



ЭКОНОМИКА РАЗВИТЫХ И РАЗВИВАЮЩИХСЯ СТРАН ECONOMIES OF DEVELOPED AND DEVELOPING COUNTRIES

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Evaluation of energy security changes in Iran under the economic sanctions: lessons for Russian Federation

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Abstract. The impact of Western sanctions on Iran's energy security is reviewed, and significant changes in the country's energy landscape are highlighted. The main goal is to assess how the sanctions have affected various aspects of energy security, including accessibility, security, and infrastructure development. Between 2000 and 2010, Iran's energy security index improved significantly, rising from 35.46 to 61.1. This was driven by increased investment in energy infrastructure and access to affordable energy resources, which allowed the country to strengthen its energy sector. However, the introduction of comprehensive sanctions in 2011 was a turning point that caused a sharp decline in the energy security index due to reduced international investment and limited access to technology and financial resources. Partial recovery was observed after the conclusion of the Joint Comprehensive Plan of Action (JCPOA) in 2015, when sanctions were temporarily eased, which allowed for the resumption of external contacts. Nevertheless, the US withdrawal from the agreement in 2018 led to the re-imposition of sanctions, further worsening the energy security situation. The situation has worsened against the background of the COVID-19 pandemic, which has disrupted global energy markets, and increasing geopolitical tensions. By 2021, the energy security index has dropped to 27.58, reflecting serious challenges. Data analysis indicates a strategic shift in priorities: Iran has focused on ensuring energy availability for Iranian consumers and producers in the country's manufacturing sector. To improve energy security, the study suggests that Iran diversify its energy mix, strengthen regional partnerships, improve energy efficiency, and modernize outdated infrastructure. It is concluded that similar strategies for overcoming sanctions and mitigating their negative consequences for national energy security are applicable to Russia, and attention is focused on diversifying energy resources, self-sufficiency, and strengthening ties with non-Western countries.

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Оценка изменений в энергетической безопасности Ирана под воздействием экономических санкций: уроки для Российской Федерации

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Аннотация. Рассмотрено влияние западных санкций на энергетическую безопасность Ирана, подчеркнуты значительные изменения в энергетическом ландшафте страны. Основная цель — оценить, как санкции повлияли на различные аспекты энергетической безопасности, включая доступность, обеспеченность и развитие инфраструктуры. В период с 2000 по 2010 г. индекс энергетической безопасности Ирана значительно улучшился, поднявшись с 35,46 до 61,1. Это было обусловлено увеличением инвестиций в энергетическую инфраструктуру и доступом к недорогим энергетическим ресурсам, что позволило стране укрепить свой энергетический сектор. Однако введение всеобъемлющих санкций в 2011 г. стало поворотным моментом, вызвавшим резкое снижение индекса энергетической безопасности из-за сокращения международных инвестиций и ограниченного доступа к технологиям и финансовым ресурсам. Частичное восстановление наблюдалось после заключения Совместного всеобъемлющего плана действий (СВПД) в 2015 г., когда санкции были временно смягчены, что позволило возобновить внешние контакты. Тем не менее выход США из соглашения в 2018 г. привел к повторному введению санкций, еще больше ухудшив ситуацию с энергетической безопасностью. Обстановка усугубилась на фоне пандемии COVID-19, которая нарушила глобальные энергетические рынки, и усиливающихся геополитических напряженностей. К 2021 г. индекс энергетической безопасности снизился до 27,58, что отражает серьезные вызовы. Анализ данных указывает на стратегическое смещение приоритетов: Иран сосредоточился на обеспечении доступности энергоносителей для иранских потребителей и производителей в обрабатывающем секторе страны. Для повышения энергетической безопасности исследование предлагает Ирану диверсифицировать энергобаланс, укреплять региональные партнерства, повышать энергоэффективность и модернизировать устаревшую инфраструктуру. Сделан вывод о применимости для России аналогичных стратегий по преодолению санкций, смягчению их негативных последствий для национальной энергетической безопасности, акцентируется внимание на диверсификации энергоресурсов, самообеспеченности и укреплении связей с незападными странами.

