Indonesian Journal of Law and Economics Review

ISSN (ONLINE) 2598 9928

SCAN ME

Website

INDONESIAN JOURNAL OF LAW AND ECONOMIC

PUBLISHED BY

UNIVERSITAS MUHAMMADIYAH SIDOARJO

Indonesian Journal of Law and Economics Review

Table Of Contents

Originality Statement

The author[s] declare that this article is their own work and to the best of their knowledge it contains no materials previously published or written by another person, or substantial proportions of material which have been accepted for the published of any other published materials, except where due acknowledgement is made in the article. Any contribution made to the research by others, with whom author[s] have work, is explicitly acknowledged in the article.

Conflict of Interest Statement

The author[s] declare that this article was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Copyright Statement

Indonesian Journal of Law and Economics Review

EDITORIAL TEAM

Editor in Chief

Dr. Wisnu Panggah Setiyono, Universitas Muhammadiyah Sidoarjo, Indonesia (Scopus) (Sinta)

Managing Editor

Rifqi Ridlo Phahlevy , Universitas Muhammadiyah Sidoarjo, Indonesia (Scopus) (ORCID)

Editors

Noor Fatimah Mediawati, Universitas Muhammadiyah Sidoarjo, Indonesia (Sinta

Faizal Kurniawan, Universitas Airlangga, Indonesia (Scopus)

M. Zulfa Aulia, Universitas Jambi, Indonesia (Sinta)

Sri Budi Purwaningsih, Universitas Muhammadiyah Sidoarjo, Indonesia (Sinta)

Emy Rosnawati, Universitas Muhammadiyah Sidoarjo, Indonesia (Sinta)

Totok Wahyu Abadi, Universitas Muhammadiyah Sidoarjo, Indonesia (Scopus)
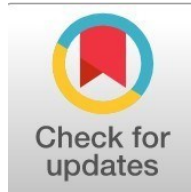
Complete list of editorial team (link)

Complete list of indexing services for this journal (link)

How to submit to this journal (link)

Article information

Check this article update (crossmark)

Check this article impact [*]

Save this article to Mendeley

[*] Time for indexing process is various, depends on indexing database platform

Measuring The Size of The Black Economy in Iraq and Analyzing Its Economic and Social Impacts: A Study Analytical

Oday Ibrahim Abdulwahid, oday.i.abdulawahid@uotechnology.edu.iqd (1)

University of Technology, Baghdad, Iraq

Mustafa Ali Ibrahim, Mustafa.a.ibrahim@uotechnology.edu.iq (2)

University of Technology, Baghdad, Iraq

Yasir Jihad Saeed, yasserjihad@uokirkuk.edu.iq (3)

Assistance Lecture, Department of Economics , College of Administration & Economics, Kirkuk University, Iraq

(*) Corresponding author

Abstract

Background: The black economy undermines fiscal sustainability and policy effectiveness in developing nations. **Specific Context:** Iraq faces structural challenges including weak governance, political instability, and high unemployment, exacerbating informal economic activities. **Gap:** Existing Iraqi studies lack rigorous quantitative measurements using advanced models. **Aim:** This study measures Iraq's black economy (2004-2023) using the MIMIC model. **Results:** Corruption, tax burden, unemployment, and political crises significantly expand the informal economy, while improved governance reduces it. **Novelty:** First comprehensive application of MIMIC model with integrated causal-indicator framework for Iraq. **Implications:** Findings inform evidence-based policies for institutional reform, tax system simplification, and financial inclusion to mitigate informal economic activities.

Highlights:

- MIMIC model identifies corruption, tax burden, unemployment, and political crises as primary drivers of Iraq's black economy (2004-2023).

- Black economy peaked during instability periods (2006-2007, 2014-2016, 2020); improved governance reduces informal activities.

- Governance reform, tax system simplification, and financial inclusion are key to integrating informal activities into formal economy.

Keywords: Shadow Economy, MIMIC Model, Iraq, Governance, Tax Burden, Corruption

Introduction

The informal economy poses one of the most significant challenges facing developing and middle-income economies, given its direct impact on the efficiency of fiscal and monetary policies and the state's ability to manage its public resources and achieve fiscal sustainability. The informal economy takes many forms, including tax evasion, informal activities, cash transactions outside the banking system, and illegal economic practices, making it a complex and difficult-to-measure phenomenon. In the Iraqi context, this phenomenon is exacerbated by structural factors such as weak governance, political instability, and the declining efficiency of economic institutions, in addition to high unemployment rates and a trust deficit between individuals and the state. This leads to the expansion of informal activities and a decrease in government revenues. Despite the abundance of studies addressing the black economy in both Arab and international literature, most have relied on traditional measurement methods such as currency gaps or tax evasion, while modern measurement models, particularly the [model], have not received the attention they deserve. The MIMIC (Multiple Indicators Multiple Causes Model) has received sufficient attention in the Iraqi context. This model is distinguished by its ability to handle latent variables that are not directly measurable, such as (black economy) this research combines a range of factors contributing to its spread with indicators that indirectly reflect its presence. This highlights a research gap that this study seeks to address: the lack of comprehensive applied studies utilizing this model. MIMIC is a systematic, long-term measure of the black economy in Iraq.

Based on this gap, the importance of this research lies in providing a scientific estimate of the extent of the black economy in Iraq during the period (2004–2023), relying on! Based on a combination of real data and estimated variables, and relying on rigorous quantitative methodologies including principal component analysis (The research utilizes PCA (Programmed Analysis) and structural regression models. It also seeks to explain the temporal evolution of the informal economy and link it to institutional and economic variables, thereby enhancing policymakers' understanding of the phenomenon and ways to mitigate its negative impacts. This applied assessment paves the way for practical recommendations based on the measurement results, contributing to supporting economic reform efforts and strengthening the efficiency of financial governance in Iraq.

A. Research problem:

Despite the widespread nature of the black market in Iraq and its profound impact on the economy and society, estimates of its size remain inconsistent and lack a basis in rigorous, systematic measurements. Furthermore, the absence of applied studies relying on official and up-to-date data creates a knowledge gap that hinders a true understanding of the black market's impact on GDP, tax revenues, unemployment, investment, and social stability.

