

Rice Price Outlook

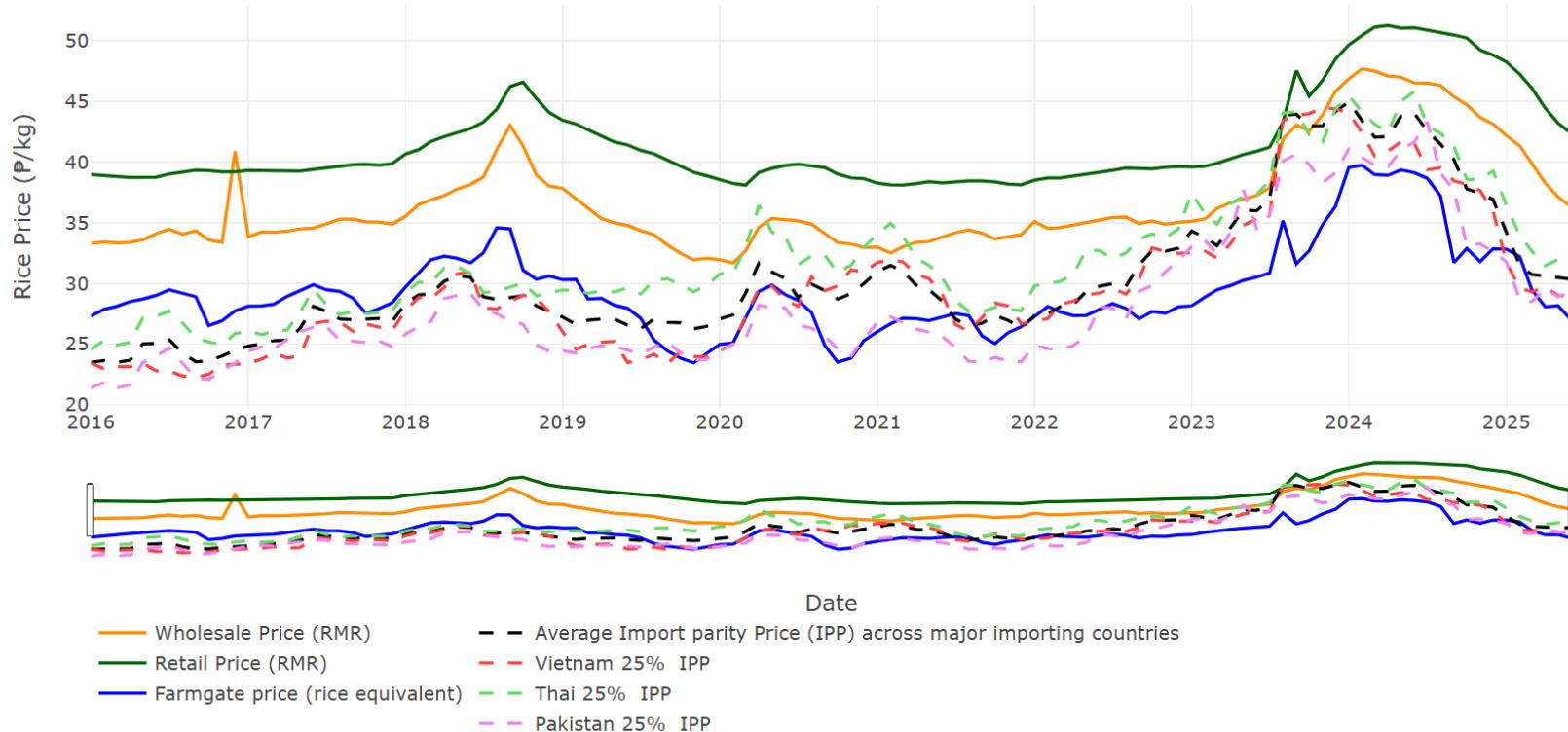
Trends and Implications

Data Analytics Center
Philippine Rice Research Institute



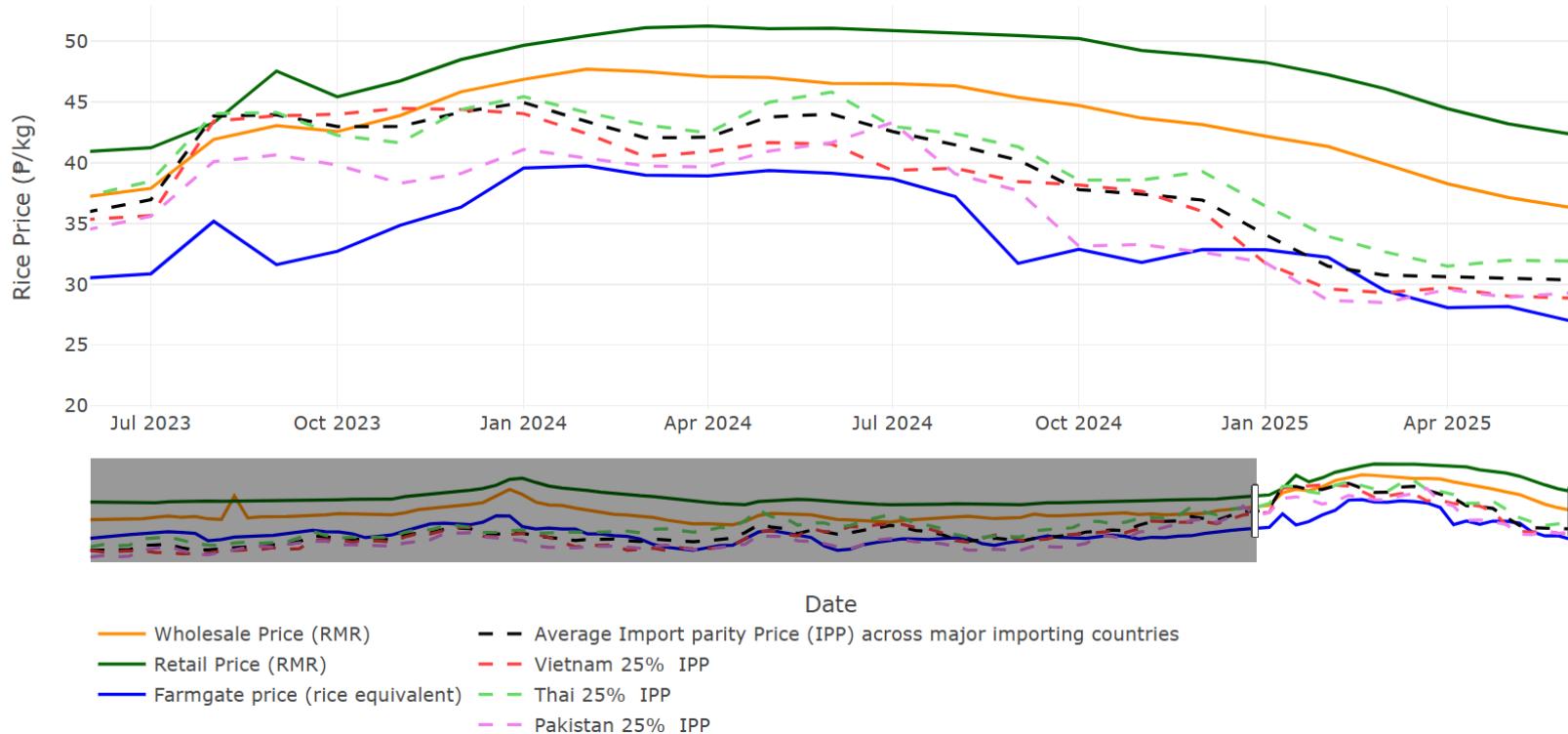
Global and Local Price Trends

Historical trends (2016-2025) of local rice prices (farmgate, retail and wholesale) and global import parity prices.