Ключевые слова: экономические санкции, топливно-энергетический сектор, нефтехимическая промышленность, Иран, Россия, структура экономики, политика самообеспечения, импортозамещение

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Introduction

After World War II, economic sanctions emerged as a strategic tool used by the Western bloc to penalize countries that violate international norms or engage in behavior deemed threatening to global stability. Unlike direct military interventions or “soft war” tactics such as diplomatic isolation or covert operations (Bianchi, Sosa-Padilla, 2024), sanctions have proven to be a more cost-effective measure for imposing pressure. As mentioned by Khalid U. et al., (Khalid et al., 2024), sanctions involve targeted restrictions on trade, finance, or assets, impacting the sanctioned country’s economy without the significant expenditure associated with deploying military forces or funding prolonged propaganda campaigns.

Iran and the Russian Federation are two prominent examples of countries that have faced heavy economic sanctions imposed by the Western bloc, led primarily by the United States and the European Union. Both nations rely heavily on oil-based economies and are in the process of developing their economic structures. However, the impact of these sanctions has varied between the two. While both countries have experienced economic strain, the specific consequences on their social and economic mechanisms differ due to factors such as domestic policies, global market integration, and political resilience. In Iran, sanctions have led to inflation, a weakened currency, and significant impacts on daily life (Arzoumanian, 2024; Duong et al., 2024; Farzanegan, Batmanghelidj, 2024; Jabari et al., 2024; Nakhli et al., 2021), while Russia, with a larger and more diversified economy, has shown greater capacity to weather the economic challenges despite facing severe financial and trade restrictions (Benchimol, Palumbo, 2024).

For both Iran and the Russian Federation, energy security is crucially tied to their ability to meet domestic energy needs and maintain stable export routes to international markets. However, economic sanctions imposed by Western powers can have fundamental and structural consequences on their energy security. Sanctions disrupt access to critical technologies, investment, and international markets, hindering both countries’ ability to develop and maintain energy infrastructure. For Iran, restrictions have limited its access to foreign investments and technologies

needed for oil and gas production (Ghasseminejad, Jahan-Parvar, 2021), while Russia faces challenges in exporting energy due to sanctions on its financial and transport sectors (Chen et al., 2023).

The primary question of this research is to explore how economic sanctions have impacted Iran's level of energy security. To address this, we apply the 4As framework of energy security (Amin et al., 2022; Rybak et al., 2023) — Availability, Accessibility, Affordability, and Acceptability — and gather primary data for two distinct periods: 2000–2010 and 2011–2022. These timeframes allow us to evaluate how Iran's energy security has changed before and after the intensification of sanctions. The main research hypothesis suggests that economic sanctions have significantly weakened Iran's energy security by reducing availability and accessibility to energy resources and technologies, increasing energy costs, and undermining energy acceptability due to market and political isolation. The findings of this research could offer important lessons for the Russian Federation, which, following the onset of the “special military operation” in 2022, has faced similar heavy economic sanctions from the Western bloc. By analyzing Iran's experience, the research may provide insights into how long-term sanctions could affect Russia's energy security, highlighting potential vulnerabilities and strategies for mitigation.

This research contributes to the existing literature by providing a detailed, empirical analysis of Iran's energy security levels across two critical time spans — before (2000–2010) and after (2011–2022) the imposition of heavy economic sanctions. While previous studies have examined the broad impacts of sanctions on Iran's economy, few have specifically quantified how sanctions have affected its energy security using the 4As framework (Availability, Accessibility, Affordability, and Acceptability). By employing this model and gathering primary data for these distinct periods, the research offers a comparative assessment of Iran's energy security, capturing the structural shifts caused by sanctions.