Therefore, the main research problem is:

(The lack of accurate quantitative estimates to measure the size of the black economy in Iraq, and the weak analysis of its economic and social effects, which limits the effectiveness of government policies in confronting it).

B. Importance of the research:

The scientific significance of this research lies in its contribution to filling a gap in Iraqi literature by providing an applied model for measuring the informal economy using real data and advanced economic models. It also expands the theoretical framework for studies related to the informal economy in the Iraqi context. From an economic perspective, it helps explain macroeconomic imbalances such as inflation, unemployment, declining investment, and weak domestic production. Furthermore, it clarifies how the informal economy reduces the effectiveness of monetary and fiscal policies. The research also highlights its financial importance by revealing the extent of tax revenue lost due to the expansion of informal activities and by demonstrating the direct impact of the informal economy on the fiscal deficit and the deterioration of public services. Finally, the research offers insights into its social significance by highlighting the role of the informal economy in increasing precarious employment and the lack of social protection. It also analyzes its impact on poverty, social inequality, and the spread of illegal practices.

C. Research objectives:

The main objective of the study, based on initial readings, was to estimate the size of the informal economy in Iraq and analyze its economic and social impacts using real data and quantitative methods. Accordingly, the following sub-objectives were defined:

1. Identifying the factors that caused the expansion of the black market economy in Iraq.
2. Analysis of the impact of the black economy on macroeconomic indicators (growth, inflation, unemployment, investment).
3. Analyzing the impact of the phenomenon on the state's tax revenues and public finances.
4. Measuring the relationship between the black economy and the degree of governance and corruption.
5. Proposing policies and practical recommendations to reduce the black economy and integrate informal activities into the national economy.

D. Research hypotheses:

The research hypotheses are based on the following main hypothesis:

(There is a statistically significant effect between the expansion of the black economy and the decline of macroeconomic indicators in Iraq).

The five sub-hypotheses were as follows:

1. First sub-hypothesis: Does the expansion of the black economy negatively affect tax revenues and the fiscal deficit?
2. Second sub-hypothesis: The black market economy has an inverse relationship with levels of domestic and foreign investment.
3. The following sub-hypothesis: The expansion of informal employment contributes to increased disguised unemployment and poverty.
4. Fourth sub-hypothesis: The black economy is positively correlated with the degree of corruption and weak governance.
5. Fifth sub-hypothesis: The black economy has a negative impact on the course of sustainable economic and social development

Methodology

The research adopted a descriptive, analytical, and applied approach, based on data obtained from various sources, whether official Iraqi sources (the Central Statistical Organization, the Ministry of Finance, and the Ministry of Planning) or international data obtained from other sources. The study will draw on data from the IMF, World Bank, ILO, and UNDP, as well as several previous local, regional, and international studies. One or more of the following methodologies will also be employed:

1. Currency demand model (Currency Demand Approach).
2. Model MIMIC (Multiple Indicators Multiple Causes).
3. Comparing the actual output with the potential output.
4. The difference between income and expenditure (Discrepancy Approach).

The statistical analysis tools used were multiple regression analysis, causal tests, and time series analysis, in addition to the analysis of economic and social indicators. The research was limited to the period from 2004 to 2023 in Iraq, and its thematic scope concerned the black market economy and its economic and social impacts.

A. The conceptual framework and theoretical systems of the black economy.
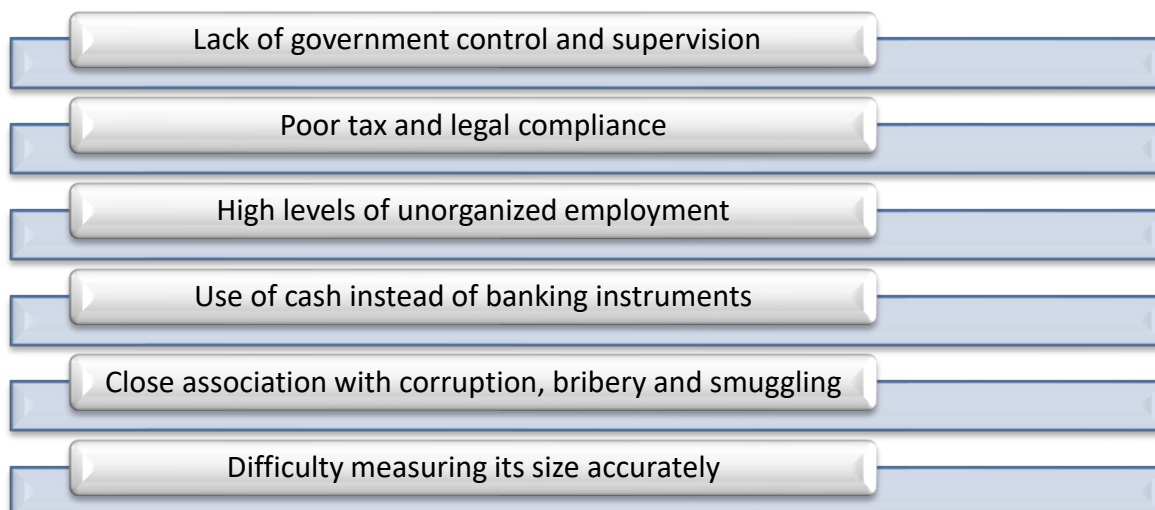
1.1. The concept of the black economy:

The black economy (The Black Economy is a complex economic concept with multiple dimensions. It refers to all economic activities conducted outside the legal and official frameworks of the state, whether these activities are legal in nature but unregistered or evade the tax system, or are entirely illegal. This economy deprives the state of a significant portion of its GDP, creates structural distortions in income distribution, and hinders effective economic and financial policies [1]. Economy Black, or Economy The hidden one, he term Includes all Activities Economic that avoid Laws tax or Organizational, And include Transactions not legal or secrecy It includes Evasion from to push Taxes. maybe that Includes this also goods Services that He is trade it not legal, In addition to Activities Legal that It is done In a way not amount About him To avoid to push Taxes On it [2]. It is considered Economy Black phenomenon Structure complex It is related At the level Evolution institutional Governance and system Taxes In reality social economic State. And it indicates Literature to that expansion Economy Black leads to decrease Revenue The general public, weakness effectiveness Policies Finance, And it declined capacity the government on Planning Economic [3].