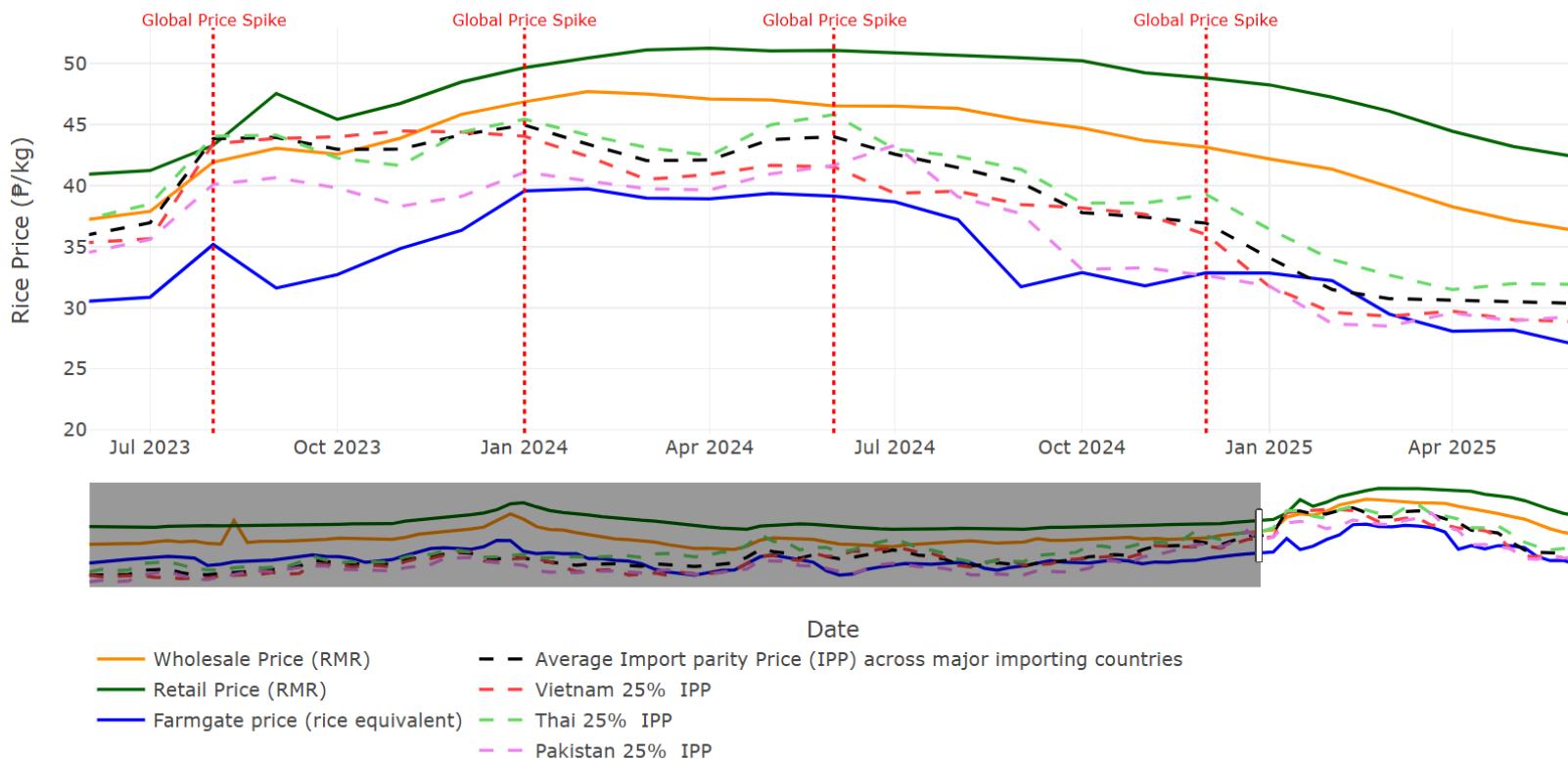
Global and Local Price Trends

Global and local rice price trends are **synchronized** with delayed responses



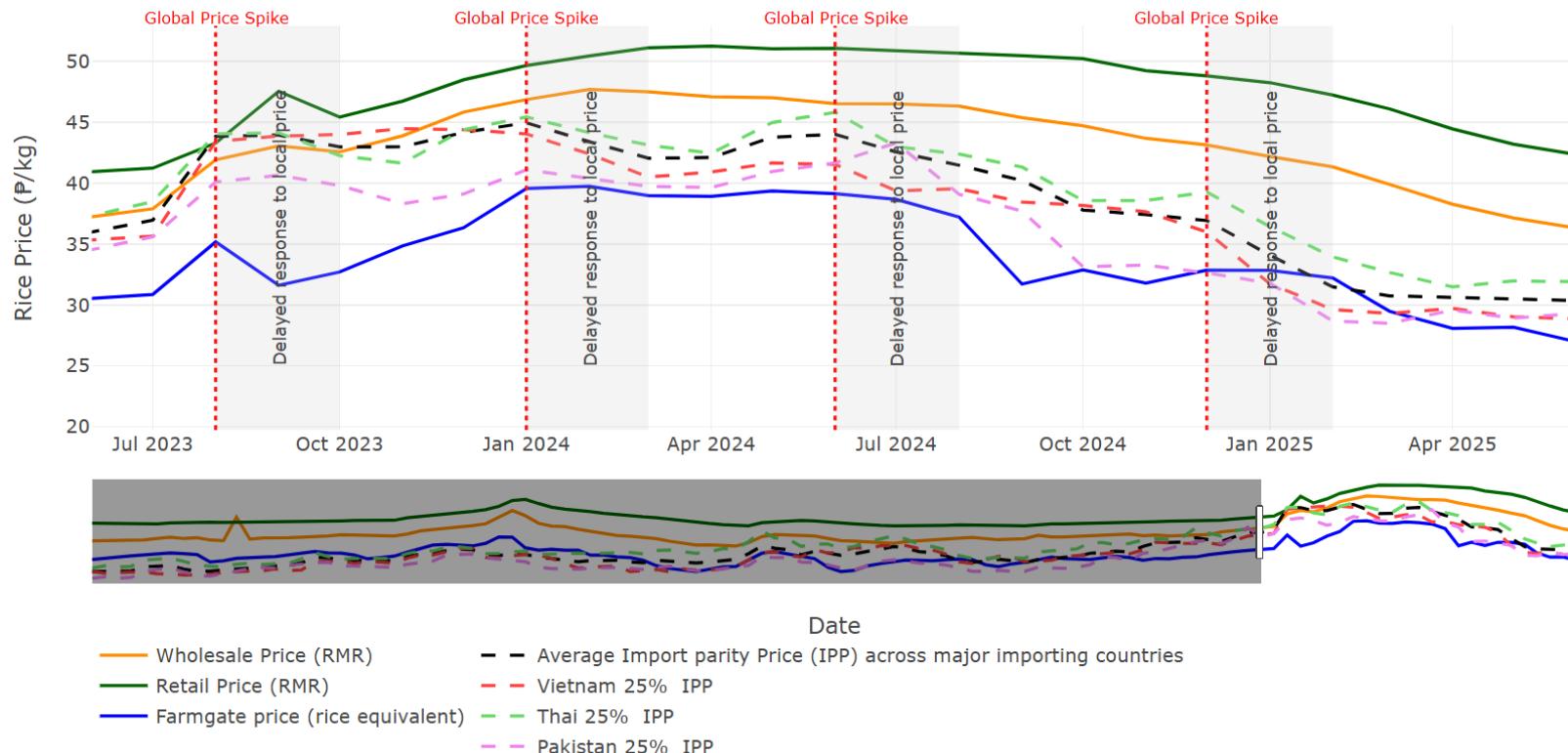
Global and Local Price Trends

Global and local rice price trends are synchronized with delayed responses



Global and Local Price Trends

Global price transmission visually noticeable for two months after the spike.

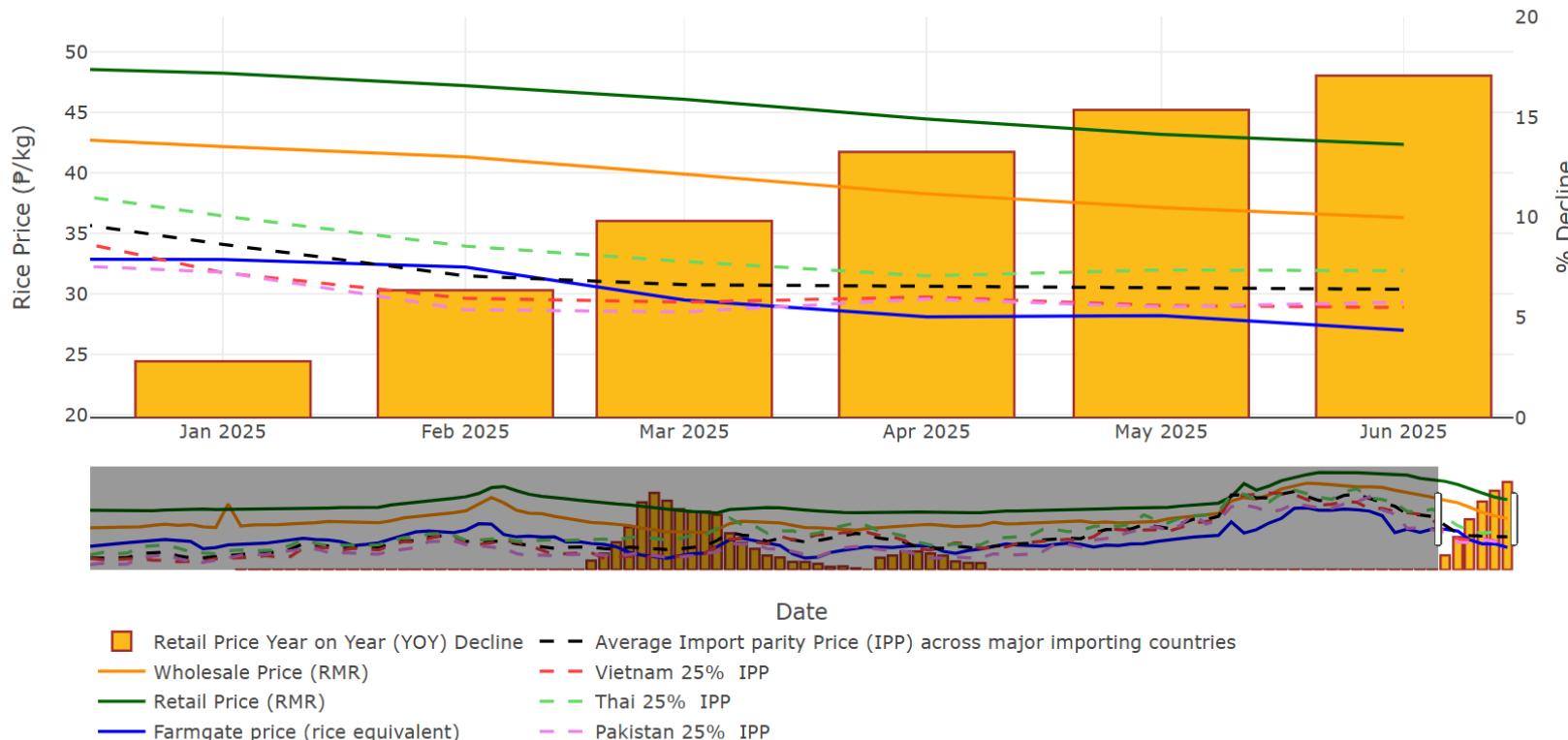


Year-on-Year comparison (2024v2025)

Year-on-Year Retail Price change

With the continued decline in global rice prices throughout 2025, domestic retail prices have become significantly lower compared to the same months in 2024. This is reflected in the growing year-on-year (YoY) decline observed from January to June. The drop in international prices reduces import costs, intensifies market competition, and exerts downward pressure on local retail prices. As traders and importers adjust to these lower global benchmarks, the price reductions are gradually passed on to consumers, further accelerating the YoY decline in domestic retail prices.

As of June 2025, the average domestic retail price is 17% lower than in June 2024

