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The Impact of Global Trade Wars on Export Commodity Price Volatility in Developing Economies

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Abstract

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International trade wars have emerged as a major global challenge in recent decades, particularly involving powerful economies such as the United States and China. Trade frictions through tariffs, quotas, and other non-tariff barriers disrupt global trade flows and intensify market uncertainty. For resource-dependent countries like Indonesia, these dynamics directly affect the price stability of key export commodities such as coal, oil, palm oil, nickel, and rubber. This study employs a qualitative method through literature review, relying on secondary data from journals, scholarly publications, and international institutional reports. Findings reveal that the impacts of trade wars are multifaceted and vary across commodities, often amplified by exchange rate depreciation, supply chain instability, and shifting investor sentiment. To mitigate these effects, adaptive strategies are required, including market diversification, industrial down streaming, and improvements in logistics systems. These efforts are essential for strengthening economic resilience and reducing vulnerability to global market turbulence, especially for developing economies heavily reliant on commodity exports.

1. Introduction

In recent decades, the global trade landscape has been marked by increasingly complex dynamics, largely driven by rising geopolitical frictions and the resurgence of protectionist trade policies among nations. One of the most striking manifestations of this trend is the international trade war, which not only involves economic giants such as the United States and China but also reshapes the overall structure of global trade systems (Wei, 2019). Trade wars, typically reflected in the escalation of tariffs, non-tariff measures, and import export restrictions, function as instruments of political economy that can significantly destabilize international markets, including the strategic sector of export commodities. The U.S., China trade dispute, for example, has generated a chain reaction across countries embedded in global value chains, particularly developing economies whose growth is heavily anchored in the export of primary commodities. Commodities such as palm oil, rubber, coal, nickel ore, and coffee serve as the backbone of many developing economies, including Indonesia. These commodities are not only central to generating foreign exchange but also play a vital role in sustaining the livelihoods of millions of workers, farmers, and industry actors (Adjemian et al., 2021).

Nonetheless, the reliance on global export markets leaves these sectors extremely exposed to external shocks generated by trade wars. When powerful economies impose new tariffs or tighten market access, demand for certain commodities may decline abruptly or be redirected to alternative sources, thereby fueling volatile and unpredictable price swings. Martignone et al. (2022) highlight that international trade wars intensify market uncertainty in multiple dimensions.

Measures such as tariffs and non-tariff barriers disrupt global supply chains, alter consumption preferences, and redirect international trade flows. In the context of commodity exports, this directly translates into fluctuations in prices, export volumes, and national income. Such instability in commodity prices poses significant risks to the economic security of exporting countries. While importing nations may benefit in the short run from diversified supplies, commodity-exporting countries often face declining competitiveness and mounting economic losses. These outcomes also magnify income instability for farmers and small to medium-scale enterprises, increasing socioeconomic vulnerabilities in regions dependent on commodity production (Nugroho et al., 2021).

The central challenge is understanding how trade war mechanisms directly influence the volatility of commodity prices and how exporting nations respond to these shocks. Unfortunately, comprehensive insights into the interaction between trade wars and commodity price dynamics remain underdeveloped. At both the academic and policy levels, trade war debates have largely revolved around issues such as diplomatic negotiations, trade deficits, or fiscal balances, while their effects on real sectors like commodities are less systematically discussed. Consequently, adjustment strategies are often reactive, fragmented, and lack deeper analytical foundations (Huang et al., 2019). Existing reviews in the literature have tended to concentrate on macroeconomic implications, including GDP growth, trade balances, or currency fluctuations. In contrast, studies that explicitly connect trade conflicts to commodity price volatility remain limited, frequently restricted to single-country analyses, individual commodities, or specific time periods. However, within the broader framework of globalization and market integration, there is a clear need for more holistic and comparative studies that can capture cross-country and cross-sectoral patterns. This gap underscores the urgency of producing a literature synthesis capable of summarizing and clarifying the mechanisms by which trade wars affect commodity markets, drawing on both theoretical frameworks and empirical evidence.

Against this background, the present study seeks to review and synthesize scholarly work addressing the influence of international trade wars on the volatility of export commodity prices. The objective is to identify overarching trends, causal mechanisms, and principal factors shaping these dynamics across different contexts. In addition, the study intends to contribute to the development of a theoretical base and empirical references that can inform the design of more proactive and adaptive policies. Such contributions are expected to assist policymakers in developing strategies to mitigate the risks posed by global trade conflicts. Beyond enriching academic discourse, the findings of this synthesis aim to offer practical insights that can support more resilient and forward-looking policy responses in commodity-exporting countries facing the turbulence of international trade wars.

2. Methods

This research applies a qualitative method with a literature review (library research) as the main technique for data collection and analysis. The qualitative design is considered appropriate because it allows for an in-depth and interpretive exploration of complex socio-economic issues, particularly regarding the relationship between international trade wars and fluctuations in export commodity prices. Unlike quantitative studies that emphasize hypothesis testing, this research seeks to explore and describe emerging patterns of relationships based on evidence gathered from diverse academic references and relevant documents. The data are entirely secondary, obtained from reliable sources such as peer-reviewed journals, scholarly articles. All data are then examined descriptively and comparatively to trace causal linkages among the observed variables and to highlight trends documented in prior studies.