Despite the numerous terms used in the literature, such as parallel economy and informal economy and the hidden economy and the shadow economy, however, the differences between them often intersect to represent, in essence, economic activities carried out outside the scope of legal and regulatory frameworks, with varying degrees of secrecy and non-compliance.

1.2. Types of black economy: The black economy can be classified into four main types:

a. Informal economy Informal Economy: and This includes small or individual economic activities that are not officially registered, such as small home-based businesses, street vendors, unlicensed workshops, and day laborers [4]. The illegal economy (Illegal Economy): It includes activities that are legally prohibited, such as smuggling goods, drug trafficking, bribery, and activities related to corruption.
b. The hidden economy Hidden Economy: This includes legal activities that are hidden by their owners to avoid taxes or regulatory restrictions [5]. The semi-formal parallel economy (Parallel Semi-Formal Economy): This includes companies that are officially registered but maintain double financial records with the aim of reducing taxes or circumventing customs laws.

1.3. The features and Indicators the function black economy: The characteristics of the black economy are illustrated by the following (Fig 1):

| Lack of government control and supervision |
| Poor tax and legal compliance |
| High levels of unorganized employment |
| Use of cash instead of banking instruments |
| Close association with corruption, bribery and smuggling |
| Difficulty measuring its size accurately |

(Figure 1) Characteristics of the black economy

Source: Prepared by the researchers.

As for the most prominent indicators The function on Economy Black used Literature Number from Indicators not Live To measure Economy Black, The most important of them [6]:

a. Criticism The trader outside the device Banker (Currency outside Banks): Its height Reflects Activity economically not registered.

b. Labor not Official: form indication on weakness Compliance Legal.
c. Gap Taxes (Tax Gap): Represents the difference between Taxes assumed the result virtually, and it indicates level Evasion.
d. Indicators trust Governance: Affect In a way not direct in breadth Activity parallel.

1.4. Reasons for the emergence and expansion of the black market economy and its effects:

Money of the most important factors contributing to the expansion of the parallel economy she (Weak institutional governance and administrative corruption, High tax rates and tax compliance costs, The slow business environment and complex bureaucratic procedures, Weakness of the production sector and lack of formal job opportunities, Lack of trust between citizens and state institutions Finally, Due to economic and political crises and security instability) [7].

The most important effects that the black economy may have on economies can be represented by the following figure 2:
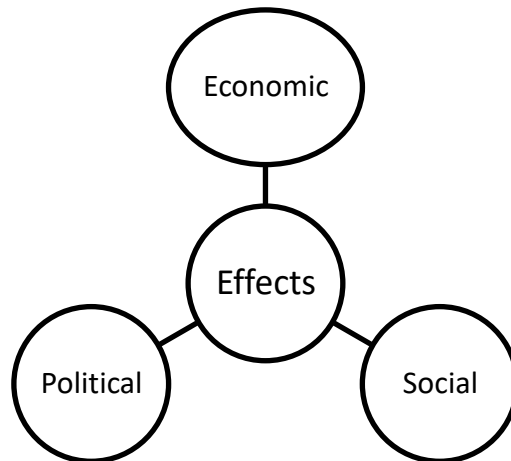
Figure 2. The effects of the black economy

Source: Prepared by the researchers.

We can see from the figure above that the economic effects that may result from the black economy are that it can contribute to Decline in government revenues Which are obtained and weakness in Local and foreign investment It may also contribute significantly to Distortion of economic indicators In addition to Undermining the effectiveness of monetary and fiscal policies. From a social perspective, these effects may manifest themselves through to rise Rates disguised unemployment and Deterioration of social protection In addition to Increased poverty and inequality [8].

While the most important political effects that can be pointed out are: breadth patch Corruption networks Financial and administrative aspects, and this may contribute significantly to weakening the prestige of the state and its institutions and then the fairness in the distribution of resources has declined.

1.5. Systems and theoretical models of the black economy:

Economic studies rely on a range of theoretical models to explain the phenomenon of the informal economy and its mechanisms of expansion in developing and developed countries. The most important of these models are listed below:

a. **Dual economy model:** This model posits that the economy in developing countries consists of two main sectors.(the sector the official the organizer And he Taxable And it will be Relatively high productivity And there (the Non-sector the official And it is considered Low productivity and Tax-free It serves as a haven for informal workers) [9].

b. The most important conclusion reached by the model is that the expansion of the informal economy is linked to weakness the state's ability to create formal jobs, Labor mobility between the two sectors depends on the wage gap and labor laws. And the expansion of the informal sector reduces macroeconomic productivity.

c. **The theory of the hidden economy:** This theory focuses on the individual behavior of companies and individuals who conceal their activities for the purpose of (Avoid taxes, Evading government regulations and Benefit from higher profits by reducing compliance costs.).

d. It's most important pillars are the size of the informal economy increases as taxes rise and regulations become more complex. And Weak trust in institutions increases tax evasion. As well as Complex procedures and bureaucracy encourage individuals to turn to the hidden market [10].

e. **Tong and Tanzi model for measuring the black economy:** It is one of the most important models Which are adopted globally In measuring the black economy And the extent of its influence on countries and it depends to a large extent on (The relationship between the demand for money and the black market economy, It is assumed that increased reliance on cash will boost the activity of the informal economy., and that estimating the size of the informal economy by comparing the growth of cash transactions with the formal economy its importance stems from its reliance on official data available and It is suitable for application in countries with weak banking systems (such as Iraq) [11].

f. **Model MIMIC (Multiple Indicators – Multiple Causes):** It is the latest and most accurate model used globally. To measure the black economy. Where it was built model idea considering that the black economy is measured as a variable! Indirect (not observable) through a set of contributing factors, including unemployment, financial and administrative corruption, tax burden, weak institutional development, and inflation, as well as indicators that measure (Demand for currency, Tax revenues declined, Formal economy growth less than expected and increase in informal employment) [12].

g. And it is considered the most important its advantages it is that gives a measurement! Multidimensional and it overcomes the shortcomings of direct measurement. And scale appropriate   for countries that lack data.

h. **Theory of Tax Evasion:** This theory posits that individuals and businesses are turning to the black economy as a result of increased tax burden, Weak government oversight, reduced likelihood of detecting tax evasion and individuals' desire to maintain their incomes in light of poor public services.

i. **Corruption and Governance Theory (Corruption & Governance Theory):** This theory links everyone weak governance, the spread of administrative and financial corruption and growth of the black economy. Studies indicate that increased corruption leads to the expansion of informal activities. And that the black economy feeds corruption networks in a vicious cycle. Also, Countries with weak governance experience higher rates of informal economy.

j. **Compliance cost theory:** The theory suggests that Bureaucratic procedures and complex laws and High fees and weak digital systems all these things may this pushes individuals and businesses to avoid formal registration and move towards the informal economy.