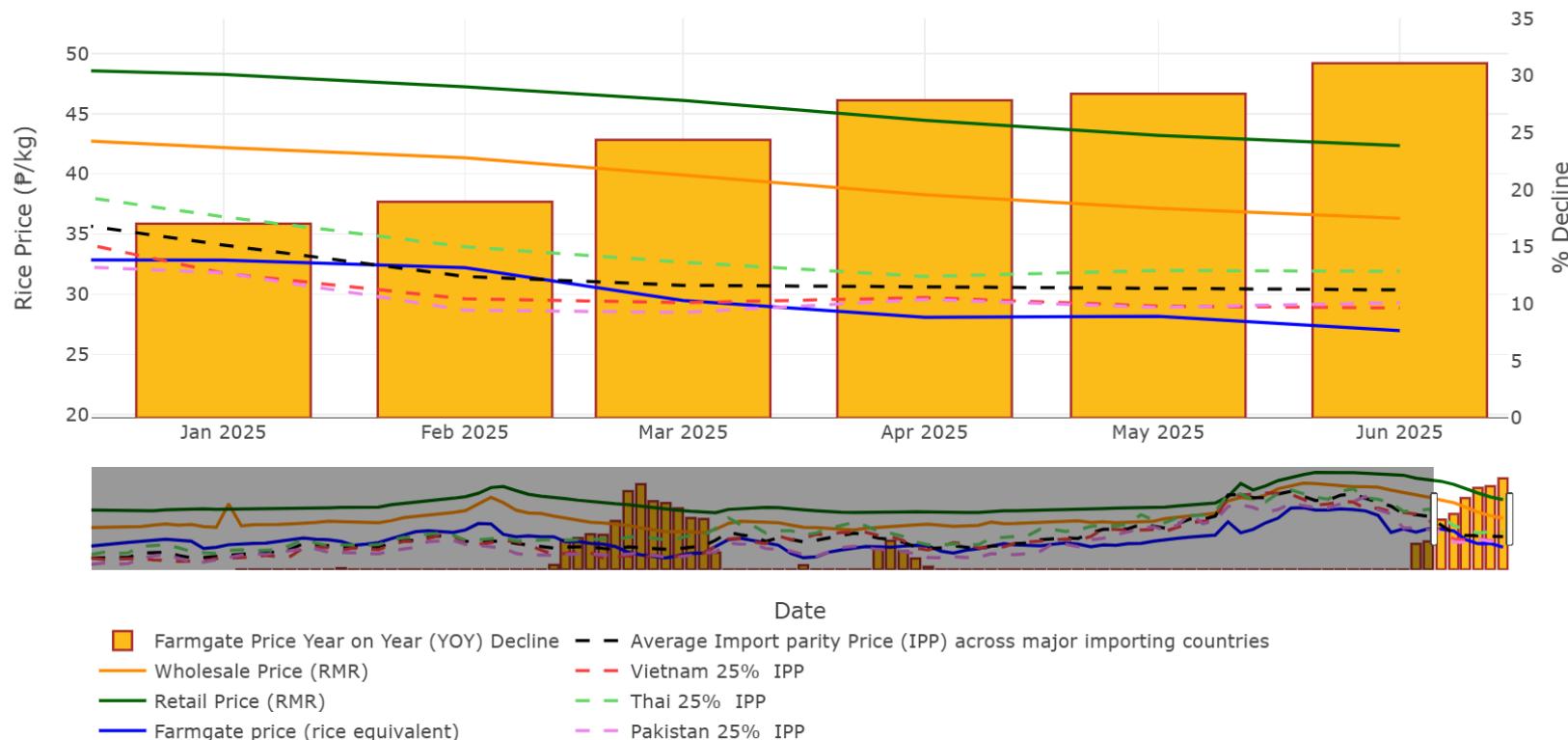


Year-on-Year comparison (2024v2025)

Year-on-Year Farmgate Price change

A similar pattern is observed for farmgate prices—showing an increasing trend in year-on-year (YoY) percentage decline as retail prices continue to fall.

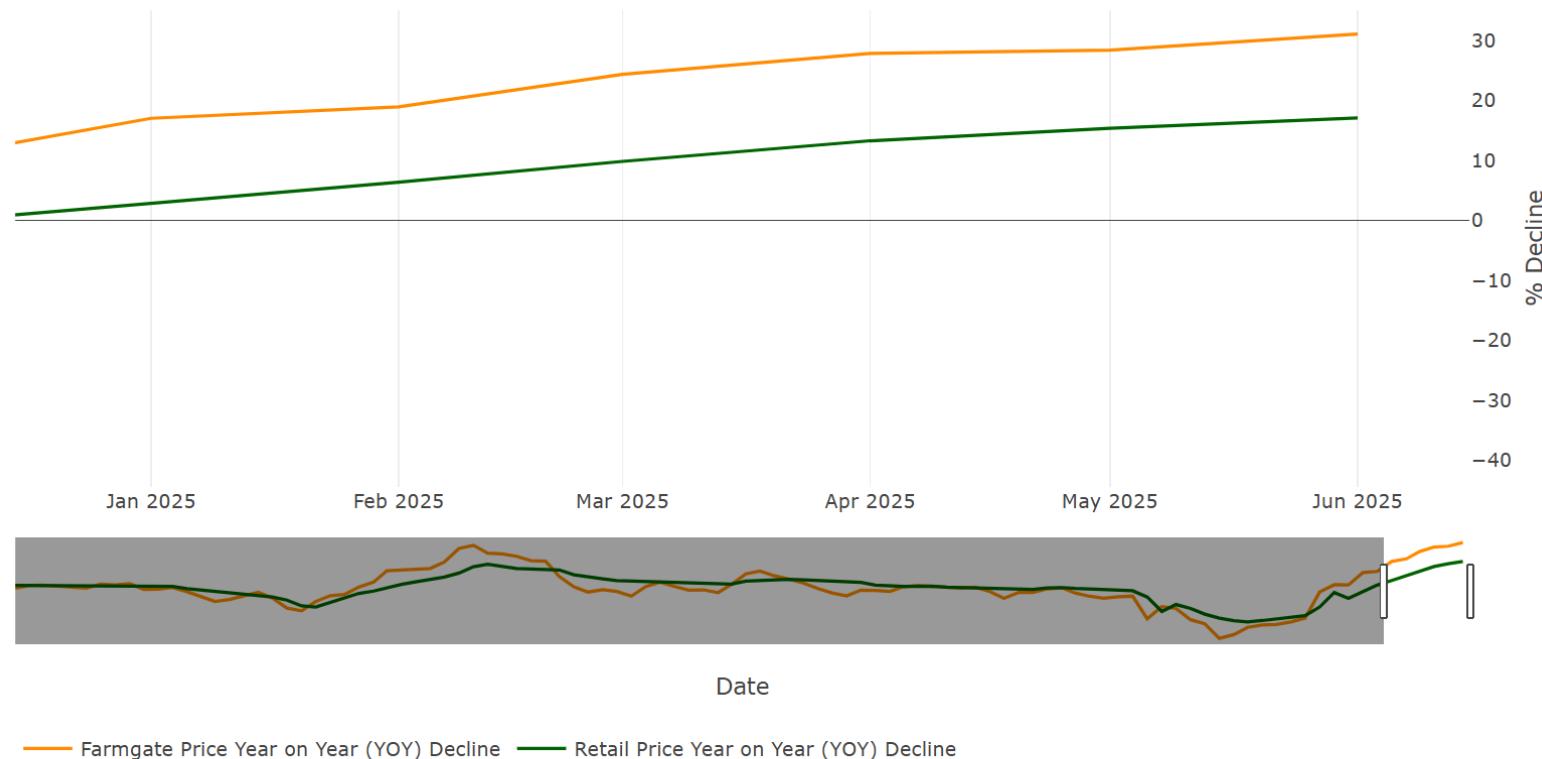
As of June 2025, the average domestic farmgate price is 31% lower than in June 2024



Year-on-Year comparison (2024v2025)

Comparing Retail and Farmgate YoY

A sharper increasing trend for YoY % decline in farmgate prices than retail suggests farmers are absorbing more of the price drop, leading to reduced incomes and a widening gap between what consumers pay and what farmers earn.



Evidence of Price transmission

Cross Correlation Function (CCF) and Granger Causality test

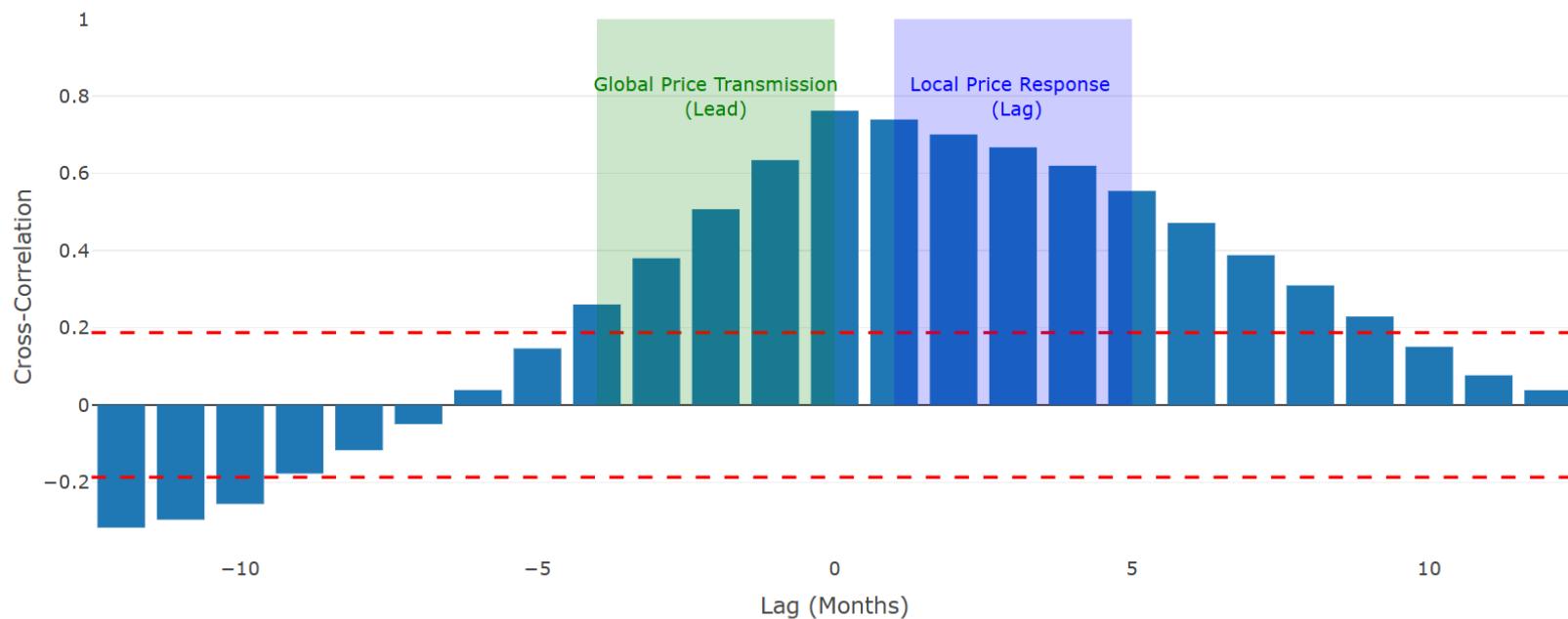
To assess whether global rice prices impact domestic retail and farmgate prices, we apply the **Cross-Correlation Function (CCF)** to explore lead-lag relationships, and the **Granger Causality Test** to determine predictive causality. Together, these tools help uncover potential price transmission pathways across markets.