The study specifically investigates international trade wars, which are characterized by policies of protectionism, tariff impositions, non-tariff restrictions, and other forms of trade barriers enforced by states in the context of global economic rivalries. On the other side, it also addresses export commodity price fluctuations, which refer to volatility or shifts in the prices of key export goods resulting from changes in global market structures and access. The primary focus is to analyze the extent to which trade wars affect or reshape the dynamics of export commodity pricing. The analysis proceeds through systematic identification, selection, and critical evaluation of relevant findings in the literature, aiming to build a synthesis of theoretical frameworks and empirical evidence that explain these interconnections. Moreover, this study pays attention to the broader geopolitical and global economic contexts that influence the nature of trade conflicts and the international commodity trade, thereby ensuring that the insights produced are comprehensive, relevant, and applicable for understanding the phenomenon under review.

3. Results

3.1. Trade Wars and Their Impact on Export Commodity Price Volatility in Developing Economies

International trade wars, characterized by the implementation of tariffs, import quotas, export restrictions, and various non-tariff barriers, exert a substantial influence on fluctuations in export commodity prices. When major economies such as the United States (U.S.) and China become engaged in trade disputes, the resulting disruptions in global trade flows generate considerable uncertainty within international markets. This uncertainty directly impacts the prices of key commodities, including coal, crude oil, crude palm oil (CPO), nickel, and rubber. The repercussions are not limited to price shifts alone but also extend to supply chain stability, competitiveness in export markets, exchange rate volatility, and changes in investor confidence (Ding et al., 2022).

Hanson (2020) underscores that the U.S.-China trade conflict creates substantial demand-related uncertainty for Indonesia's primary export commodities. This instability arises from protectionist actions, particularly high tariffs imposed by the U.S. on Chinese products, which reduce global consumption capacity and diminish demand for raw materials such as coal and petroleum. His research highlights that coal prices experienced a 12.6% annual decline alongside an additional 16.5% contraction, largely attributable to U.S. tariff policies targeting China, which in turn curtailed global demand. Hanson (2020) further stresses that overdependence on a single dominant market, such as China, intensifies vulnerability to price volatility. He proposes diversifying Indonesia's export destinations by expanding trade relations with countries such as India, Japan, and members of the European Union. According to his findings, reliance on one major buyer magnifies risk, especially when restrictive tariffs or import bans are enacted. Under such circumstances, Indonesian exporters are often compelled to redirect commodities to the spot market at lower prices, aggravating fluctuations. Hanson (2020) also suggests that Indonesia should enhance bilateral trade agreements with non-traditional markets as a strategy to stabilize long-term demand and reduce volatility in export commodity prices.

Similarly, Lu et al. (2020) analyze the impact of trade wars on production costs in Indonesia, particularly for sectors dependent on imported raw materials and capital goods. Tariffs imposed by the U.S. on steel and aluminum, for example, not only affect global manufacturing industries but also have indirect effects on export commodities such as CPO, which require imported machinery, fertilizers, and chemical inputs. Rising input costs diminish the competitiveness of Indonesian exporters, who must either raise international selling prices to offset expenditures or absorb reduced profit margins. Lu's study also emphasizes that trade conflicts often trigger depreciation of developing country currencies, including the Indonesian rupiah, as investors withdraw capital. This phenomenon was evident in 2018, when the rupiah depreciated by nearly 10% against the U.S. dollar, sharply increasing import costs for production inputs and further affecting the price dynamics of CPO in both domestic and foreign markets. Moreover, Lu et al. (2020) observe that the agricultural export sector, particularly palm oil, faces additional constraints from non-tariff barriers implemented by importing nations. The European Union, for instance, applies stringent environmental and sustainability standards that serve as trade restrictions, complicating market access for Indonesian exporters. These policies amplify fluctuations in commodity prices, as producers are forced to adapt marketing strategies, modify production practices, or identify alternative markets. Such adjustments require significant time and financial resources, thereby weakening competitiveness and contributing to ongoing volatility.

In summary, the findings of Hanson (2020) and Lu et al. (2020) reveal that international trade wars affect export commodity prices through several interconnected mechanisms: reduced global demand caused by tariffs, disruptions to long-term contracts, higher production costs from import restrictions, currency depreciation, and non-tariff barriers from importing countries. For Indonesia, whose economy is heavily dependent on primary commodity exports, these dynamics present major challenges. To mitigate risks, strategies such as diversifying export destinations, strengthening bilateral trade agreements, and reforming production and marketing practices are necessary. Such measures would reduce vulnerability to external shocks while ensuring greater resilience of Indonesia's export commodities in an increasingly uncertain global trade environment.