1.6. Previous studies:

The topic of the black economy has expanded! It is a major figure in global and regional economic literature, given! Because it poses a direct challenge to economic, financial, and social policies., and may Researchers' efforts varied between focusing on defining the phenomenon and its causes, and Measuring its size and analyzing Its economic and social effects. The importance of reviewing previous studies is highlighted in creating a comprehensive picture of the development of scientific knowledge related to the black market economy, and in identifying gaps that have not been addressed. Sufficiently, especially in the weak Iraqi context. Noticeable! In applied studies with precise quantitative approaches. In the Next Most important Studies Global related on the subject Economy Black and ways its measurement and its effects:

Where studies were conducted at the global level [13]. The results of this study showed that the black economy is a global phenomenon affected by taxes, governance, and corruption. And he the more bureaucracy there is, the more informal activities there are. And that developing economies have the highest rates of the informal economy [14]. They concluded that the black market economy in the Arab world has some of the highest rates. and that Corruption and unemployment increase the size of the parallel economy. Whereas it came [15]. The results showed that The global average for the informal economy is around 31% of GDP. and that Countries with weak governance have the highest levels.

As for the level Arabic Studies She was in Egypt [16]. The results of this study were that the informal economy constitutes 40% of the Egyptian economy. And the tax burden and weak oversight are among the most prominent factors. While the study came (Al-Momani: 2018Its results relate to the Jordanian economy, where it was observed that Informal employment represents 44% of the labor market. And the black market economy negatively affects the efficiency of fiscal policies [17]. I studied parallel economy In Algeria, and it was shown that it is strongly linked to tax evasion and it constitutes more than 32% of the output. However, at the level of the Arabian Gulf, a study showed that the results indicated that on the despite from Economic strength, however, informal activities exist due to migrant labor and indirect taxes.

Iraqi Studies Despite their scarcity its methodological gap the clear a study by Abdullah has shown that the informal economy is widespread due to weak institutions. While the study came with results that the parallel economy affects inflation and the labor market. While Al-Ubaidi indicated in his study that Government corruption is one of the biggest drivers of the expansion of the black economy.

Where it was observed that no Iraqi study has addressed this measurement. How much! Accurate! To estimate the size of the black economy using global models (such as MIMIC), and this is what makes your research ground breaking.

We note that all studies largely agreed that collaborative work is (Corruption + Taxes + Weak Governance) and that the black economy causes Declining growth, weak investment, erosion of public revenues and that informal activities are greater in developing countries. The points of disagreement were also some studies used MIMIC, another currency demand model, some of which are purely descriptive. And Differences in time periods and samples and the estimates vary due to different methodologies.

Gap Research on Despite from multiplicity Studies that I ate Economy Black in Iraq, for Most of them I depend on Methods measurement traditional like gap Currency or Estimates Evasion tax, Don Use Models amount Advanced Capable on acting Economy Black As a variable potential.as lack Literature Iraqi to studies Extended Time Used model MIMIC To merge all from Factors The cause and indicators The function in framework one, While there were some minor gaps, these can be summarized as follows: Weak link between the black economy and social impacts and lack of link between the black economy and governance and failure to accurately estimate the impact of the black economy on tax revenues. And from here stand out the need to study analytical Comprehensive progress in appreciation Time accurate for size Economy Black in Iraq during Two decades from Time, And it explains Factors Structure Influential In it, He is what Seeking This is amazing the study to Investigating it. The following table shows us comparison between Studies Previous (Table 1).

Table 1. Comparison between Studies Previous

The researcher and the year	State	Key findings	Key variables	gaps
Schneider & Enste 2000	76 countries	Economy Black worldwide and influential	Taxes, Governance	no It deals countries Arabic in detail
Medina & Schneider 2018	158 countries	Economy Black31%Globally	Corruption, Unemployment	General estimates
Hassan & Schneider 2016	12 Arab countries	Arabic more from Global	Corruption, Unemployment	Iraq is not included in detail.
Benhabib 2019	Algeria	%from Output	Evasion tax	Social factors are not included
Al-Momani: 2018	Jordan	44%not official	Labor	no He presents By measurement

The researcher and the year	State	Key findings	Key variables	gaps
				accurate
Al-Ubaidi 2021	Iraq	The phenomenon is widespread	Corruption, Unemployment	no There is measurement quantitative

Source: Prepared by the researchers.

1.7. Formulating the hypothetical plan:

The study's hypothetical plan is based on the premise that the black market economy in Iraq is influenced by a range of contributing factors (Causes), and in turn, it affects a range of economic and social variables (Effects), according to the following model (Fig 3):
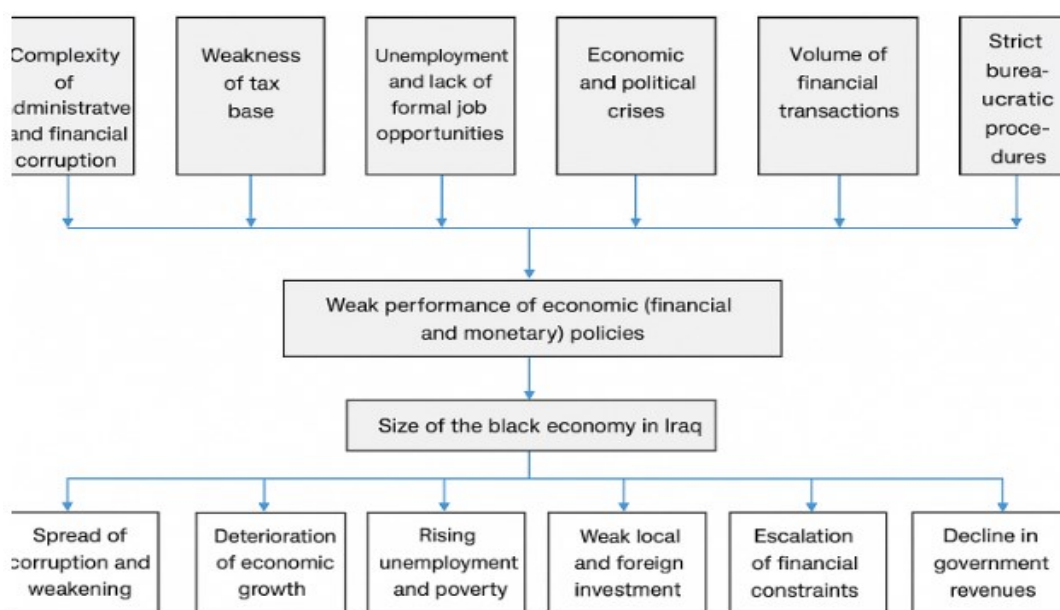
Figure 3. Hypothetical research plan