The remainder of this paper is structured as follows: Section 2 provides a comprehensive review of the relevant literature, setting the theoretical foundation for the study. Section 3 discusses the nature of economic sanctions and their specific impacts on the Iranian economy, offering context for the case study. Section 4 focuses on the methodology of energy security indexation in Iran, detailing the application of the 4As framework and data collection for the two time periods under study. Section 5 presents the findings, analyzing how Iran's energy security has evolved under the influence of sanctions. Finally, Section 6 offers concluding remarks, summarizing the key insights, policy recommendations, and lessons that could be relevant for the Russian Federation, which is currently facing heavy sanctions due to its special military operation.

Literature review

Economic sanctions have been widely studied for their significant impacts on the economies of sanctioned nations, particularly in the cases of Iran and Russia. In Iran, sanctions, especially those imposed after 2011, have targeted key sectors such as oil

exports (Fattahi, Na), banking (Bolgorian, Mayeli, 2019), and financial systems (Draca et al., 2023). These restrictions have led to economic contraction, high inflation, currency devaluation, and a sharp decline in foreign investment (Roudari et al., 2023). Studies also show that sanctions disrupted Iran's energy sector, limiting access to technology and capital for oil and gas development, which, in turn, weakened its energy security and export capabilities (Aflatooni et al., 2022). Similarly, the Russian Federation has faced economic sanctions since 2014, and more severely after the 2022 special military operation in Ukraine. Research indicates that these sanctions have slowed Russia's economic growth, restricted its access to international financial markets, and reduced foreign direct investment (Hosoe, 2023). While Russia's diversified economy has shown some resilience compared to Iran, sanctions have still significantly impacted its energy sector, particularly in terms of technology imports and investment for oil and gas exploration (Batzella, 2024; Klose, 2024; Sedrakyan, 2022).

Despite the extensive research on the economic impacts of sanctions on Iran, there remains a notable gap in the literature when it comes to evaluating how these sanctions have specifically affected the country's energy security. While existing studies have focused on broader economic indicators such as GDP contraction, inflation, and the decline in oil exports, few have systematically analyzed changes in energy security before and after the imposition of heavy sanctions in 2011. This gap includes a lack of detailed examination of the 4As of energy security — Availability, Accessibility, Affordability, and Acceptability — within the context of sanctions. Understanding how each of these dimensions has shifted in response to economic restrictions is crucial for assessing the long-term sustainability of Iran's energy sector and for informing future policy.

Economic sanctions and Iranian economy: Evolutions and trends

Iran has a long and complex history of enduring economic sanctions, especially from Western powers. The first significant sanctions occurred in the 1950s during the oil nationalization movement (Jahromi, 2021), when Britain imposed restrictions on Iran's government and its economic activities abroad. After the Islamic Revolution in 1979, sanctions were reimposed by Western nations, targeting Iran's local economy and foreign partnerships (Seliktar, 2021). From 2004, sanctions intensified due to concerns over Iran's nuclear program, reaching a peak in 2011 when the U.S. froze the assets of the Central Bank of Iran, imposed sanctions on Iran's petrochemical and energy sectors, and cut the country's access to the SWIFT financial network in March 2011 (Kelishomi, Nistico, 2022). The JCPOA, a multinational agreement signed in 2015 between Iran and the P5+1 (the U.S., UK, France, Russia, China, and Germany), provided temporary relief by lifting some sanctions, but the reimposition of sanctions resumed after the U.S., under the Trump administration, withdrew from the JCPOA in 2018. Since then, Iran has faced ongoing sanctions due to its nuclear program and support for regional groups like Hezbollah and Hamas, which oppose Israel's policies in the region. This has left Iran in a prolonged state of economic isolation and hardship.

The sanctions imposed on Iran have significantly reshaped its market and economic structure, pushing the country to strengthen its import substitution strategies and develop a knowledge-based economy driven by local skills and labor. Faced with limited access to international markets and resources, Iran has prioritized self-reliance in key sectors, aiming to reduce dependency on foreign imports. However, two major challenges persist: the low level of foreign direct investment (FDI) into Iran and the lack of technology transfer from Western nations. These limitations have hindered Iran’s ability to modernize industries and maintain competitive growth (Aloosh, Salavati, Aloosh, 2019). In response, Iran has adopted policies such as pivoting toward Eastern markets (Rasoulinezhad, Sabri, 2022), particularly China and Russia, and promoting the localization or “Iranification” of previously imported goods.

