

THE IMPACT OF PLASTIC PRICE INCREASES ON THE PURCHASING POWER OF THE COMMUNITY IN BATAM CITY

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ABSTRACT

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This study aims to describe the magnitude of plastic price increases in Batam City and to examine their impact on community purchasing power. From late February to early March 2026, plastic product prices in Batam experienced a significant surge driven by geopolitical instability in the Middle East, which disrupted global energy distribution routes, particularly through the Strait of Hormuz, thereby raising the cost of petrochemical-based raw materials such as naphtha. This study employed a qualitative descriptive approach with data collection conducted through semi-structured field interviews, literature review, and documentation from credible journalistic and academic sources. Three informants were selected through purposive sampling: a plastic packaging distributor, a small and medium-sized enterprise (SME) representative, and a household consumer in Batam City. Data validation was performed through source triangulation by cross-referencing interview findings with media reports and academic literature. The findings indicate that plastic price increases in Batam City ranged from 50 to 100 percent depending on product type, consistent with patterns identified in national studies. The increases produced layered cost-push inflation effects across the supply chain: distributors faced sudden and unannounced price surges from suppliers; SME representative absorbed rising packaging costs to maintain customer retention; and household consumers reduced expenditure and shifted toward reusable alternatives. Cascading effects on the prices of related commodities, including cooking oil, were also observed. This study recommends short-term social protection interventions, fiscal incentives for eco-friendly packaging transitions, and structural strengthening of the national petrochemical industry to reduce Indonesia's dependence on imported plastic raw materials.

1. INTRODUCTION

Plastic is one of the most extensively used materials in daily economic life, encompassing food packaging, household goods, and manufacturing components. Its widespread use means that price volatility in plastic products directly affects the cost structures of producers and the welfare of consumers across multiple levels of the supply chain (Wantu et al., 2026). In economies where small and medium-sized enterprises (SMEs) constitute a substantial share of productive activity, this vulnerability is particularly pronounced, as SMEs frequently operate with thin margins and limited capacity to absorb sudden cost increases.

From a macroeconomic standpoint, cost-push inflation occurs when a rise in input costs forces producers to increase their selling prices, thereby reducing the real purchasing power of consumers (Tampubolon, 2024; Badriah & Kholis, 2024). Purchasing power, understood as the capacity of consumers to acquire goods and services given their available

real income, is directly eroded when price increases are not accompanied by equivalent income growth (Rahardja & Manurung, 2019). Empirical evidence from Indonesian contexts confirms that even a one-percentage-point increase in inflation can suppress purchasing power by approximately 0.263 percent, accompanied by discernible shifts in consumption behavior toward greater selectivity (Nurkhanifah & Arifin, 2023).

Beginning in late February 2026, Batam City experienced a significant surge in plastic product prices precipitated by escalating geopolitical tensions between the United States and Iran, which disrupted the stability of international energy distribution routes, particularly the Strait of Hormuz, the primary corridor for global oil trade. This disruption raised the prices of petrochemical-based plastic raw materials, particularly naphtha, a key feedstock in the production of polyethylene, polypropylene, and polystyrene (Bisnis.com, 2026). The surge was further compounded by its coincidence with the month of Ramadan, a period of peak demand for

plastic packaging. The Secretary-General of the Indonesian Olefin, Aromatic, and Plastics Industry Association (Inaplas) confirmed that approximately 70 percent of national plastic industry raw materials are sourced from the Middle East region, rendering the domestic industry structurally vulnerable to supply-side shocks from that corridor (Bisnis.com, 2026).

As a free trade zone, Batam City is characterized by heightened exposure to volatility in imported commodity prices. Unlike cities in proximity to national petrochemical production centers such as Cilegon or Gresik, Batam lacks a local plastic manufacturing industry capable of buffering external price shocks. As a result, disruptions in the global supply chain are transmitted rapidly and with considerable intensity to the local retail level. The Mayor of Batam, Amsakar Achmad, acknowledged this structural vulnerability and encouraged residents to adopt more environmentally sustainable packaging alternatives (Suara Batam, 2026).