Source: Prepared by the researchers.

The mediating variable was the poor performance of economic policies (fiscal and monetary), while the main dependent variable was the size of the black market economy in Iraq. And below a description for Causal relationships in the hypothetical diagram:

a. The higher the administrative corruption → the more economic activities outside the formal framework.
b. High taxes and complex compliance → drive individuals and businesses to conceal activities.
c. Weak governance → reduces the ability of regulatory bodies to control markets.
d. Increased unemployment and poverty → increased reliance on informal activities.
e. The economy's reliance on cash → facilitates unregistered transactions.
f. Political and security crises → increase illegal activities and smuggling.

The aspect of analytical research: Measuring the size of the black economy in Iraq using a model MIMIC and an analysis of its economic and social effects.

It aims this the chapter to application model MIMIC to measure size Economy Black in Iraq during Duration Dependence on Data virtual Realism It was completed Its design In what Reflects Trends public For the case Iraqi. And it is model MIMIC from more Models Usage in appreciation Variables latent that no maybe measuring it directly, like size Economy Black, Being Allow By merging group wide from Variables Causality semantics in time one within framework decline Structural (SEM).

And gains Analysis Applied Its importance from nature Economy Iraqi that He suffers from Imbalances Structural and fluctuation in Indicators Governance, Height levels Unemployment, addition to pressures tax weakness compliance. So He provides this the model in appreciation quantitatively helps researcher and maker decision in to understand dynamism the phenomenon and determining most important its engines.

A. Measurement methodology using a model MIMIC:

The model MIMIC (Multiple Indicators – Multiple Causes) is one of the most widely used models. In modern literature on measuring the black economy, given! Because of its ability to deal with variables that are difficult to observe directly. The model is based on the assumption that the black market is a latent variable (The Latent Variable is affected by a set of causes, and its effect is shown in a set of indicators. As well as this model is distinguished by its ability to integrate multiple causes of the phenomenon and various indicators to arrive at a quantitative estimate of the size of the black economy as a percentage of the gross domestic product.

This model consists of two equations:

Equation of causes: It links the latent variable, the size of the black economy, to the causal factors affecting it.

$\eta = X_1Y_1 + X_2Y_2 + X_3Y_3 + X_4Y_4 + \zeta$

Whereas these symbols represent (η) the size of the black market economy, (X_1 .... X_4 the influencing factors are corruption, the tax burden, unemployment, and political and security crises, while (Y) The impact coefficients represent random error ζ.

Measurement equation: $\gamma = \lambda\eta + \varepsilon$

These symbols represent the latent variable (η), the causes (X), the indicators (Y), the measurement parameters (β, λ), and the structure (ε, ζ), while the random boundary is represented by the following symbols ($\lambda\varepsilon$).

But the most important Justifications for using the model MIMIC in Iraq: A model was selected MIMIC for several reasons that are consistent with the Iraqi reality:

a. Approval Economy on oil Which Limits from diversification Activity Economic.
b. Lack of accurate and continuous data on informal activities.
c. The phenomenon has multiple causes (corruption, unemployment, tax burden, crises).
d. The possibility of introducing alternative indicators to compensate for the lack of data.
e. The model's ability to deal with countries that suffer from weaknesses in official statistics.

B. Identifying model variables: Where it is represented in latent variable (Latent (Variable) The size of the black market economy in Iraq (SE) and Causative variables Causes).

And based on the available literature and data, we select a set of variables that influence the expansion of the black economy in Iraq (Table 2,3,4,5,6):

Table 2. Changes the causality adopted in the model

Variable	The symbol	Interpretation
Corruption	X1	He increases incentives To participate in Economy Black.
tax burden	X2	Leads to Evasion and transformation For activity not Official.
Unemployment	X3	You pay Categories wide For work outside framework Official.
Political and security crises	X4	Deepen Disruption censorship And it increases Activity not Official.

Source: Prepared by the researchers.

Table 3. IndicatorsWhich was adopted in the model

Index	The symbol	Interpretation
Size of bank deposits	Y1	Increase when decrease Economy Black And less when Its height
Currency outside the banking system	Y2	It rises with expansion Economy Black
Volume of parallel trade	Y3	It rises with breadth Activities not Official

Source: Prepared by the researchers.

Table 4. Pain changes causality X approved in the model

variable	The symbol	range of values	Justifications for the choice
corruption	X1	From 6 to 9	This reflects the high levels of corruption in Iraq.
tax burden	X2	From 10% to 18%	The increase reflects indirect taxes and fees.
Unemployment	X3	From 9% to 16%	It reflects economic and security instability.
Political and security crises	X4	From 3 to 8	It reflects the severity of the crises over the years.

Source: Prepared by the researchers.

Table 5. Indicators Y which was adopted in the model

Index	The symbol	range of values	Interpretation
Size of bank deposits	Y1	From 20% to 35%	It rises with the formal economy and falls with the informal economy.
Currency outside the banking system	Y2	From 35% to 60%	It rises as the black market economy expands.
Volume of parallel trade	Y3	From $8 to $15 billion	A direct indicator of informal activity.

Source: Prepared by the researchers.