Energy security indexation in Iran

Indexing energy security is always a complex task, as the concept has evolved into a multi-dimensional issue over the past decades. This paper utilizes the 4As framework — availability, accessibility, affordability, and acceptability — to calculate a composite index of energy security for the case of Iran. Table presents the proxies used for each aspect of the 4As framework and the database for collecting primary data.

Description of proxies for the 4As framework

Aspect	Proxy	Origin of data
Availability	The potential and proven reserves of energy sources	
Accessibility	The completeness of energy supply chains and infrastructure	Statistical center of Iran, International Energy Agency, Iran data portal, BP statistical Review of world Energy
Affordability	The price of energy and the cost of energy products and services	
Acceptability	The adoption of green energy to reduce environmental impacts	

Source: completed by E. Rasoulinezhad.

To construct a composite index, we apply the geometric average method.

$$\text{Energy security index} = \left(\prod_{i=1}^n x_i \right)^{1/n}. \quad (1)$$

In Equation (1), the energy security index is the composite index, while x_i represents the individual normalized indicators and n shows the total number of indicators. In this context, each x_i would correspond to the normalized values for each aspect of the 4As framework (availability, accessibility, affordability, and acceptability).

This method offers several advantages: it reduces the impact of extreme values, ensures proportionality (meaning that a change in one indicator has a balanced effect

on the overall index), and is suitable when the indicators have different units or scales. Additionally, it captures the multiplicative relationships between indicators, reflecting situations where poor performance in one dimension cannot be easily offset by high performance in another.

The empirical analysis evaluates Iran’s energy security levels over two significant periods: before (2000–2010) and after (2011–2022) the implementation of stringent economic sanctions. The choice of 2000 as the starting year and 2022 as the ending year is based on the availability of relevant data. The years 2011–2012 mark a pivotal phase in the sanctions regime against Iran, as these were the initial years of intensified international pressure. Notably, the Iran Sanctions, Accountability, and Human Rights Act of 2012 (H.R. 1905) was enacted by the U.S. Congress on August 1, 2012, which introduced significant measures aimed at curbing Iran’s economic activities, particularly in the energy sector.

Results

This section presents the evaluation and interpretation of the changes in the energy security index, as detailed below:

Changes in the composite index of energy security

The composite index of energy security for Iran is calculated for two distinct periods: before the sanctions and after the sanctions. Figure 1 and 2 illustrates the changes over these time spans.

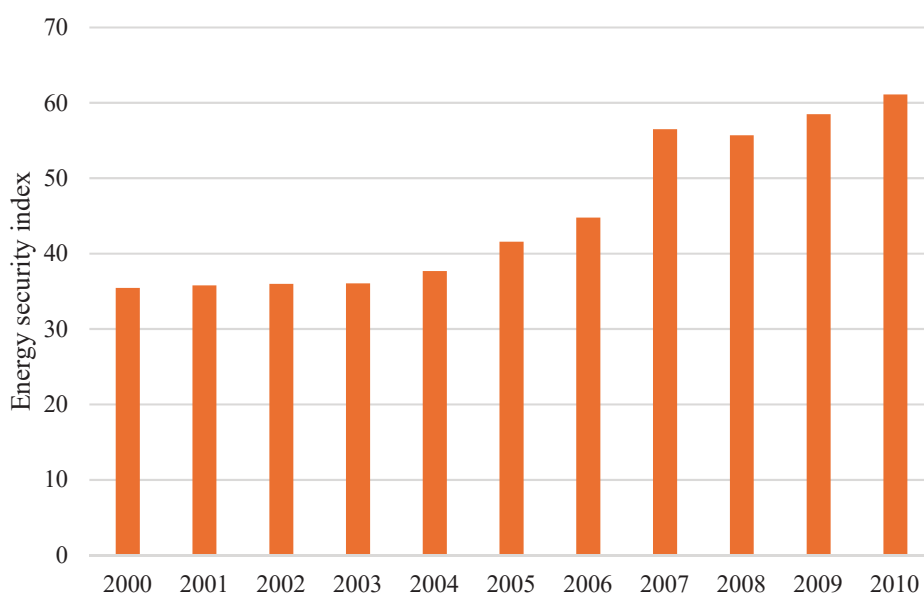


Figure 1. Changes of energy security index before sanctions (2000–2010)

Source: completed by E. Rasoulnezhad.