Rising plastic prices do not operate in isolation; through price transmission mechanisms, they propagate across the commodity chain to adjacent sectors and ultimately erode broader community purchasing power (Febriani, 2025; Handayani & Syam, 2025). This spillover effect whereby cost increases in one production input ripple through the value chain has been observed in the prices of food commodities including cooking oil, which is heavily reliant on plastic packaging (Harian Batam Pos, 2026). An energy economics expert at Universitas Muhammadiyah Yogyakarta, Dr. Dessy Rachmawatie, M.Si., warned that price increases in the range of 30 to 100 percent had exceeded sectoral boundaries and carried implications for broader economic stability (UMY, 2026).

Despite the significance of this phenomenon, academic studies that empirically document the direct experiences of those most affected distributors, SME representative, and household consumers in Batam City remain absent. Previous studies have generally relied on secondary data or macro-level surveys, leaving gaps in the understanding of localized impact dynamics. This study addresses that gap by directly exploring the perspectives of these three groups through field interviews. Accordingly, this study is oriented toward two objectives: (1) to describe the magnitude of plastic price increases in Batam City during the February–April 2026 period; and (2) to examine the impact of those increases on community purchasing power across multiple levels of the supply chain.

2. METHODS

This study adopts a qualitative descriptive approach. This methodological choice is grounded in the research orientation, which does not seek to test hypotheses or measure inter-variable correlations quantitatively, but rather to describe and interpret contextually the phenomenon of plastic price increases and their implications for community

purchasing power. A qualitative approach is considered appropriate for exploratory and descriptive economic studies, particularly when standardized quantitative data are unavailable or insufficient to capture the complexity of lived economic experience (Rahardja & Manurung, 2019).

Data were collected through two primary techniques: semi-structured field interviews and literature review. Informants were selected through purposive sampling based on their direct relevance to the research focus, with the aim of capturing the layered impact of plastic price increases across three distinct positions in the supply chain: upstream distribution, SME-level operations, and household consumption. The three informants were: (a) Mr. Sutrisno, a plastic packaging distributor at Toko BLP Plastik Mandiri, Pasar Mega Legenda, representing the upstream distribution level; (b) Ms. Tia, owner of Soka Laundry, representing plastic packaging-dependent SME operations; and (c) Ms. Winarsih, a housewife in Batam City, representing end consumer households. Prior to the interviews, each informant received a clear explanation of the research objectives and provided verbal informed consent, including consent for their identity and business name to be disclosed in the research report. Interviews were conducted on May 20–21, 2026, accompanied by field photo documentation.

Secondary data were sourced from peer-reviewed academic journals, economic textbooks, and credible media coverage from the April 2026 period. Journalistic sources are employed exclusively as empirical documentation of field conditions specifically price data and official statements rather than as theoretical or analytical foundations, consistent with their appropriate methodological role in qualitative studies of this nature.

Data analysis proceeded through three sequential stages following the Miles and Huberman framework. In the data reduction stage, information from interview transcripts was filtered and focused on content directly relevant to the two research objectives. In the data presentation stage, findings were organized into two thematic categories aligned with the research questions: the magnitude of price increases and their impact on purchasing power. In the conclusion-drawing stage, source triangulation was applied by cross-referencing interview findings with media documentation and academic literature. Findings supported by all three sources were treated as validated; discrepancies were explicitly noted and discussed. Analytical interpretation was grounded in the theoretical frameworks of cost-push inflation, demand elasticity, and consumer behavior.

Two limitations of this study require explicit acknowledgment. First, the sample of three informants is small, rendering the findings contextually illustrative and indicative rather than statistically representative. This limitation is inherent to the exploratory nature of the study and is transparently acknowledged. Second, interviews were conducted approximately two to three months after the primary price increase period (February–April 2026), introducing a potential recall bias risk. This was mitigated by

cross-validating price figures reported by informants against contemporaneous media reports.