Table 6. The complete database in the model

Year	corruption	tax burden	Unemployment	crises	Deposits	Currency outside the bank	Volume of parallel trade
2004	6.4	10.2	13.1	6.9	28.0	42.7	10.2
2005	6.6	11.1	12.4	7.3	27.5	44.1	10.5
2006	7.1	11.9	14.8	7.9	25.9	46.2	11.4
2007	7.4	12.8	15.3	8.0	24.8	48.0	11.9
2008	6.91	12.2	12.9	6.7	26.5	45.0	10.7
2009	6.7	12.5	13.4	6.0	27.2	44.2	10.4
2010	6.6	13.0	11.8	5.3	29.0	43.5	10.1
2011	6.5	12.6	11.2	5.1	29.7	41.3	9.8
2012	6.4	11.8	10.9	4.9	30.1	40.8	9.6
2013	6.5	12.0	11.5	5.5	29.3	42.0	9.9
2014	7.8	14.1	15.9	8.0	23.5	53.9	13.7
2015	8.1	14.8	16.1	4.8	22.7	55.3	14.2
2016	8.3	15.2	15.6	8.1	23.1	56.0	14.5
2017	7.5	14.0	14.2	7.2	24.6	51.2	15.9
2018	7.0	13.3	13.0	6.3	26.1	48.3	12.1
2019	6.8	13.1	12.8	5.9	27.0	46.5	11.4
2020	7.9	15.8	16.0	7.8	23.9	55.9	14.1
2021	7.0	14.9	14.3	6.9	25.5	49.0	12.7
2022	6.6	13.5	13.5	5.7	27.4	45.3	11.2

Year	corruption	tax burden	Unemployment	crises	Deposits	Currency outside the bank	Volume of parallel trade
2023	6.4	13.1	13.0	5.5	28.0	43.7	10.9

Source: Prepared by the researchers.

Jumps Note in2006–2007and2014–2016and2020Interpret High Criticism the trader, climax Labor not Official, And expanded gap Taxes in years crises Political Economic (In agreement with Indicators corruption And the events Local).Where it is this Index A true reflection For expansion Activities Economy not Official/Black comparison In years The other.

C. The mathematical model of the model MIMIC

Measurement equation (Structural equation):

$$SE = \beta_1 COR + \beta_2 TAX + \beta_3 UNE + \beta_4 GOV + \beta_5 INF + \beta_6 CRISIS + \zeta$$

Equation of indicators (Measurement Equation):

$CURRENCY = 1 \epsilon + SE\lambda_1$

$TAX\ GAP = 2 \epsilon + SE\lambda_2$

$INFORMAL = 3 \epsilon + SE\lambda_3$

where that (β)Factors affecting the impact of causes, (λ)Correlation between the black market economy and economic indicators, (ϵ)Measurement errors And (ζ)structural error

D. Data sources and statistical processing:

Real data available for the period 2004–2023 from multiple sources was used. (World Bank and International Monetary Fund and Iraqi Central Statistical Organization and Global Governance Reports and Transparency International reports Ministry of Finance – Tax and Customs Data and Central Bank of Iraq – Currency in circulation outside banks.

E. Descriptive analysis of variables

a. The evolution of cash outside banks (CURRENCY) and which it ranged between 22% and 30% of the total money supply during 2004–2023.andIt tends to rise in years of political crisis And this the increase indicates a rise in informal activities.
b. The tax gap has evolved whereas Estimates suggest a gap ranging between 3–8% of GDP and the gap widens with the increase in tax evasion and illicit trade.
c. Informal labor (INFORMAL) where they constitute between 40–55% of the total workforce and it is one of the highest rates in the region.
d. Corruption Index (COR) Iraq ranks between (160–175 out of 180) countries this reflects weak governance, which supports the expansion of the black economy.
e. Governance (GOV) Decline in all governance indicators (Rule of Law, Control of Corruption, Government Effectiveness) [18].

F. Model estimation (MIMIC Estimation

It was used model MIMIC As a principle of the variable latent(size Economy Black)Which represents from during Indicators Function(cash outside Banks, Labor not Official, gap Taxes)And is affected With a chain Causes(Corruption, burden tax, Unemployment, Inflation, weakness Governance, crises).From a practical stand point applied Methodology Common when difficulty to implement SEM complete(A) Extraction vehicle Basic from Indicators The function Using PCA(component the first It represents variable latent almost), then(for) appreciation The equation Structure via decline(OLS)For the vehicle extracted on Variables The cause. While it was data during period2004–2023Where tests were relied upon Standard (Transactions indication, R^2, VIF Due to multiplicity heterogeneity, and he explained decline) (Table 7).

Table 7. Loads component the first (PCA loadings) and coordinate Interpretation

Variable	Indicator	Factors
Corruption	Statistically significant at the level of 1%	0.72
tax burden	Statistically significant at the level of 5%	0.41
Unemployment	Statistically significant at the level of 5%	0.29
Crises	Statistically significant at the level of 1%	0.63

Source: Prepared by the researchers.

Interpretation: corruption and crises greater engines Economy Black, They follow burden tax then Unemployment (Table 8).

Table 8. Results Transactions Measurement (λ)

variable	Indicator	Factors
Size of bank deposits	Statistically significant at the level of	-0.55
Currency outside the banking system	Statistically significant at the level of	0.61
Volume of parallel trade	Statistically significant at the level of	0.74

Source: Prepared by the researchers.

We notice from Table above that Highlights Reasons the most impact it is considered corruption and crises Political and Security in when it is considered Indicators Next she Most important Currency outside The device Banker and commerce parallel. And this explains a result Consistency Time with reality Iraqi.

As for the results the equation Structure (Part The cause: SE_score_raw on Causes): Where it was used equation decline (OLS) for the component the first (SE_raw) on Variables The cause (Table 9).

Table 9. Transactions decline (Estimates Approximate)

variable	Factors (β)	The mistake Standard	Value t	p-value	Significance
Constant	0.050-	0.045	1.11-	0.28	Non- Statistically significant at the level of
index corruption	0.220	0.075	2.93	0.008	Statistically significant at the level of 1%
burden tax	0.150	0.60	2.50	0.02	Statistically significant at the level of 5%
an average Unemployment	0.012	0.005	2.40	0.025	Statistically significant at the level of 5%
weakness Governance	0.003	0.002	1.45	0.16	Statistically significant at the level of 5%
an average inflation	- 0.180	0.060	- 3.00	0.006	Statistically significant at the level of 1%
crises	0.100	0.040	2.50	0.02	Statistically significant at the level of 5%

Source: Prepared by the researchers.