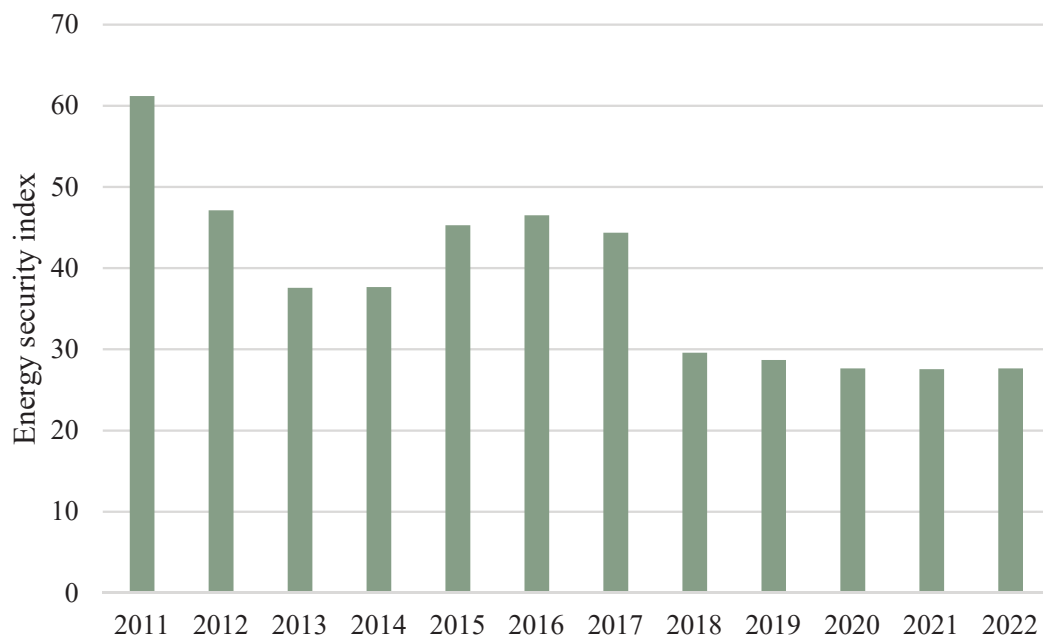


Figure 2. Changes of energy security index after sanctions (2011–2022)

Source: completed by E. Rasoulinezhad.

The energy security index in Iran showed a general upward trend from 2000 to 2010, starting at 35.46 in 2000 and steadily increasing to reach 61.1 by 2010, indicating an improvement in energy security before the sanctions. However, after the sanctions began in 2011, peaking at 61.2, the index experienced a significant decline, dropping to 47.12 in 2012 and continuing its downward trend. The period of sanctions included the 2015 Joint Comprehensive Plan of Action (JCPOA) agreement between Iran and the P5+1 (the US, UK, France, Russia, China, and Germany), which initially brought some relief. Nevertheless, the situation worsened after 2018 when President Trump withdrew from the agreement, leading to renewed sanctions. The decline in the energy security index was further exacerbated by the COVID-19 pandemic in 2021, which disrupted global markets, and by rising geopolitical tensions in 2022. These factors collectively contributed to a steep decline in the index, reaching a low of 27.58 in 2021, with only a slight recovery to 27.67 in 2022, reflecting a substantial deterioration in energy security during the sanction period compared to the pre-sanction years.

Changes in the 4As aspects of energy security

Another level of analysis focuses on the aspects of the 4As framework, which we present using a radar diagram in Figure 3.

