics	0.2	0.125	0.956	34
Journal of Developmental Entrepreneurship	2008 to Present	Business, Management and Accounting: Business and International Management, Strategy and Management; Economics, Econometrics and Finance: Economics and Econometrics	1.4	0.273	0.535	35
International Journal of Sociology and Social Policy	1981 to Present	Economics, Econometrics and Finance: General Economics, Econometrics and Finance; Social Sciences: Sociology and Political Science	1.5	0.252	0.662	54
Applied Economics	1969 to Present	Economics, Econometrics and Finance: Economics and Econometrics	1.9	0.468	0.939	29

Sources: Compiled by the authors using data from Scopus

Table 2. The top 5 Journal, indexed by WoS, which published the papers on the shadow economy

Title of the Journal	H Index	Quartiles	SJR 2019	Quartile in Category	Numbers of the papers
World Development	164	Economics and Econometrics	2,22	Q1	35
Applied Economics	78	Economics and Econometrics	0,47	Q2	30
International Journal of Urban and Regional Research	105	Development	2,65	Q1	29
		Sociology and Political Science			
		Urban Studies			
Journal of Developmental Entrepreneurship	23	Business and International Management	0,27	Q3	27
		Strategy and Management			
		Economics and Econometrics			
International Journal of Sociology and Social Policy	68	Economics, Econometrics and Finance (miscellaneous)	0,25	Q2	25
		Sociology and Political Science			

Sources: Compiled by the authors using data from Scimagojr and WoS

According to the WoS database, the most cited paper in 1990-2019 was an article (Schneider et al., 2000) of Friedrich Schneider, Professor of Economics at Johannes Kepler University of Linz, Austria, Finance Institute, Linz, Austria and Research Professor at the German Institute for Economic Research, Berlin, Germany, who is the famous specialist in the shadow economy, author of many publications in shadow economy among Working paper of IMF and World bank. This article was cited by the WoS ranking journal 907 times (Table 3). In this paper, authors used various methods to estimate the size of the shadow economy in 76 developing, transition, and OECD countries; examined different determinants of its growth (taxation, social security contributions, state regulations, corruption, etc.) and calculated the effect of growing shadow economy on official GDP growth. Among ten the most cited papers, there is an article (Loayza, N.V., 1996) of Norman

Loayza, a Lead Economist in the Development Research Group at the World Bank. He headed the Asia hub of the Research Group, based in Malaysia and was director of the World Development Report 2014, Risk and Opportunity: Managing Risk for Development. The paper (Loayza, N.V., 1996) was cited by WoS ranking journal 252 times and presented the view that among of the most impotent reason for the informal economy rising can be mentioned 1) excessive taxes; 2) excessive regulations (which are imposed by governments); 3) impossibility of government to influence strict observance of the implemented norms and laws. The author based his research on the endogenous growth model whose production technology depends on public services. The paper uses data from Latin American countries in the early 1990s. Conclusions of the article are the following: 1) size of the shadow sector of the economy is found to depend positively on proxies for tax burden and labor-market restrictions, and negatively on a proxy for the quality of government institutions; 2) changes in policy parameters and the government institutions quality that promote an increase in the relative size of the informal economy, will generate the economic growth rate reduction; 3) an increase in the informal sector size negatively affects growth, first, by reducing the availability of public services for everyone in the economy, and, second, increasing the number of activities that use some of the existing public services less efficiently or not at all.

Table 3. The most cited papers on the i shadow economy 1950–2020 according to Scopus database

Authors and Title	Year	Source title	Cited
De Soto, H. The other path: the invisible revolution in the Third World (Article)	1989	The other path: the invisible revolution in the Third World	1212
Schneider, F., Enste, D.H. Shadow Economies: Size, Causes, and Consequences	2000	Journal of Economic Literature	1117
Seto, Karen C.; Fragkias, Michail; Gueneralp, Burak, et al. A Meta-Analysis of Global Urban Land Expansion	2011	PLoS ONE	876
Smith, N. Toward a theory of gentrification: A back to the city movement by capital, not people	1979	Journal of the American Planning Association	789
Guttentag, D. Airbnb: disruptive innovation and the rise of an informal tourism accommodation sector	2015	Current Issues in Tourism	564
Webb, Justin W.; Tihanyi, Laszlo; Ireland, R. Duane, et al. You say illegal, I say legitimate: entrepreneurship in the informal economy	2009	Academy of Management Review	481
Breman, J. Footloose labour: working in India's informal economy (Book)	1996	Footloose labour: working in India's informal economy	427
Kloosterman, R., Van der Leun, J., Rath, J., Mixed embeddedness: (In)formal economic activities and immigrant businesses in the Netherlands	1999	International Journal of Urban and Regional Research	411
Schneider, F. Shadow economies around the world: What do we really know?	2005	European Journal of Political Economy	398
Ayyagari, M., Beck, T., Demircuc-Kunt, A. Small and medium enterprises across the globe	2007	Small Business Economics	338