3. RESULTS AND DISCUSSION

The following presents findings from field interviews with the three informants, validated through contemporaneous media documentation and relevant academic literature, and interpreted within the theoretical frameworks of cost-push inflation, demand elasticity, and consumer behavior.

3.1. The Magnitude of Plastic Price Increases in Batam City

Field interviews with the plastic packaging distributor at Toko BLP Plastik Mandiri indicate that price increases in Batam began in late February 2026 earlier than the timeline reported by most national media. The surge coincided with Ramadan, a period of peak plastic packaging demand, which further compressed the distribution chain. A defining characteristic of this episode was the speed of price adjustment: suppliers revised prices within days, in many cases without adequate advance notice to distributors. The average increase was approximately 50 percent relative to pre-Ramadan prices, with peaks of 100 percent for certain product types.

Detailed price changes by product type are presented in Table 1.

Table 1. Comparison of Plastic Prices Before and After the Price Surge in Batam City (2026)

Type of Plastic	Price Before (Rp)	Price After (Rp)	Increase (%)
Ordinary plastic bag (per pack)	10,000	15,000	50%
Jumbo-sized plastic (per pack)	25,000	50,000	100%
Heat-resistant plastic (per kg)	40,000	65,000	62,5%
Laundry plastic bag 40x60 cm (per sheet)	2,000	3,000	50%
Average increase	-	-	50-100%

Source: Field interviews with distributor of Toko BLP Plastik Mandiri and Ms. Tia (Soka Laundry), May 2026.

These field data are consistent with national reporting. Media Indonesia documented plastic price increases in Batam at approximately 30 percent at the retail level, while a study from Universitas Muhammadiyah Yogyakarta reported national increases ranging from 30 to 100 percent depending on product type (UMY, 2026). The field values recorded in this study including the 100 percent increase for jumbo-grade plastic indicate that conditions in Batam were no less severe than the national average; for several product categories, local increases exceeded it.

The informants attributed these increases to the same structural causes identified in expert analyses. Plastic, as a petrochemical derivative, is acutely sensitive to fluctuations in global crude oil prices (Badriah & Kholis, 2024). The

Secretary-General of Inaplas confirmed that approximately 70 percent of domestic plastic raw materials originate from the Middle East, and that efforts to diversify supply to alternative regions extended delivery times from the standard 10–15 days to more than 50 days, making the supply disruption structurally persistent rather than transient (Bisnis.com, 2026).

Batam's structural vulnerability distinguishes it from other Indonesian regions. As a free trade zone (Kawasan Perdagangan Bebas dan Pelabuhan Bebas), Batam's economy is structurally oriented toward import-dependent trade flows, which amplifies its exposure to fluctuations in global commodity prices (Azzahra, Rijal, & Prinanda, 2022). Without local plastic manufacturing capacity, the city cannot rely on domestic producers to buffer external price shocks. Unlike cities proximate to national petrochemical centers, Batam depends entirely on external supply channels, enabling global price signals to transmit directly and rapidly to the local retail level with minimal attenuation.

3.2. The Impact of Plastic Price Increases on Community Purchasing Power

Theoretically, cost-push inflation transmits rising input costs upstream to downstream along the production chain, ultimately reducing consumer purchasing power (Tampubolon, 2024; Badriah & Kholis, 2024). Purchasing power denotes the capacity of consumers to acquire goods and services given their available real income; price increases unaccompanied by income growth directly diminish that capacity (Rahardja & Manurung, 2019). Nurkhanifah and Arifin (2023) found that a one-percentage-point inflation rate can suppress purchasing power by approximately 0.263 percent, generating observable shifts in consumption patterns toward greater selectivity. Anggresa et al. (2026) further demonstrate that uncontrolled inflation in Indonesia disproportionately burdens lower-income groups. These theoretical relationships provide the analytical framework for the following field findings.