3.2. The Impact of International Trade Wars on Export Commodity Price Fluctuations in Indonesia

The effects of international trade wars on export commodities are not uniform across sectors. Adjemian et al. (2021) examined the impact of the U.S.-China trade war on Indonesia's stock market, particularly focusing on the agricultural sector. Employing the Two Stage Least Squares method, their study found that U.S.

protectionist policies caused a decline in crude palm oil (CPO) exports, which led to decreased commodity prices and weakened the agricultural stock index during 2018–2019. This reduction was primarily driven by investor reactions to lower global demand and heightened trade policy uncertainty. The research indicated that CPO price fluctuations were closely linked with exchange rate depreciation and export contractions, affecting the performance of agricultural firms on the Indonesia Stock Exchange. Conversely, commodities such as cocoa exhibited greater resilience to trade war shocks, since Indonesia is not a major supplier of cocoa to either the U.S. or China. In contrast, strategic commodities like CPO and rubber experienced pronounced price volatility due to lower demand from key markets, negatively impacting exporters' revenues and national economic stability. Trade wars also disrupted global supply chains, directly influencing prices of export commodities like nickel and CPO. For instance, reduced demand from China and the U.S. major nickel markets resulted in significant price declines in 2020. The study highlighted that logistical issues, including shipping delays and rising transportation costs, further amplified price volatility.

However, CPO displayed notable resilience, achieving a 27.8% annual price increase, supported by robust domestic demand and diversification into markets like India and the Middle East. Huang et al. (2018) suggested that downstream industrial processing, such as refining nickel into higher-value products, could reduce dependency on specific export destinations and stabilize prices. Nikonenko et al. (2020) argued that the U.S.-China trade war presented Indonesia with opportunities to attract investments in manufacturing sectors, including electronics and automotive. Their study reported a 23.5% increase in Indonesian electronics exports to the U.S. in 2021, as multinational corporations relocated supply chains from China to Southeast Asia, including Indonesia. Despite these opportunities, commodity price fluctuations remained a challenge due to uncertainties in trade policy, which affected both investor confidence and global demand. Nikonenko et al. emphasized that reforms in logistics, such as improving port infrastructure and customs efficiency, are crucial to maintaining export competitiveness. Martignone et al. (2022) highlighted broader macroeconomic effects of trade wars on export commodities.

They observed that exchange rate volatility, such as rupiah depreciation, exacerbated price fluctuations for commodities like CPO and rubber. Their research also pointed out that rising import costs for raw materials, including chemicals for the rubber industry, contributed to inflation, which further affected export commodity prices and squeezed exporters' revenues. Additionally, trade wars tend to increase living costs in developing countries, as higher prices for imported goods, such as fuel, elevate domestic inflation, reducing purchasing power and subsequently the demand for export commodities. Shaikh et al. (2021) noted that although the 2018–2019 U.S.-China trade war caused a decline in CPO prices, prices had potential to rebound by late 2019 through market diversification to India and European countries. Their study showed that exporters adapting marketing strategies such as complying with Europe's sustainability standards could mitigate trade war impacts and stabilize CPO prices. Shaikh emphasized that flexibility in targeting new markets and enhancing product quality is critical to reducing reliance on traditional markets like China. Fan et al. (2022) added that trade wars influence investor sentiment toward export commodities, particularly in agriculture and mining. He observed that price declines in commodities such as coal and oil in 2018 were triggered by tariff policies reducing global demand, which also impacted sector stock indices in Indonesia. Fan highlighted that commodity price volatility affects not only exporters but also retail investors, who tend to avoid commodity sector stocks during periods of trade uncertainty.

International trade wars influence export commodity prices through several mechanisms, including demand uncertainty, supply chain disruptions, rising production costs, exchange rate depreciation, and changes in investor sentiment. The impacts vary across commodities, with coal and oil being highly sensitive to price declines, whereas CPO demonstrates resilience under certain conditions (Wicaksana et al., 2022). Strategies such as market diversification, downstream industrial processing, and logistics reforms are critical to mitigating negative effects and leveraging opportunities, such as the relocation of industries to Indonesia. With strategic approaches, Indonesia can reduce dependence on specific markets and enhance the stability of export commodity prices amid the complexities of global trade wars.

4. Conclusion

International trade wars, especially between major economies such as the United States and China, have significantly influenced the price volatility of Indonesia's export commodities. Protectionist measures, including tariffs, quotas, and non-tariff barriers, generate uncertainties in global markets, which in turn affect demand, supply chains, currency exchange rates, and investor confidence. Key export commodities such as coal, oil, crude palm oil (CPO), nickel, and rubber are particularly susceptible to these external shocks, resulting in both price reductions and disruptions in distribution channels. Studies reveal that the effects of trade conflicts are complex and differ across commodity types. For example, cocoa shows higher resilience, while CPO and coal experience notable price declines.

Heavy reliance on certain export destinations, particularly China, increases vulnerability to market fluctuations. Conversely, CPO demonstrates relative stability due to growing domestic consumption and diversification into alternative markets. The channels through which trade wars affect commodity prices include direct disruptions in trade as well as indirect effects, such as currency depreciation, higher production costs, and changing investor behavior. Addressing these challenges requires proactive mitigation strategies. Diversifying export markets, encouraging industrial down streaming, upgrading logistics infrastructure, and reforming trade regulations are critical measures. These strategies help reduce dependency on single markets, stabilize commodity prices, and strengthen Indonesia's economic resilience amid the uncertainties of global trade conflicts.

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