Sources: Compiled by the authors using data from Scopus

Table 4. The most cited papers on the shadow economy 1970–2020 according to WoS database

Authors and Title	Year	Source title	Cited
Schneider, F., Enste, D.H. Shadow economies: Size, causes, and consequences	2000	Journal of Economic Literature	907
Seto, Karen C.; Fragkias, Michail; Gueneralp, Burak, et al. A Meta-Analysis of Global Urban Land Expansion	2011	PLoS ONE	833
Webb, Justin W.; Tihanyi, Laszlo; Ireland, R. Duane, et al. You say illegal, I say legitimate: entrepreneurship in the informal economy	2009	Academy of Management Review	401
Kloosterman, R., Van der Leun, J., Rath, J., Mixed embeddedness: (In)formal economic activities and immigrant businesses in the Netherlands	1999	International Journal of Urban and Regional Research	384
Alm, J., Torgler, B. Culture differences and tax morale in the united states and in Europe.	2006	Journal of Economic Psychology	303
Ayyagari, M., Beck, T., Demircuc-Kunt, A. Small and medium enterprises across the globe	2007	Small Business Economics	290
Gërkhani, K. The informal sector in developed and less developed countries: A literature survey.	2004	Public Choice	263
Schneider, F., Buehn, A., Montenegro, C. E. New Estimates for the Shadow Economies all over the World	2010	International Economic Journal	258
Loayza, N.V. The economics of the informal sector: A simple model and some empirical evidence from Latin America	1996	Carnegie-Rochester Conference on Public Policy - Essays in Honor of Carl	252
Jayanthakumaran, K., Verma, R., Liu, Y. CO2 emissions, energy consumption, trade and income: A comparative analysis of China and India	2012	Energy Policy	243

Sources: Compiled by the authors using data from WoS.

The findings from VOSviewer identified six clusters of the papers which investigated the shadow economy from the different points of views (Figure 5).