3.2.1. Impact at the Distribution Level

The distributor at Toko BLP Plastik Mandiri reported that SME customers who are structurally dependent on plastic packaging were the most vocal in expressing distress over price increases. Increases that appear nominally small for instance, IDR 2,000–3,000 per pack, carry disproportionate implications for operators working on thin margins, as such incremental costs can eliminate entire daily net profits.

For the distributor, the speed of supplier price revisions created acute inventory management difficulties. Stock purchased at previous prices became a source of financial risk when market prices changed within days: selling at old prices incurred losses, while immediately passing costs to customers risked losing them. This dilemma is consistent with Handayani and Syam's (2025) finding that rising production costs driven by inflation compress demand elasticity and alter purchasing behavior across the

distribution chain. The lack of sufficient advance notice from suppliers further limited distributors' capacity to plan or hedge against price volatility.

3.2.2. Impact on SME Representative

Ms. Tia, owner of Soka Laundry, reported that the increased cost of laundry plastic bags from IDR 2,000 to IDR 3,000 per sheet, a 50 percent increase was being absorbed internally rather than passed on to customers. While this per-unit increase appears modest, its cumulative daily impact on operating costs is significant, particularly for an SME serving a price-sensitive market.

The decision to absorb costs rather than raise service rates reflects the strategic dilemma identified by Febriani (2025): SMEs in inflationary environments are frequently forced to choose between preserving customer bases and maintaining profitability. Ms. Tia is exploring the use of reusable bag options as a partial mitigation strategy; however, she acknowledges that plastic remains functionally irreplaceable in laundry services due to its waterproofing properties. The study by Wantu et al. (2026) corroborates this finding, noting that rising packaging costs combined with pressure to transition toward eco-friendly alternatives places micro-SMEs in structurally vulnerable positions, particularly in the absence of fiscal incentives or material support from government. Consumer purchasing decisions are also shaped by price signals and perceived value, meaning that SME pricing strategies must navigate both operational cost pressures and evolving consumer expectations (Syaputri, Halawa, & Rahmadani, 2025).

3.2.3. Impact on Household Consumers

Ms. Winarsih, a household consumer in Batam City, reported that increases in the prices of daily necessities felt materially significant because household income had not increased commensurately. This account is consistent with the classic definition of declining real purchasing power: nominal income remains constant while the effective capacity to meet household needs diminishes as prices rise.

The behavioral responses observed concentrating expenditure on priority goods, carrying reusable bags to markets, substituting single-use bottles with tumblers reflect the consumption pattern adjustments documented in the consumer behavior literature (Andrian et al., 2022; Irwansyah et al., 2021). When price pressures are sustained over time, such adjustments can evolve from temporary coping mechanisms into durable behavioral changes. Ms. Winarsih also connected her personal experience with the broader condition of lower-middle-income households and expressed hope for government action encompassing regional minimum wage increases and employment expansion. This is consistent with the argument of Nurkhanifah and Arifin (2023) that purchasing power decline unaccompanied by income-enhancing policies risks deepening social inequality and pushing vulnerable households closer to poverty thresholds. The social

protection dimension of this issue is further underscored by Rahman, Sari, and Nasution (2025), who found that targeted welfare programs play a meaningful role in cushioning the purchasing power of low-income households against inflationary pressures.

3.2.4. Cascading Effects on Related Commodities

The plastic price surge generated downstream effects on the prices of related commodities through the packaging channel, consistent with the concept of the spillover effect the transmission of cost increases from one production input across the value chain to end consumers (Sukirno, 2024). The Executive Director of PASPI, Tungkot Sipayung, identified a direct link between rising plastic packaging costs and increases in cooking oil prices during the same period: premium cooking oil prices increased from IDR 21,166 to IDR 21,793 per liter between January and the third week of April 2026, while bulk cooking oil rose from IDR 17,790 to IDR 19,486 per liter (Harian Batam Pos, 2026). Because plastic packaging is a near-universal input in the food and consumer goods industries, its price shocks carry systemic implications for the broader price stability of basic necessities.