Evidence of Price transmission

Average IPP price (Global) → Local Retail price

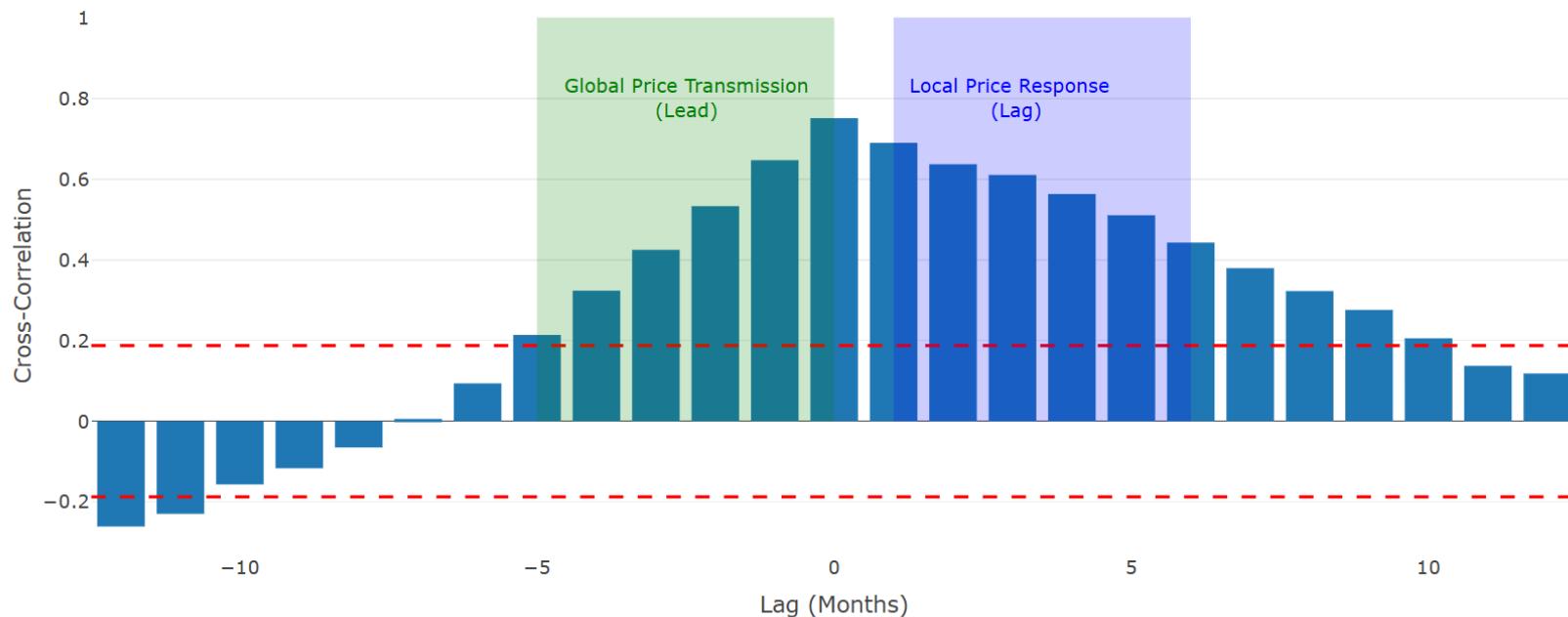
The cross-correlation function shows that global prices lead domestic retail prices by up to 4 months, with correlations rising from lag -4 to a peak at lag 0 (0.762). The continued high correlations at positive lags (e.g., lag +1: 0.740, lag +2: 0.701) reflect the momentum and persistence of price trends — once retail prices begin adjusting to rising global import costs, they often continue moving in the same direction for several months. This suggests a gradual and sustained pass-through of international prices to domestic retail markets.



Evidence of Price transmission

Average IPP price (Global) → Local Farmgate price

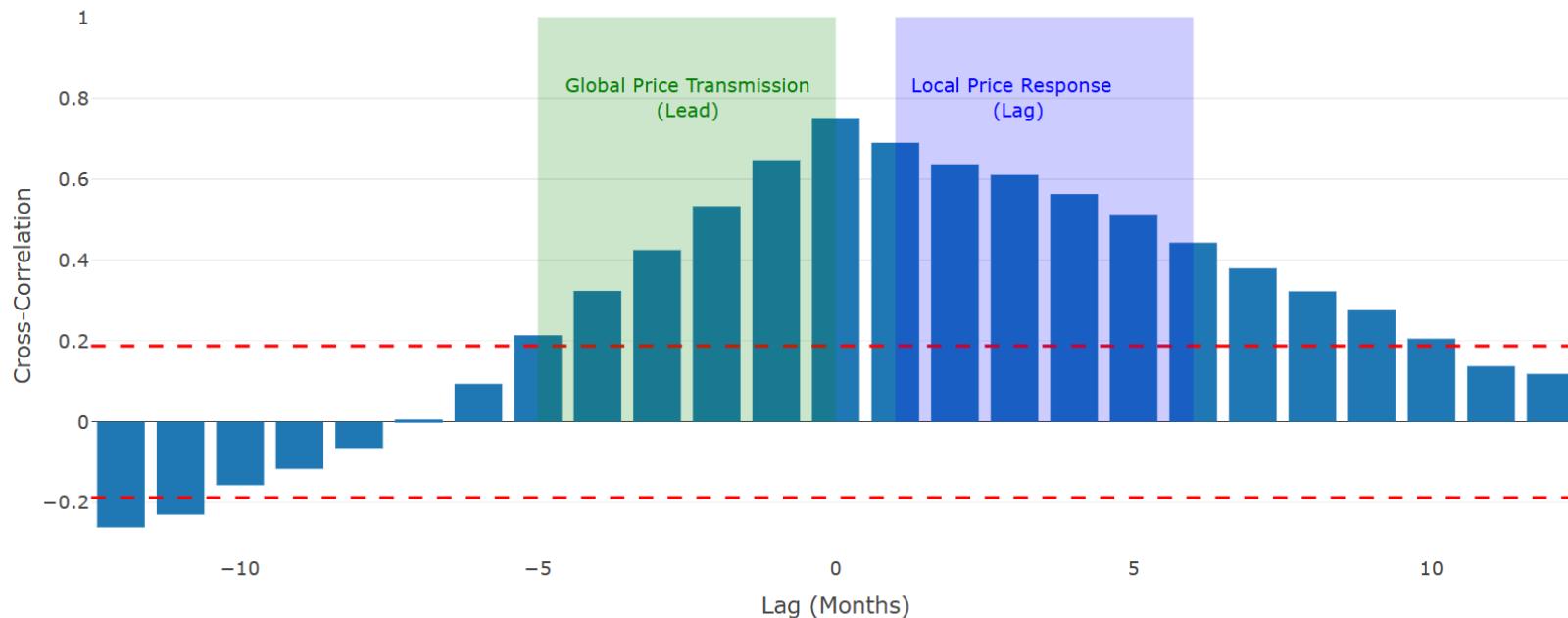
With a similar CCF pattern to IPP with retail prices, farmgate prices show a smoother and slower adjustment. Correlations become strongly positive starting from lag -6 and peak at lag 0 (0.751), suggesting that current IPP has a strong influence on farmgate prices and IPP leads farmgate prices by up to 6 months. This relationship persists up to lag +6, implying that once farmgate prices begin responding to global import trends, they continue adjusting in the same direction for several months. The delayed but strong correlation reflects the pass-through of international price signals to the local farm level, although it is less immediate than for retail prices, possibly due to buffering by traders or policy interventions.



Evidence of Price transmission

Average IPP price (Global) → Local Farmgate price

Although the CCF shows that global import parity prices lead farmgate prices, the effect is likely indirect, occurring through price transmission from global to retail markets, and eventually to farmers through changes in traders' buying behavior.

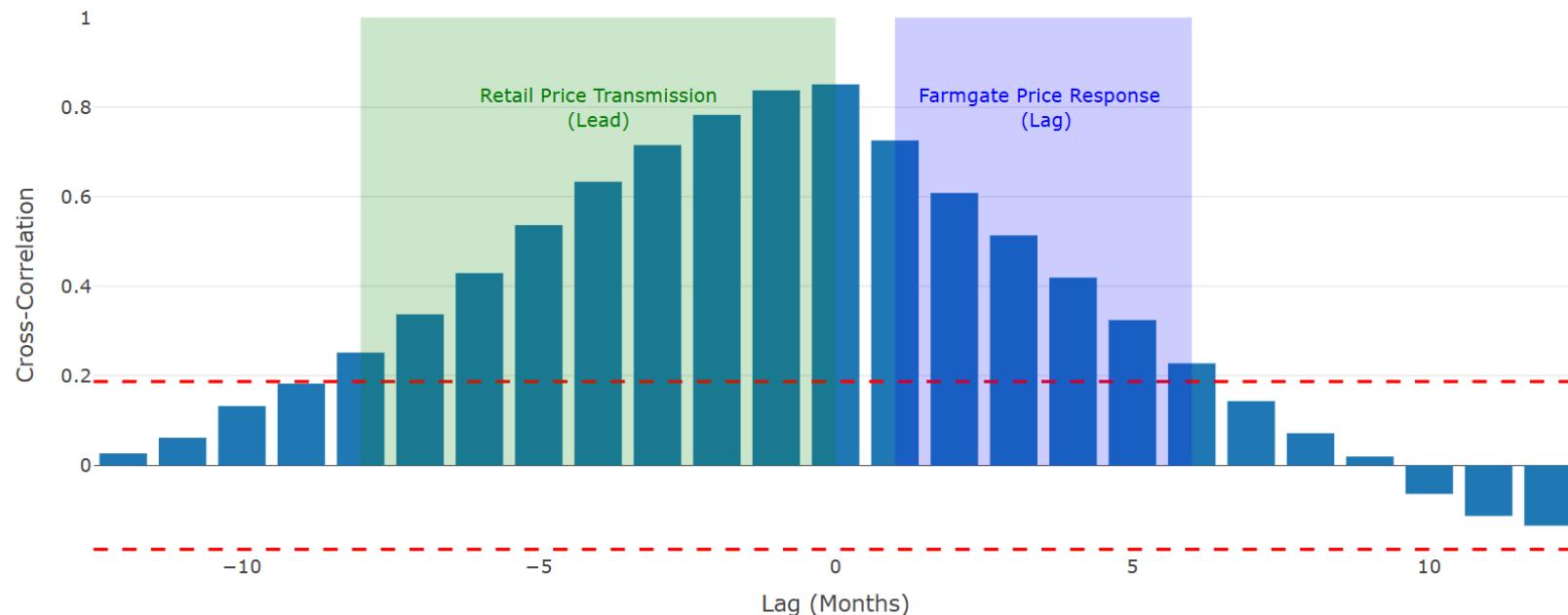


Evidence of Price transmission

Local Retail price → Local Farmgate price

The CCF shows that retail prices lead farmgate prices with strong correlations from 8 months before to the present, peaking at lag 0. The effect persists up to 6 months after, reflecting a full-cycle price transmission from market to farm level.

A longer lead window indicates that farmgate prices respond slowly to retail price changes, often due to delays in information flow, supply chain frictions, or power asymmetries. This suggests inefficiencies in price transmission, which may disadvantage producers by delaying income adjustments in response to market trends.



Evidence of Price transmission

Granger causality test

Results from the Granger causality test provide sufficient evidence that global rice prices (as estimated by the average Import Parity Price or IPP) Granger-cause local retail prices, indicating that global price movements have a statistically significant influence on retail markets within a 2-month window.

Similarly, local retail prices Granger-cause farmgate prices, with effects unfolding over a 6-month period, suggesting that price changes at the consumer level gradually influence prices received by farmers.

Granger Causality Summary table at maximum lags with significant granger causality

Relationship	Lag_Order	F_Statistic	p_Value	Significant	Transmission
Global (IPP) → Local Retail	2	3.944	0.0223	Yes	Fast
Global (IPP) → Local Farmgate	2	0.364	0.6958	No	None
Local Retail → Local Farmgate	10	1.991	0.0446	Yes	Slow

Evidence of Price transmission

Fast Upstream-to-Midstream Transmission

The quick 2-month lag from global to retail prices indicates that **domestic markets respond quickly to international trends**.