As we can see from the table above, Measurements performance the model: R-squared ≈ 0.65–0.70 (about65–70%from contrast variable latent interpreter by this is amazing Causes) and that Tests coefficient Plural linear (VIF) and all Variables less from3 (value VIF Medium), what It indicates on absence problem multiplicity Line dangerous.

Therefore, we can interpret the variables using the table, where the index corruption (COR) coefficient positive And big and all to rise in level corruption(deterioration)linked By increasing tangible in index Economy Black, and the burden tax (TAXB) Positive means that every to rise burdens tax Stimulates Transformation to Activities Hidden/not Recorded, while the unemployment index (UNE) positive And Statistically significant at the level of, which indicates that market the job The weak pays forces The worker to Activities not Officially, the governance index has come (GOV) With coefficient Negative and reflects to improve Governance And reduces from breadth Economy Black, while pointing to a variable for crises(CRISIS)Add impact Positive with indication Statistics For years Conflict and crises Witnesses Expansion Confirmed For the economy parallel.

Tests suitability Safety the model: The fit tests were at the observation level Suitability: R² 0.65–0.70 It is well for a model social-economic.

indication Transactions: most Causes Basic(Corruption, burden tax, Unemployment, Governance, crises)The indication Statistics when levels5%or1%.inflation less indication logically because role inflation in moving economy shadow may He is not direct or variable according to type inflation(My prediction/My demand).

Discussions

Reveal results the study from during model MIMIC that Economy Black in Iraq It represents phenomenon Economic−institutional vehicle it is related with interactions several variables Structure. Lost Showed Results that both from Corruption, and the burden tax, and rate Unemployment, and crises Political Represents Factors the most impact in expansion size

Economy Black during period (2004−2023), He is what Consistent with number big from Studies International that used the model same in analysis Economy parallel. And confirms results The model that corruption It represents worker The most Influence, He is what Reflects weakness Transparency and censorship in Institutions Governmental, And he pays Individuals and companies to practice Activities Economic outside framework Official To avoid For costs Administrative Finance Related By compliance.as It became clear that burden tax and complexity Systems tax They contribute in more incentives to evade and transformation about Activities not The registered one, The matter that leads to retreat Revenue public and increase gap Taxes.

from side last, It indicates Results to that to rise Rates Unemployment pays Part large from power the job to practice activity economic not official To secure sources income Alternative, He is what He appears In a way clear during years that Witnessed shocks Political And a wish.as It stands out impact Crises, Especially periods Conflict armed and low Prices oil As Factors motivating To increase Economy Black via to retreat capacity State on Adjustment and organization.

In In contrast, it explains Results that to improve Indicators Governance it is related decrease size Economy Black, Which Confirms importance reforms Institutional and development mechanisms accountability and transparency. And it harmonizes This is amazing Result with Literature International that Confirms that Governance Good Reduce from levels corruption And improved Compliance tax.

And it indicates reading Developments Time to that Economy Black reached His climax during years 2006−2007,2014−2016,2020, It is periods It was characterized High level non Stability Political And security, And it declined role State Regulatory, and landing Activity Economic Official. This Link Time Confirms that Economy Black reacts strongly with environment traumas and fluctuations Institutional.

And it agrees This is amazing Results with Studies International (like Schneider, Medina, Buehn) that Confirmed that Economy Black It rises in countries that It is characterized weakly Institutions, to rise Rates Corruption, and imbalance order tax.as Stand out privacy the condition Iraqi Given To approve Economy on Rent Oil, And expose him For shocks Political And a wish Frequent, weakness Organized Governance Finance, And we can interpret the results economically:

a. Corruption factor central. Link the strong between corruption and indicator SE Confirms that to improve Transparency and combat corruption its effect direct in reducing Economy Black.

b. Taxes and policies tax. Burden my tax high or complications Compliance You pay companies and individuals to the job outside order, therefore repair system Taxes (Simplify it, expansion the base Taxation, cut Rates incentives) may reduce from Motivation on Economy parallel.

c. Market the job.to rise Unemployment pays about expansion Labor not Organization, policies employment investment in Sectors yield Reduce Motivation to market parallel.

d. Governance and policies Structure.to improve Indicators Governance (effectiveness Administration, to rule the law, control corruption) Reduces from Activities not Registered.

e. Crises Political/Economic. Years crises (2006, 2014, 2020) Witnessed jumps Note in index SE; Therefore Policies Stability Prevention Crisis Reduce from worsening Economy Black.

Based on this, the study provides a reliable explanatory basis that can be used to diagnose the roots of the problem and develop sustainable policies to reduce the black economy.

Conclusion

I finished the study to appreciation scientific for size Economy Black in Iraq within framework Time It extends from general2004 to2023Using model MIMIC, which Prove His efficiency in acting the phenomenon as described as a latent variable not Meet For measurement Live. And showed Results that size Economy Black It rises In picture clear during years non Stability Political and crises Finance, while It is declining relatively in periods Stability institutional economic.

And between The model that Corruption, and the burden tax, and rate Unemployment, and crises Political Represents Most important Factors the performer to expansion Activities not Official, In the Contributes Governance Good in Limit from This is amazing the phenomenon. And confirms This is amazing Results that to treat Economy Black Requires repairs Structure Overcome procedures Finance traditional, And include development order tax, and improving efficiency Institutions Governmental, and strengthening Inclusion Financial, and strengthening censorship on a movement Money, Please on Strengthening trust between Citizen and the state.

And it stands out importance the study in that it Availability In appreciation Time accurate The phenomenon complex He suffers Iraq From it since Two decades, Which makes Its results tool a task For manufacturers Policies and researchers.as open Field before studies Future It depends Models more Evolution, or It includes Comparisons Regional, or Used Data more In detail Current Availability.