Based on the radar diagram, we can conclude that before the imposition of heavy sanctions by the Western bloc (2000–2010), acceptability and affordability were the main pillars of energy security in Iran. During this period, Iran had access to relatively cheap energy resources and invested in domestic energy infrastructure, which helped maintain stable and affordable energy prices for its citizens. However,

after the sanctions were imposed, the energy landscape in Iran shifted dramatically. The sanctions targeted key sectors, including oil exports, technology imports, and foreign investments, which limited Iran’s ability to maintain and develop its energy infrastructure. As a result, the acceptability and affordability of energy declined due to rising costs and reduced access to modern, efficient technologies. In contrast, the availability aspect improved as Iran redirected its focus towards increasing domestic production and reducing dependency on imported technology and resources. This shift led to an increase in energy availability but at the expense of higher prices and environmental standards, highlighting the trade-offs Iran faced in adapting to the sanctions.

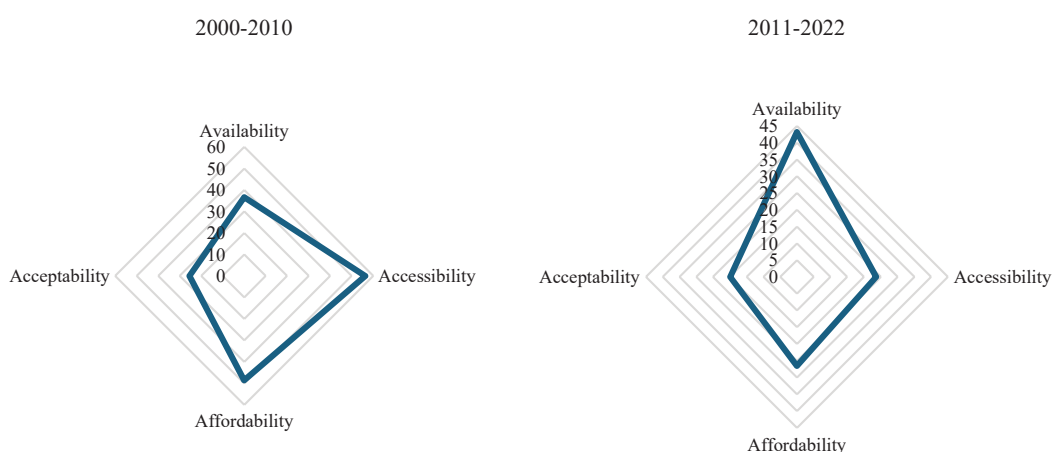


Figure 3. 4As aspects of energy security

Source: completed by E. Rasoulinezhad.

Conclusion

This study demonstrates that the imposition of heavy sanctions by the Western bloc significantly impacted the energy security landscape in Iran. The period from 2000 to 2010 showed a notable improvement in energy security, as indicated by a steady rise in the energy security index from 35.46 to 61.1, driven by investments in domestic infrastructure and the availability of affordable energy. However, the onset of sanctions in 2011 marked a turning point, leading to a sharp decline in the index. While there was a brief period of relief following the 2015 JCPOA agreement, the situation deteriorated further after the US withdrawal from the deal in 2018, compounded by the global disruptions caused by the COVID-19 pandemic and escalating geopolitical tensions. The energy security index reached its lowest point in 2021 at 27.58, illustrating the severe consequences of sanctions on Iran’s energy sector. The radar diagram analysis further highlights the shift in the dimensions of energy security: while acceptability and affordability were the dominant aspects prior to the sanctions, the post-sanction

period saw a focus on availability as Iran prioritized domestic production to cope with reduced international access. However, this shift came at the cost of higher energy prices and compromised environmental standards, underscoring the complex trade-offs Iran faced under prolonged sanctions.