This is expected in countries where retail markets are influenced by:

- Import costs
- Exchange rates
- Policy-driven responses to global price movements

Granger Causality Summary table at maximum lags with significant granger causality

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Evidence of Price transmission

● Slow Midstream-to-Downstream Transmission

The long 10-month lag from retail to farmgate prices suggests that:

- Farmers are the last to feel the effect of price shifts
- There may be market frictions, delayed bargaining, or lack of direct market access

This delay could result in producers being disadvantaged, unable to react promptly to price opportunities or risks.

Granger Causality Summary table at maximum lags with significant granger causality

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Evidence of Price transmission

In contrast, while the cross-correlation function (CCF) reveals a strong association between global and farmgate prices, the Granger causality test does not detect a direct predictive relationship.

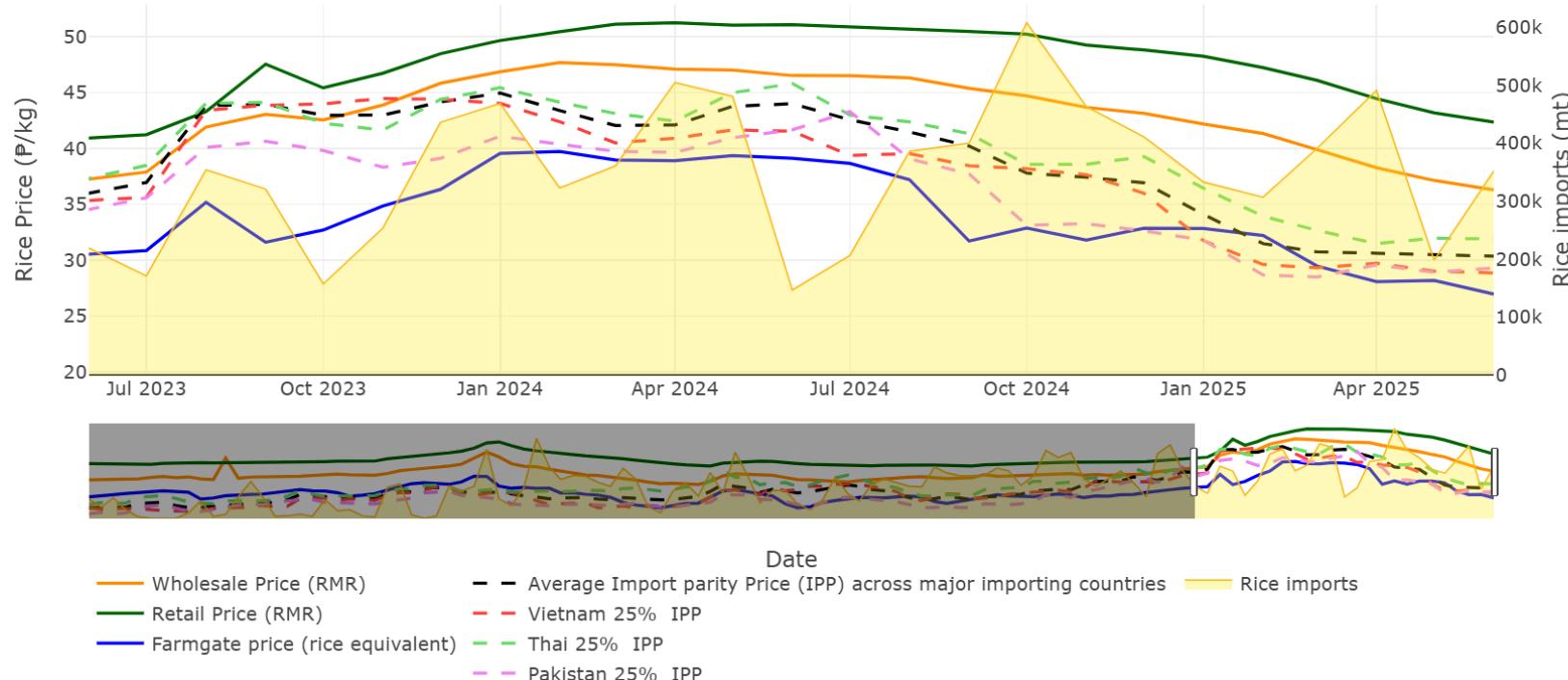
This divergence suggests that the observed correlation may result from indirect transmission, where global prices influence farmgate prices only through their effect on retail prices.



Imports and Prices

Current trends

Since early 2025, both global rice prices and domestic retail and farmgate prices in the Philippines have been on a gradual downward trend, yet import volumes have remained erratic rather than steadily rising. Import volume have oscillated, with notable spikes in April and June. This suggests imports reacting to non-price related factors influencing trade dynamics such as opportunistic buying when import parity margins widened; shifts in government import policies; traders and authorities adjusting to fluctuating demand forecasts or logistical bottlenecks.

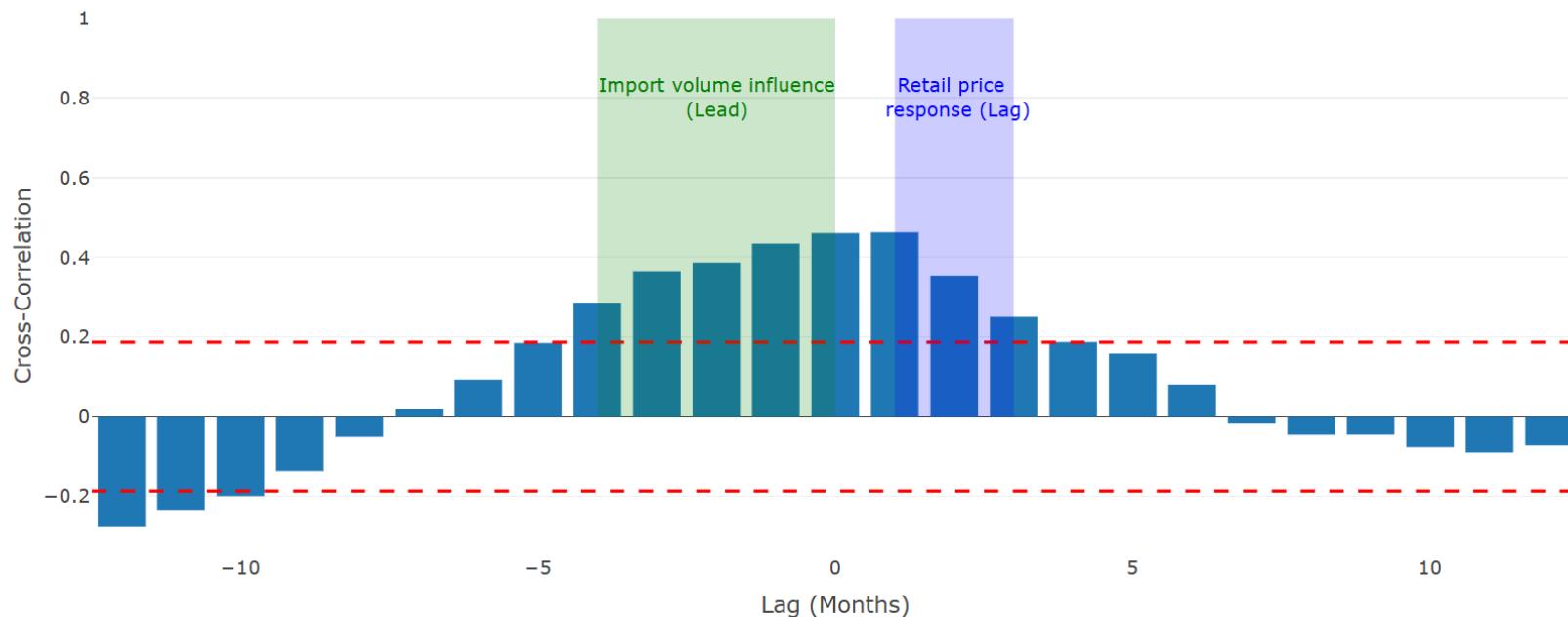


Imports and Prices

Import influence on Local Retail price

The CCF shows positive correlations between import volume and retail prices from lags -4 to +3, indicating that increases in imports tend to coincide with, or slightly lead, increases in retail prices — particularly within the same month or the next 1–2 months.

While higher import volumes are typically expected to lower retail prices by increasing supply, the observed pattern suggests the opposite. This may point to reverse causality: rather than imports driving retail prices, rising retail prices may be prompting an increase in imports. In other words, the market may be responding to higher prices by importing more to stabilize supply.

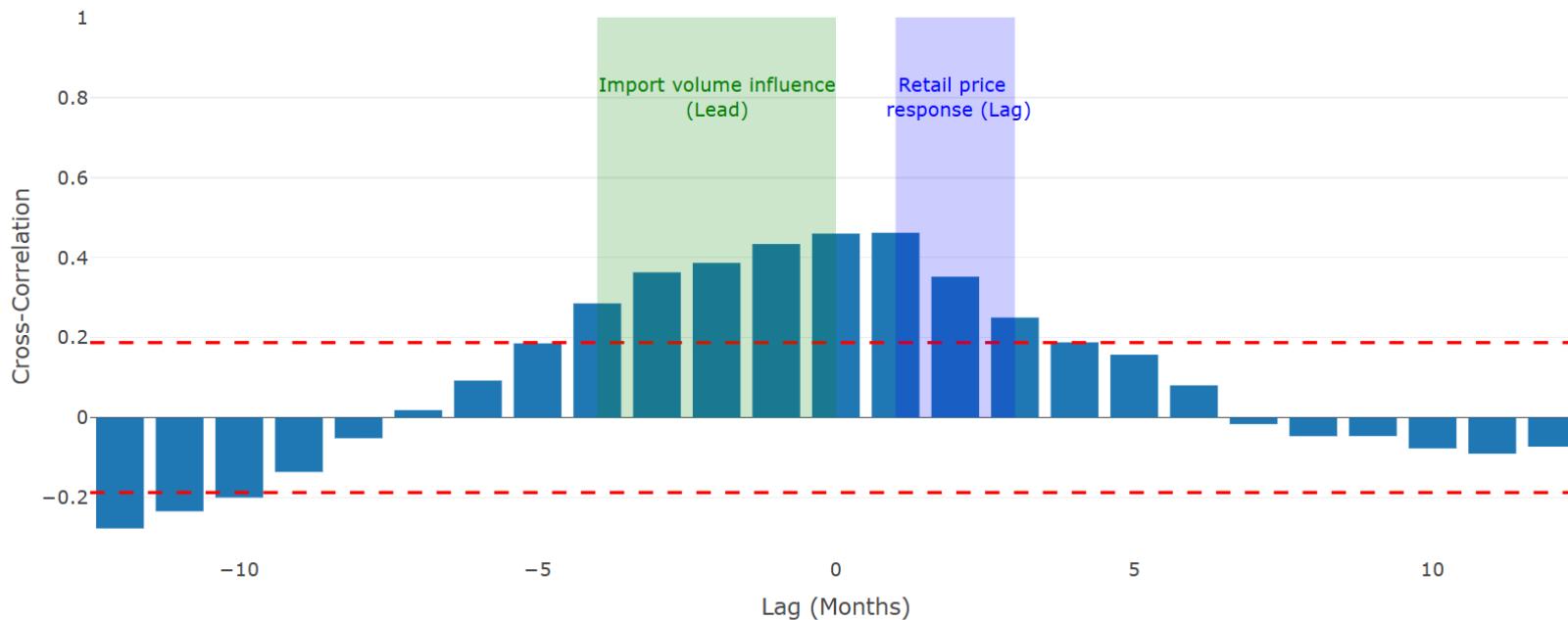


Imports and Prices

Import influence on Local Retail price

However, it is important to note that the CCF only measures correlation, not causality. To determine whether import volume actually causes changes in retail prices, a Granger causality test is needed to formally assess the direction of influence.