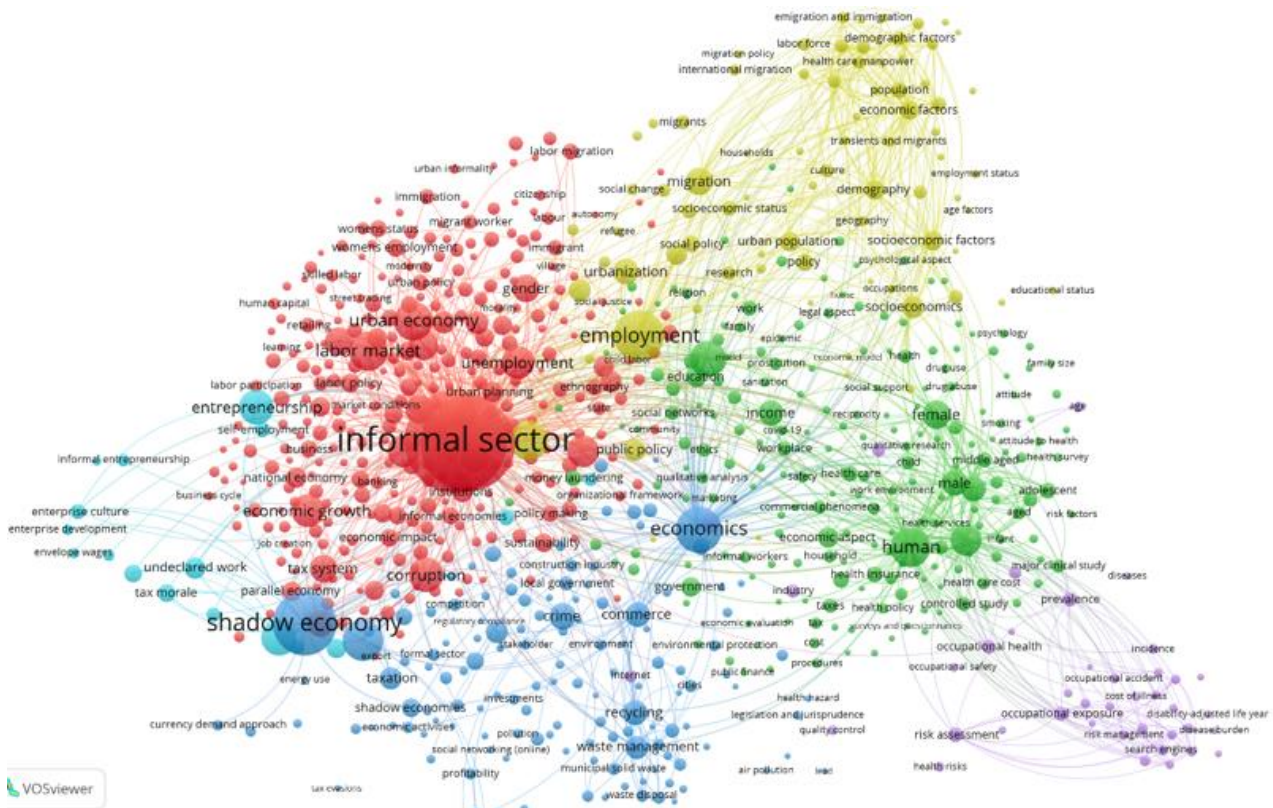


Figure 5. The network visualisation of the co-citation of the papers on the shadow economy issues

Source: Compiled by the authors using the Scopus and WoS database and VOSviewer tool

The first biggest cluster (red cluster -310 items) merged the paper which contained the keywords as follows: informal sector, informal economy, unemployment, gender, urban economy, labour market, corruption etc. (Figure 6).

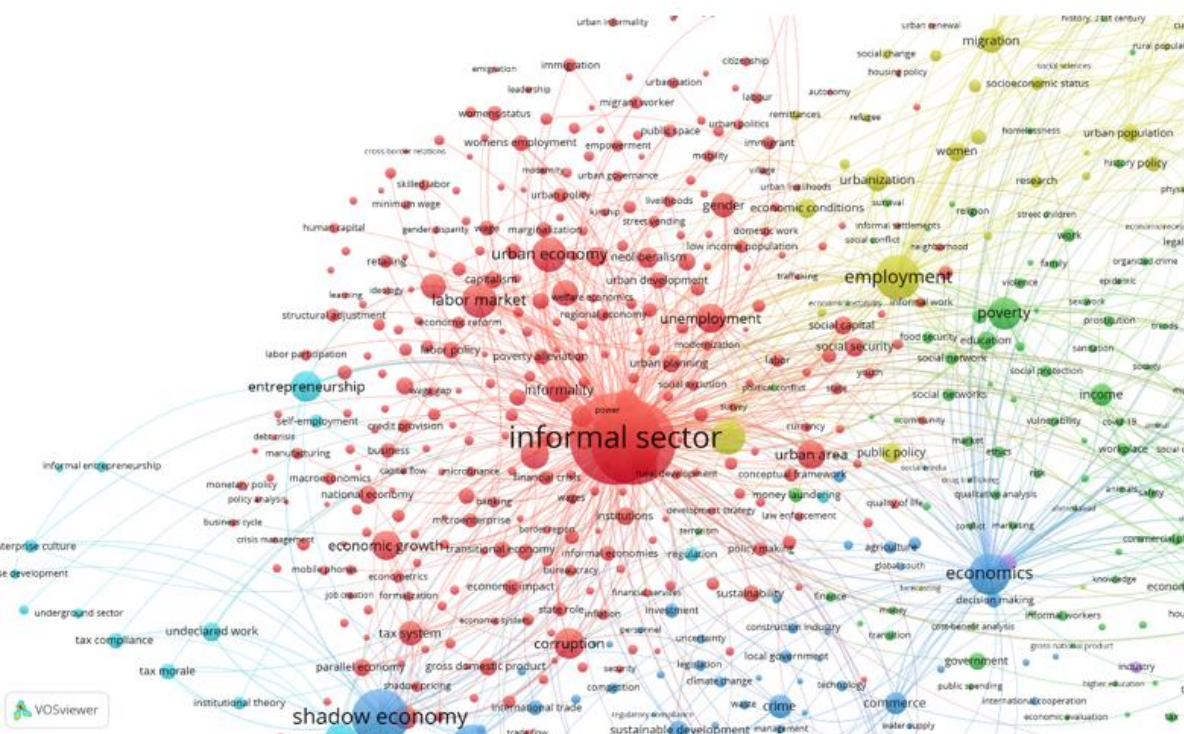


Figure 6. The network visualisation of the co-citation of the papers on the shadow economy with close areas (red cluster)

Sources: Compiled by the authors using the Scopus and WoS database and VOSviewer tool

The second biggest cluster (green cluster – 203 items) contained such issues as follows: human, poverty, male, female, education, young adult, adolescent, social protection, social network etc. The third biggest cluster (blue

2. Ayyagari, M., Beck, T., & Demircuc-Kunt, A. (2007). Small and medium enterprises across the globe. *Small Business Economics*, 29(4), 415-434. doi:10.1007/s11187-006-9002-5.
3. Bangasser, Paul E. (2000). The ILO and the Informal Sector: An Institutional History. Geneva: ILO, 10. Available at: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_142295.pdf.
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