

Anexos técnicos

Documento de trabajo 1225

Pontificia Universidad Javeriana, Cali

14 de diciembre de 2025

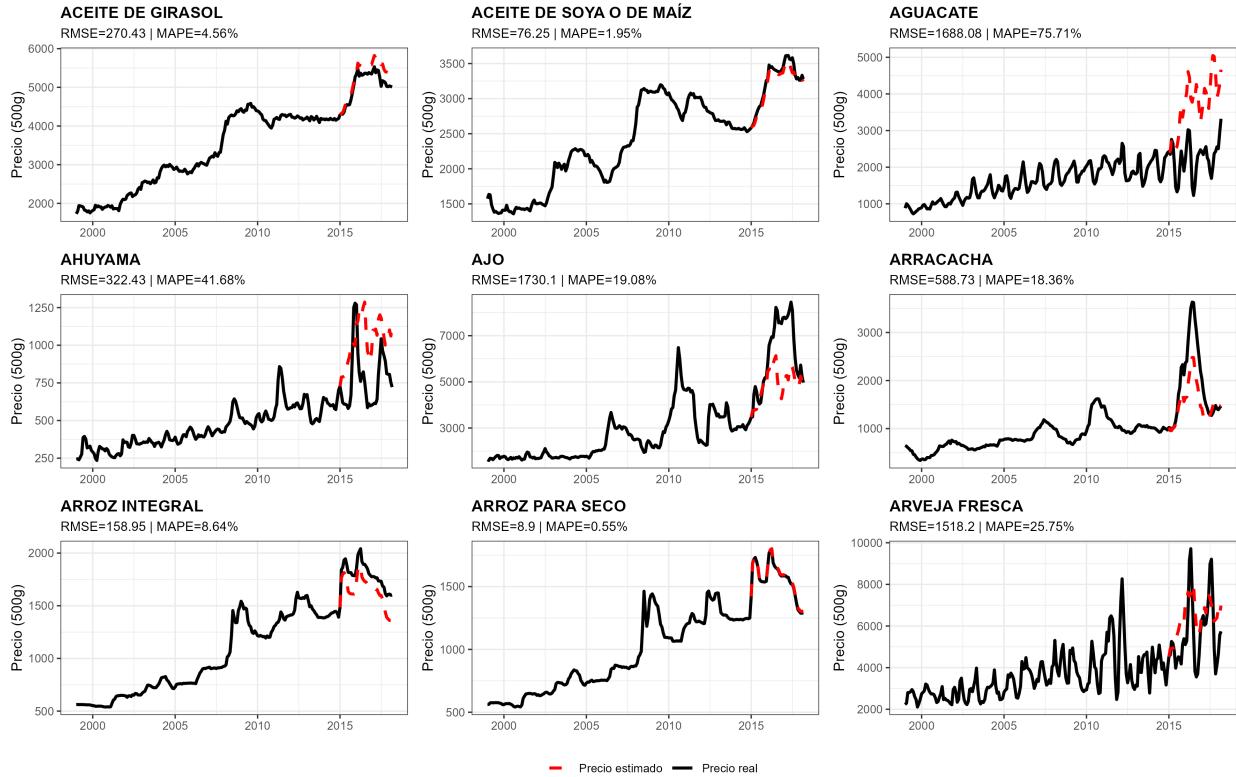
Anexos técnicos

En esta sección se presentan los anexos técnicos que complementan el análisis principal del documento. Cada anexo desarrolla en detalle los resultados empíricos, tablas y representaciones gráficas asociadas a las metodologías implementadas para la estimación y validación de los precios minoristas de los alimentos.