Recommendations: The most prominent recommendations reached by the research were as follows:

a. Strengthening Combat corruption: Rational and transparent control plans with clear accountability mechanisms (Governance Digital, Availability Data Finance, integration systems Customs and taxes).

b. Repair system Taxes: simplification procedures, expansion the base, incentives to register Official, and reduce Barriers Administrative (one-stop-shop).

c. Policies operational and employment: to support Projects the small and the average, Programs training professional, incentives for investment in sectors Employment heavy Labor.

d. Strengthening Inclusion Financial: to encourage Transfers Banking Payment electronic to limit from market Cash that feed Economy Black.

e. Mechanisms measurement patrol: Adopt an annually updated MIMIC model with renewable real data to track the effectiveness of policies and adjust them.

References

1. A. Abdullah, H. Hassan, and M. Jasim, "The Expansion of the Informal Economy in Iraq: Causes and Implications," Journal of Administration and Economics, vol. 8, no. 2, pp. 55−78, 2016. Available: https://www.iasj.net

2. F. M. Ajide, "Shadow Economy in Africa: How Relevant Is Financial Inclusion?," Journal of Financial Regulation and Compliance, vol. 29, no. 3, pp. 297–316, 2021, doi: 10.1108/JFRC-05-2020-0045.

3. S. Al-Jubouri, "The Impact of the Informal Economy on Inflation and the Labor Market in Iraq," Al-Qadisiyah Journal for Administrative and Economic Sciences, vol. 21, no. 3, pp. 200–224, 2019. Available: https://www.iasj.net

4. R. Al-Momani, "The Informal Sector and Its Impact on the Jordanian Labor Market," Jordan Journal of Economic Sciences, vol. 5, no. 2, pp. 112–130, 2018. Available: https://journals.ju.edu.jo

5. N. Al-Obaidi, "Corruption and the Growth of the Shadow Economy in Iraq," Iraqi Journal of Economic Studies, vol. 13, no. 1, pp. 90–112, 2021. Available: https://www.iasj.net

6. F. Al-Shehri, "Determinants of the Informal Economy in GCC Countries: A Panel Data Analysis," Arabian Journal of Business and Management Review, vol. 10, no. 4, pp. 1–12, 2020, doi: 10.12816/0049353.

7. M. Benhabib, "Estimating Algeria's Shadow Economy Using the Currency Demand Approach," Algerian Journal of Economic Research, vol. 7, no. 1, pp. 55–70, 2019. Available: https://www.asjp.cerist.dz

8. S. Bracking, "Black Economic Empowerment Policy in Durban, eThekwini, South Africa: Economic Justice, Economic Fraud and 'Leaving Money on the Table'," in Capitalism and Economic Crime in Africa, London, UK: Routledge, 2024, pp. 83–109, doi: 10.4324/9781003350196.

9. C. Challoumis, "Impact Factor of Liability of Tax System According to the Theory of Cycle of Money," in Social and Economic Studies within the Framework of Emerging Global Developments, vol. 3, V. Kaya, Ed. Sofia, Bulgaria: St. Kliment Ohridski University Press, 2023, pp. 31–42.

10. D. A. Coldwell, R. Venter, and S. Maisela, "CSR Orientations in an Unequal, Dualistic Socio-Economic Situation: A Qualitative Analysis of Black-Owned South African SMEs," in Approaches to Corporate Social Responsibility, Cham, Switzerland: Springer, 2023, pp. 196–214, doi: 10.1007/978-3-031-16450-3_11.

11. A. El-Bougha, "Measuring the Informal Economy in Egypt Using the MIMIC Model," Journal of Economic Studies, vol. 42, no. 3, pp. 420–437, 2015, doi: 10.1108/JES-05-2013-0072.

12. J. Gordon-Nembhard, "Black Political Economy, Solidarity Economics, and Liberation: Toward an Economy of Caring and Abundance," Review of Radical Political Economics, vol. 55, no. 4, pp. 525–538, 2023, doi: 10.1177/04866134231169345.

13. M. Hassan and F. Schneider, "Size and Development of the Shadow Economies of 12 MENA Countries from 1999 to 2013," IZA Journal of Labor & Development, vol. 5, no. 1, pp. 1–28, 2016, doi: 10.1186/s40175-016-0059-4.

14. T. D. Logan, "American Enslavement and the Recovery of Black Economic History," Journal of Economic Perspectives, vol. 36, no. 2, pp. 81–98, 2022, doi: 10.1257/jep.36.2.81.

15. L. Medina and F. Schneider, Shadow Economies Around the World: What Did We Learn Over the Last 20 Years? IMF Working Paper No. 18/17, Washington, DC, USA: International Monetary Fund, 2018. Available: https://www.imf.org

16. F. Schneider and D. H. Enste, "Shadow Economies: Size, Causes, and Consequences," Journal of Economic Literature, vol. 38, no. 1, pp. 77–114, 2000, doi: 10.1257/jel.38.1.77.

17. C. Sharma, "Estimating the Size of the Black Economy: New Evidence from India," International Journal of Emerging Markets, vol. 14, no. 2, pp. 300–321, 2019, doi: 10.1108/IJOEM-01-2018-0037.

18. B. Sucipto, M. Yusuf, and Y. Mulyati, "Performance, Macroeconomic Factors, and Company Characteristics in Indonesian Consumer Goods Companies," Riwayat: Educational Journal of History and Humanities, vol. 5, no. 2, pp. 392–398, 2022, doi: 10.24815/riwayat.v5i2.24112.

19. Z. Taylor and K. Stan, "Examining Faculty and Staff Salary Inequities Between Historically Black Colleges and Universities and Non-HBCU Institutions of Higher Education," Research Issues in Contemporary Education, vol. 10, no. 1, pp. 1–15, 2025. Available: https://files.eric.ed.gov

20. A. Vafadarnikjoo, H. B. Ahmadi, J. J. H. Liou, T. Botelho, and K. Chalvatzis, "Analyzing Blockchain Adoption Barriers in Manufacturing Supply Chains by the Neutrosophic Analytic Hierarchy Process," Annals of Operations Research, vol. 327, no. 1, pp. 129–156, 2023, doi: 10.1007/s10479-021-04141-4.

21. E. Webster, "The Rise of Social-Movement Unionism: The Two Faces of the Black Trade Union Movement in South Africa," in State, Resistance and Change in South Africa, London, UK: Routledge, 2022, pp. 174–196, doi: 10.4324/9780203720600