In this case, the Granger causality test does not confirm a statistically significant causal effect, suggesting that while import volume and retail prices are correlated, imports may not consistently provide additional predictive value beyond the existing patterns in domestic retail prices. This does not necessarily mean that imports have no impact—it may indicate that their influence is delayed, indirect, or overshadowed by other, stronger domestic factors driving retail price behavior.

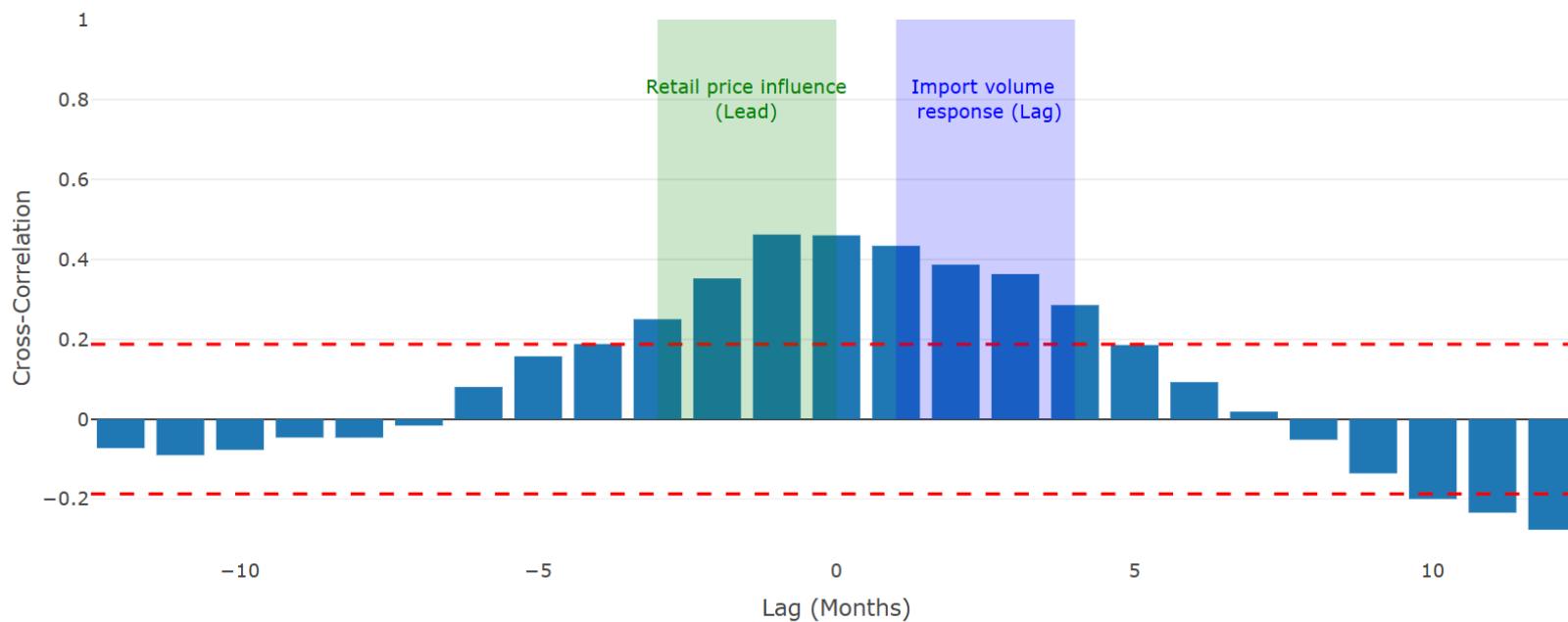


Imports and Prices

Local retail price influence on Imports

This CCF indicates that it is actually the domestic retail prices that leads import volume (0-3 months). After peak, the effect on import volume persists for up to 4 months.

This highlights a **reactive import strategy** where traders and policymakers may respond to rising domestic prices by increasing imports to stabilize supply and mitigate further price hikes.



Imports and Prices

Local retail price influence on Imports

Granger causality test confirms this relationship suggesting that domestic retail prices Granger-cause import volumes with significant effect from lags 2-12. This means domestic retail prices as far as 12 months ago has influence on current import volumes

Table. Granger Causality Summary table on domestic rice prices influencing Import volumes

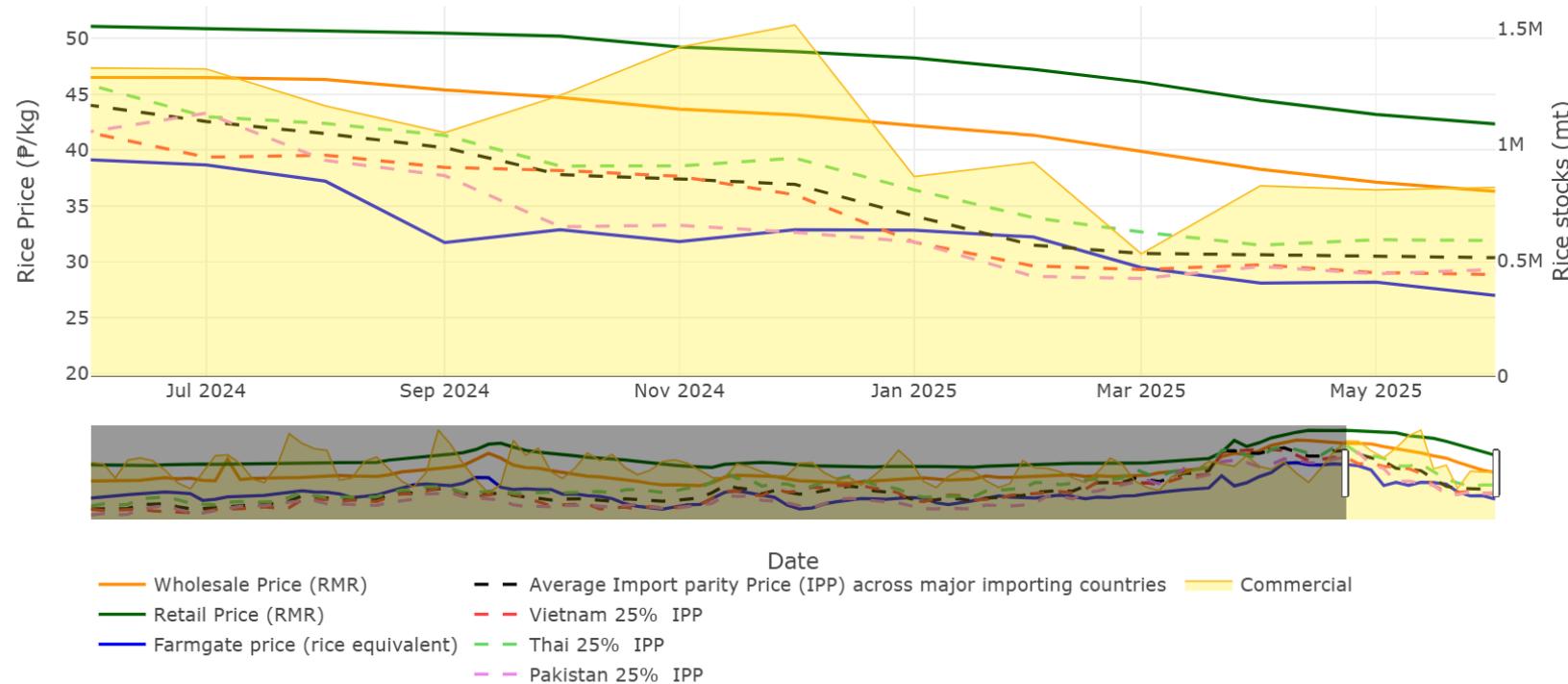
lag	2	3	4	5	6	7	8	9	10	11	12
p.value	<0.001	<0.001	<0.001	0.0011	0.0052	0.0038	0.0027	0.0126	0.0151	0.0105	0.0056

Stocks and Price

Commercial stocks

Current Trends

With both global and domestic rice prices on a general downward trend for the past 12 months, commercial stocks also declined due to reduced incentive for commercial traders to stockpile rice, as holding large inventories in a falling price environment can lead to financial losses. To maintain liquidity, traders are more likely to release existing stock into the market to avoid future losses, and may delay new imports or local purchases, anticipating even lower prices ahead.