The Executive Director of INDEF, Esther Sri Astuti, warned that absent timely and appropriate policy intervention, the trajectory of declining purchasing power risked constraining national economic growth. The stability of subsidized fuel prices during this period functioned as a partial buffer against further household income erosion; its removal would likely render the impact on lower-income groups considerably more severe (Harian Batam Pos, 2026).

3.2.5. Comparison with National Conditions

The patterns observed in Batam are broadly consistent with national-level findings while also exhibiting locally distinctive characteristics. Anggresa et al. (2026) demonstrate that inflation in Indonesia suppresses purchasing power with the greatest intensity among lower-income groups a pattern replicated in Batam, where thin-margin SME representative and lower-middle-income households bore the heaviest burden. Batam's distinguishing feature is the speed of price transmission: the absence of local producers as a supply buffer means that global price shocks reach local markets with minimal attenuation, causing local adaptive responses to emerge more rapidly and with greater intensity than in regions with more diversified supply structures.

Taken together, the field findings illustrate that plastic price increases in Batam City are not an isolated local phenomenon but rather the direct local manifestation of global supply chain dynamics, transmitted without meaningful buffering to the end consumer. The impacts are real, multi-layered, and vary in form and intensity across segments of the community, yet share a common structural characteristic: groups with the least financial flexibility absorb the greatest burden.

4. CONCLUSION

This study examined two objectives: to describe the magnitude of plastic price increases in Batam City and to examine their impact on community purchasing power. Based on the analysis of field interview data validated through contemporaneous media documentation and academic literature, both objectives can be addressed as follows.

First, plastic price increases in Batam City were substantial, averaging 50 percent with peaks of 100 percent for specific product types. These increases were structurally driven by disruptions in the petrochemical raw material supply chain resulting from geopolitical tensions in the Middle East, compounded by the national plastic industry's 70 percent dependence on imports from that region. Batam's position as a free trade zone without local plastic manufacturing infrastructure renders the city more exposed to global price transmission than regions with buffering domestic production capacity.

Second, these price increases produced layered impacts consistent with the cost-push inflation mechanism: the cost burden was absorbed sequentially by distributors, SME representative, and household consumers, with lower-income groups and thin-margin SMEs bearing the most severe pressure. The phenomenon extended beyond the plastic sector through a spillover effect on the prices of food commodities reliant on plastic packaging, underscoring that plastic price shocks carry implications for the broader stability of community purchasing power.

These findings are contextually illustrative given the limited number of informants, but depict a pattern that aligns consistently with national evidence. Future research should expand informant coverage across a wider range of SME sectors and employ quantitative survey instruments to statistically measure the magnitude of purchasing power decline.

Based on these findings, the following recommendations are advanced. First, the local government of Batam City should intensify social protection programs for vulnerable households, including strengthening maximum retail price mechanisms for basic commodities most exposed to cascading plastic price effects. Second, local government and business associations should accelerate the transition to eco-friendly packaging alternatives through fiscal incentives, SME training programs, and material support, ensuring that the transition does not disproportionately burden small businesses (Wantu et al., 2026). Third, community aspirations regarding minimum wage increases and employment expansion as articulated by informants deserve substantive policy attention, as sustainable purchasing power recovery cannot rely on price control alone (Rahman et al., 2025). Fourth, at the national level, strengthening the domestic petrochemical production capacity is essential to reduce Indonesia's 50 to 70 percent dependence on imported

plastic raw materials; without structural reform at this level, every geopolitical disruption will continue to transmit directly to domestic plastic and commodity prices (Badriah & Kholis, 2024).

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