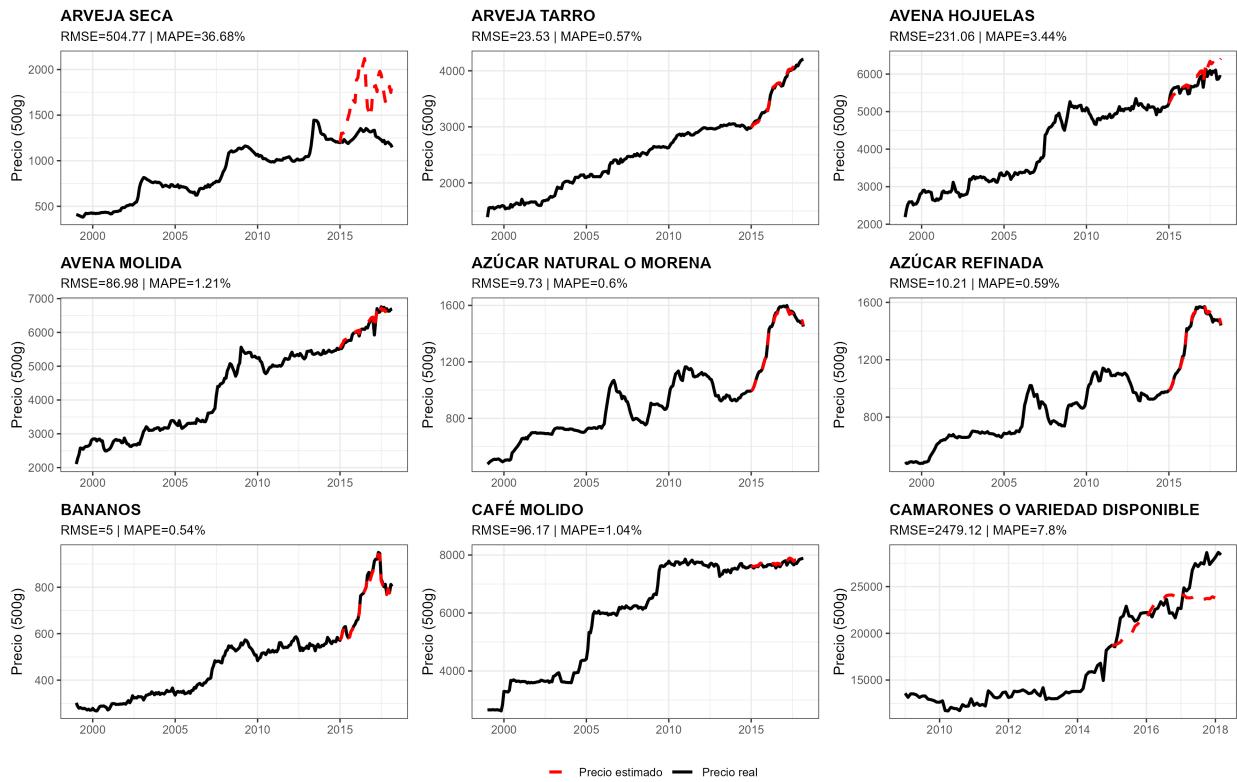
Anexo A. Metodología I: Aproximación a partir del IPC

Este anexo presenta los resultados completos de la metodología basada en la variación mensual del IPC a nivel de subclase. Se incluyen las comparaciones entre precios reales y precios estimados para todas las subclases y ciudades analizadas, así como las métricas de desempeño correspondientes.