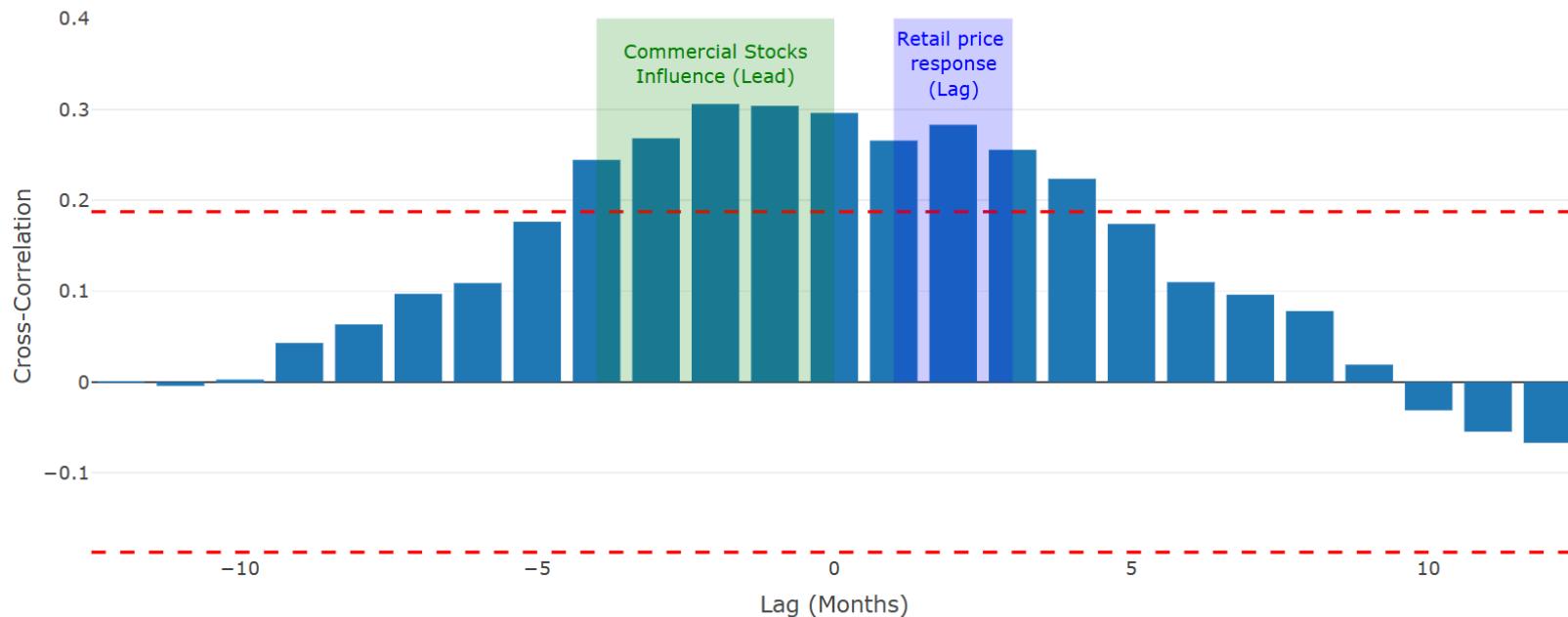


Stocks and Price

Commercial stocks

Commercial Stocks influence on Retail Prices

The cross-correlation between commercial stocks and domestic rice prices reveals a strong positive relationship, particularly from lag -5 to +2, indicating that increases in stocks often precede or coincide with price increases. This suggests that commercial stock buildup—possibly due to expectations of tighter supply or speculative hoarding—can drive rice prices upward within 2 to 5 months. At the same time, rising prices may also trigger short-term restocking behavior, although this effect quickly diminishes. These dynamics imply a two-way interaction where commercial stock levels both influence and respond to rice price movements.



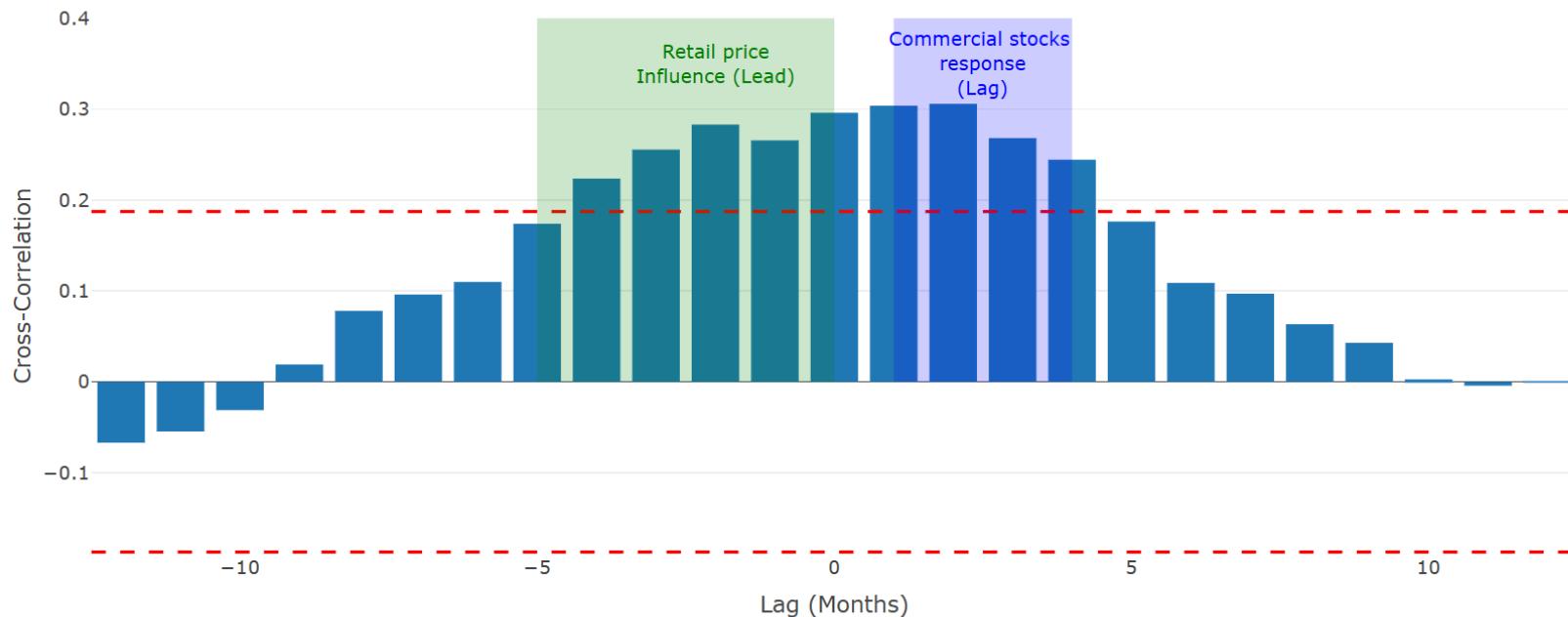
Stocks and Price

Commercial stocks

Commercial Stocks influence on Retail Prices

However, Granger-Causality test results show that only domestic rice prices significantly predict changes in commercial stock levels, while the reverse—stocks predicting prices—is not statistically supported.

Rising prices may prompt traders to accumulate stocks in anticipation of continued gains, whereas falling prices may lead them to offload inventory. Therefore, while cross-correlations suggest mutual influence, formal causality testing reinforces that price changes more plausibly drive stock adjustments rather than the other way around.

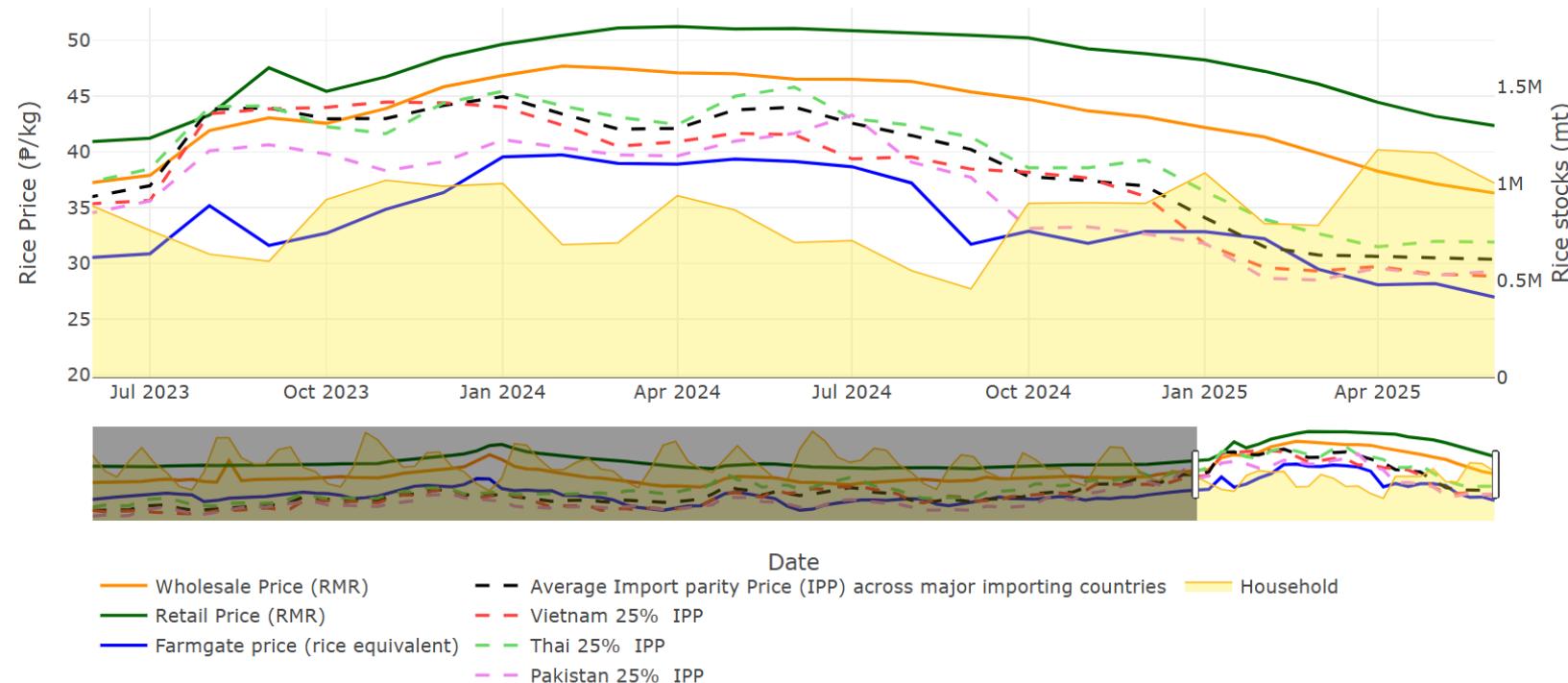


Stocks and Price

Household stocks

Current trends

Gradually decreasing rice prices led to stable or slightly declining household stocks. Consumers have less urgency to purchase in bulk or hoard supplies, since there is no perceived threat of price spikes or shortages and they may buy only what is needed, anticipating continued or stable affordability in the near term