To improve energy security under sanctions, Iran should adopt practical policies based on the 4As framework — availability, accessibility, affordability, and acceptability. For availability, Iran needs to continue diversifying its energy mix, increasing investments in renewable energy sources like solar and wind to reduce overdependence on oil exports. For accessibility, enhancing regional energy partnerships and boosting cross-border energy trade can help offset international limitations. Affordability can be improved by increasing energy efficiency measures across all sectors, investing in technologies that reduce consumption, and implementing targeted subsidies to protect vulnerable groups from rising costs. Regarding acceptability, policies should aim to modernize energy infrastructure to meet higher environmental standards, such as upgrading refineries to reduce emissions and investing in cleaner technologies.

For the Russian Federation, which also faces Western sanctions and relies heavily on oil exports, similar lessons can be drawn. Diversifying its energy sources, investing in renewable energy technologies, and strengthening regional energy alliances could help Russia mitigate the effects of sanctions. Both Iran and Russia can learn from each other's experiences by focusing on self-sufficiency, energy diversification, and international cooperation outside of Western markets to maintain energy security under restrictive conditions.

For future research, expanding the analysis to calculate the energy security index in the Russian Federation before and after the 2022 Western sanctions would provide valuable insights into how sanctions impact energy-dependent economies. By examining changes in Russia's energy security over time, similar to the case of Iran, researchers can identify key vulnerabilities and adaptive strategies in response to external pressures. Additionally, studying the development of renewable energy in both Iran and Russia could offer practical solutions for reducing dependency on fossil fuels. Exploring the potential of renewables as a means to enhance energy security under sanctions can reveal how transitioning to cleaner energy sources might buffer these countries against economic and geopolitical risks associated with fluctuating oil markets and restrictive international policies.

References

- Aflatooni, A., Ghaderi, K., & Mansouri, K. (2022). Sanctions against Iran, political connections and speed of adjustment. *Emerging Markets Review*, 51 (Part B), 100889. <https://doi.org/10.1016/j.ememar.2022.100889>
- Aloosh, M., Salavati, A., & Aloosh, A. (2019). Economic sanctions threaten population health: the case of Iran. *Public Health*, (169), 10–13. <https://doi.org/10.1016/j.puhe.2019.01.006>
- Amin, S., Chang, Y., Khan, F., & Taghizadeh-Hesary, F. (2022). Energy security and sustainable energy policy in Bangladesh: From the lens of 4As framework. *Energy Policy*, (161), 112719. <https://doi.org/10.1016/j.enpol.2021.112719>

- Arzoumanian, S. (2024). How does Russia's economy affect the region? Transmission channels and policy options. *Emerging Markets Review*, (63), 101205. <https://doi.org/10.1016/j.ememar.2024.101205>
- Batzella, F. (2024). Slowly but surely? Assessing EU actorness in energy sanctions against Russia. *Energy Policy*, (192), 114233. <https://doi.org/10.1016/j.enpol.2024.114233>
- Benchimol, J., & Palumbo, L. (2024). Sanctions and Russian online prices. *Journal of Economic Behavior & Organization*, (225), 483–521. <https://doi.org/10.1016/j.jebo.2024.07.013>
- Bianchi, J., & Sosa-Padilla, C. (2024). On wars, sanctions, and sovereign default. *Journal of Monetary Economics*, (141), 62–70. <https://doi.org/10.1016/j.jmoneco.2023.10.011>
- Bolgorian, M., & Mayeli, A. (2019). Banks' characteristics, state ownership and vulnerability to sanctions: Evidences from Iran. *Borsa Istanbul Review*, 19(3), 264–272. <https://doi.org/10.1016/j.bir.2019.02.003>
- Chen, Y., Jiang, J., Wang, L., & Wang, R. (2023). Impact assessment of energy sanctions in geo-conflict: Russian-Ukrainian war. *Energy Reports*, (9), 3082–3095. <https://doi.org/10.1016/j.egy.2023.01.124>
- Draca, M., Garred, J., Stickland, L., & Warrinnier, N. (2022). On target? Sanctions and the Economic Interests of Elite Policymakers in Iran. *The Economic Journal*, 133(649), 159–200. <https://doi.org/10.1093/ej/ueac042>
- Duong, K., Huynh, L., Phan, A., & Vu, N. (2024). From Russia with love: International risk-sharing, sanctions, and firm investments. *Economics Letters*, (244), 112005. <https://doi.org/10.1016/j.econlet.2024.112005>
- Farzanegan, M., & Batmanghelidj, E. (2024). Understanding economic sanctions on Iran: A survey. *The Economists' Voice*, 20(2), 197–226. <https://doi.org/10.1515/ev-2023-0014>
- Fattahi, S., & Nafisi-Moghadam, M. (2023). Do oil sanctions affect the interdependence and integration of financial markets? *Heliyon*, 9(2), e13793. <https://doi.org/10.1016/j.heliyon.2023.e13793>
- Ghasseminejad, S., & Jahan-Parvar, M. (2021). The impact of financial sanctions: The case of Iran. *Journal of Policy Modeling*, 43(3), 601–621. <https://doi.org/10.1016/j.jpolmod.2021.03.001>
- Hosoe, N. (2023). The cost of war: Impact of sanctions on Russia following the invasion of Ukraine. *Journal of Policy Modeling*, 45(2), 305–319. <https://doi.org/10.1016/j.jpolmod.2023.04.001>
- Jabari, L., Salem, A., Zamani, O., & Farzanegan, M. (2024). Economic sanctions and energy efficiency: Evidence from Iranian industrial sub-sectors. *Energy Economics*, (139), 107920. <https://doi.org/10.1016/j.eneco.2024.107920>
- Jahromi, F. (2021). An appraisal of local content requirements in the Iranian oil and gas industry. *Resources Policy*, (73), 102151. <https://doi.org/10.1016/j.resourpol.2021.102151>
- Kelishomi, A., & Nistico, R. (2022). Employment effects of economic sanctions in Iran. *World Development*, (151), 105760. <https://doi.org/10.1016/j.worlddev.2021.105760>
- Khalid, U., Ali, M., Okafor, L., & Sanusi, O. (2024). Do sanctions affect the environment? The role of trade integration. *Research in Globalization*, (8), 100191. <https://doi.org/10.1016/j.resglo.2023.100191>
- Klose, J. (2024). Empirical effects of sanctions and support measures on stock prices and exchange rates in the Russia-Ukraine war. *Global Finance Journal*, (59), 100925. <https://doi.org/10.1016/j.gfj.2023.100925>
- Nakhli, S., Rafat, M., Dastjerdi, R., & Rafei, M. (2021). Oil sanctions and their transmission channels in the Iranian economy: A DSGE model. *Resources Policy*, (70), 101963. <https://doi.org/10.1016/j.resourpol.2020.101963>
- Rasoulinezhad, E., & Sabri, P. (2022). Economic resilience in challenging times: A crossroads of Russia's experience and prospects for Iran. *Journal of World Sociopolitical Studies*, 6(4), 805–833. <https://doi.org/10.22059/wsps.2023.361967.1360>

- Roudari, S., Ahmadian-Yazdi, F., Arabi, S., & Hammoudeh, S. (2023). Sanctions and Iranian stock market: Does the institutional quality matter? *Borsa Istanbul Review*, 23(4), 919–935. <https://doi.org/10.1016/j.bir.2023.03.006>
- Rybak, A., Rybak., & Kolev, S. (2023). A synthetic measure of energy security taking into account the influence of rare earth metals. The case of Poland. *Energy Reports*, (10), 1474–1484. <https://doi.org/10.1016/j.egy.2023.08.018>
- Sedrakyan, G.S. (2022). Ukraine war-induced sanctions against Russia: Consequences on transition economies. *Journal of Policy Modeling*, 44(5), 863–885. <https://doi.org/10.1016/j.jpolmod.2022.08.003>
- Seliktar, O. (2021). Iran's geopolitics and revolutionary export: The promises and limits of the proxy empire. *Orbis*, 65(1), 152–171. <https://doi.org/10.1016/j.orbis.2020.11.008>

Віо note / Сведения об авторе

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