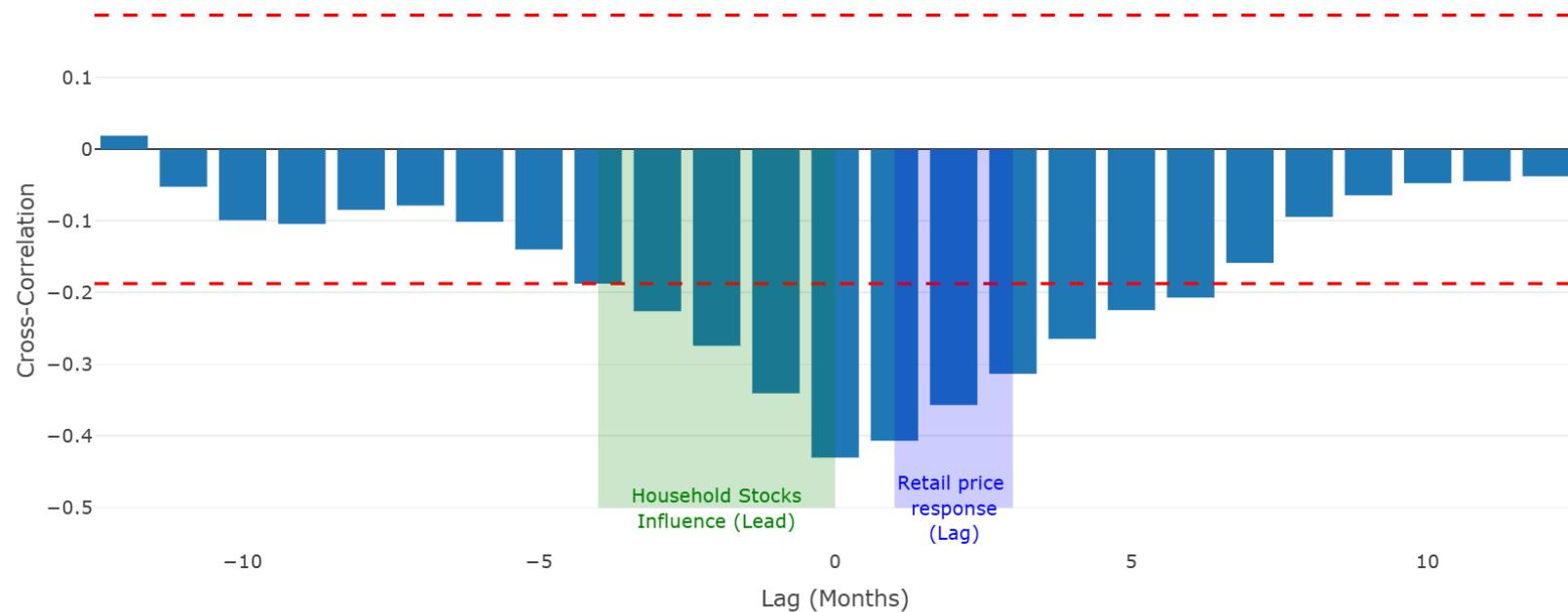


Stocks and Price

Household stocks

Household Stocks influence on Retail Prices

The CCF between household stocks and domestic rice prices shows a strong negative correlation, peaking at lag 0 (-0.430), indicating that higher household stocks are associated with lower rice prices. This suggests that when households hold more rice—either in anticipation of price increases or due to abundant supply—market demand decreases, putting downward pressure on prices. The sustained negative correlation across lags implies that household inventories play a buffering role in price movements.

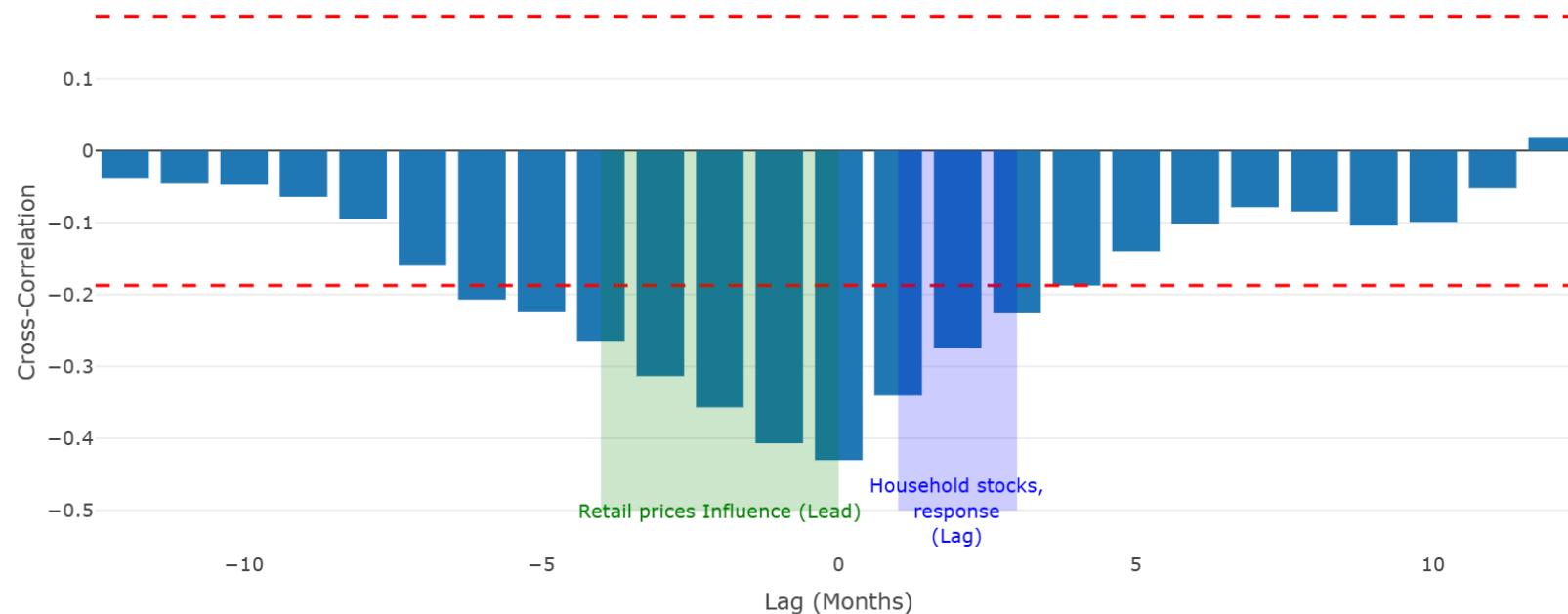


Stocks and Price

Household stocks

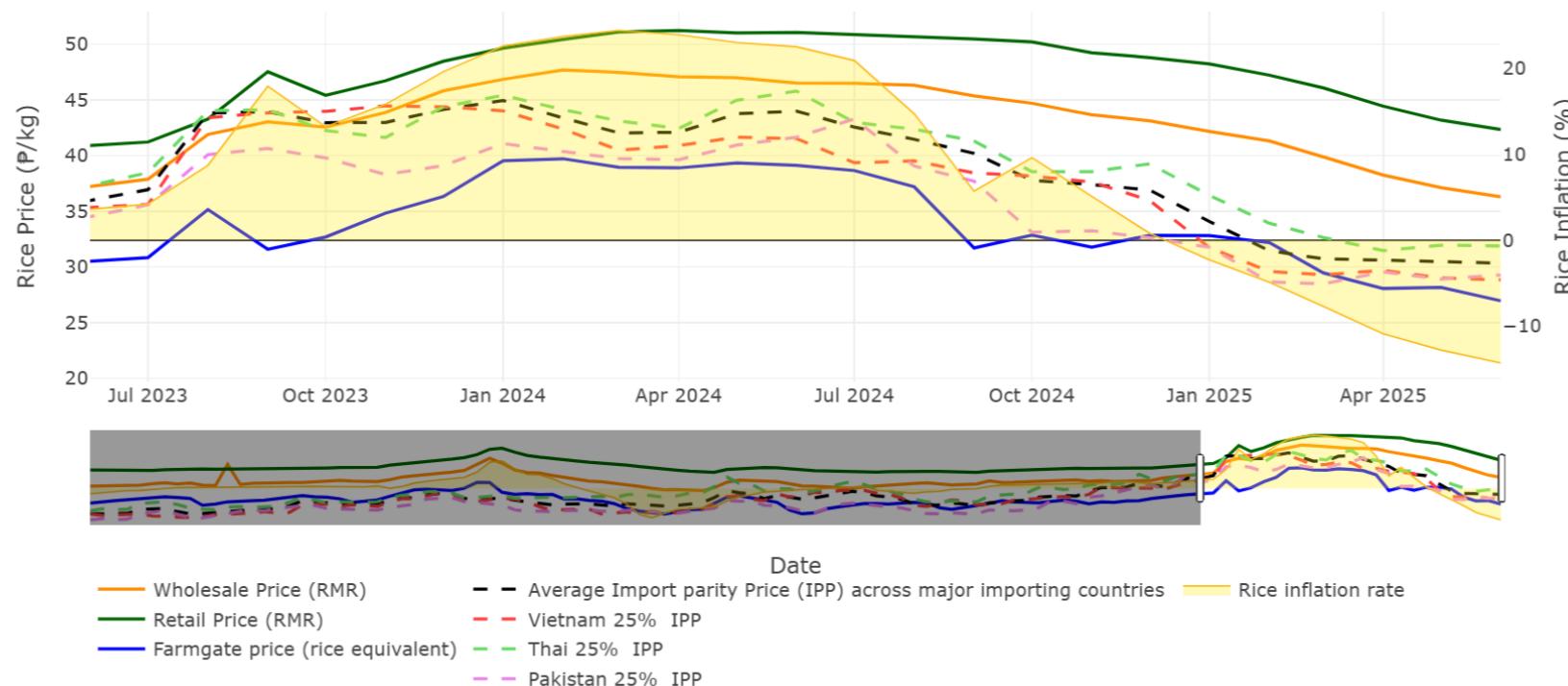
Household Stocks influence on Retail Prices

However, Granger-Causality test confirm that only the direction of retail prices predicting household stocks is statistically significant, while the reverse—household stocks predicting prices—is not. This means that changes in rice prices precede and help explain future movements in household inventories, rather than the other way around. This result supports the idea that households respond to market signals: when prices rise or are expected to rise, households are more likely to purchase in larger quantities, taking advantage of lower costs to build up their stocks in anticipation of future price increases. The implication is that household stocking behavior is largely reactive, driven by perceived price trends rather than being a leading force that directly shapes market prices.



Effect on Rice Inflation

Since the start of 2025, declining global and local rice prices have contributed to negative rice inflation, easing upward pressure on overall prices. Given rice's high weight in the consumer basket, this drop has significantly helped slow down headline inflation.



Key Takeaways

Global & Local Price Trends

- All price series (global IPP, wholesale, retail, farmgate) have been on a gradual downward trajectory since mid-2024, with local markets responding within 2–4 months of global shifts.

Year-on-Year Decline

- Retail prices: June 2025 are 17% lower than June 2024.
- Farmgate prices: June 2025 are 31% lower, indicating farmers absorb most of the downturn and signaling a widening farm-retail margin.

Price Transmission Pathway

- Global → Retail: Strong Granger causality at lag 2 ($p = 0.022$) and CCF peaks at lags 0–4.
- Retail → Farmgate: Significant Granger causality at lag 6 ($p = 0.043$) and CCF peaks at lags 0–2.
- Global → Farmgate: High CCF at lags 0–3 but no direct Granger effect, indicating indirect transmission via retail.

Import Dynamics

- Despite falling prices, import volumes remain volatile, with spikes in April and June 2025—suggesting policy shifts, opportunistic buying, or logistical factors outweigh pure price incentives.
- CCF indicates that it is actually the domestic retail prices that lead import volume (0–3 months). After peak, the effect on import volume persists for up to 4 months.
- Granger causality test confirms this relationship, suggesting that domestic retail prices Granger-cause import volumes with significant effect from lags 2–12. This means domestic retail prices as far as 12 months ago have influence on current import volumes.

Stock Adjustments

- Commercial & Household Stocks have eased as traders and consumers release stocks in a falling-price environment.
- Rising prices may prompt traders to accumulate stocks in anticipation of continued gains, whereas falling prices may lead them to offload inventory.
- Households respond to market signals: when prices rise or are expected to rise, households are more likely to purchase in larger quantities, taking advantage of lower costs to build up their stocks in anticipation of future price increases.
- Formal causality testing reinforces that price changes drive stock adjustments.

Impact on Inflation

- Persistent price declines have driven negative rice inflation in 2025, helping to cool headline CPI given rice's large weight in the food basket.

Thank You!!

Questions or feedback?

philrice.dataanalytics@gmail.com