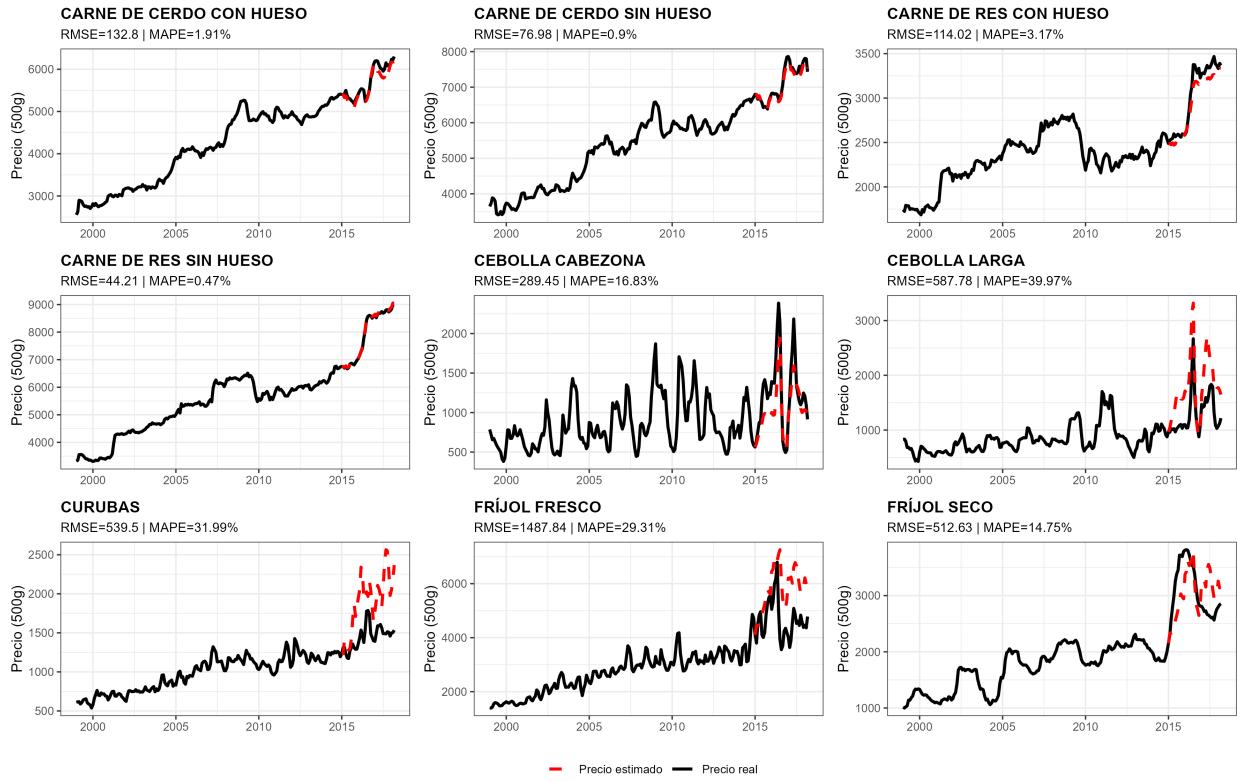
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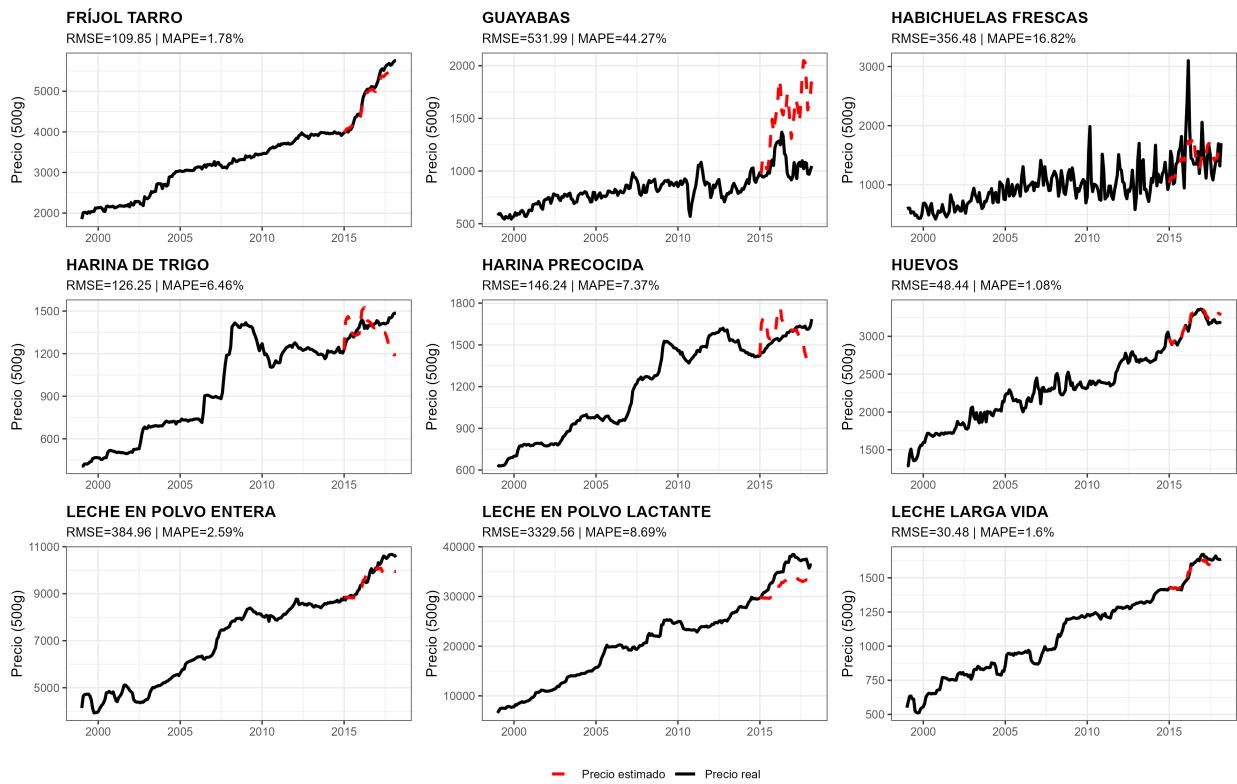
CALI — Precio real vs estimado (IPC subclase)



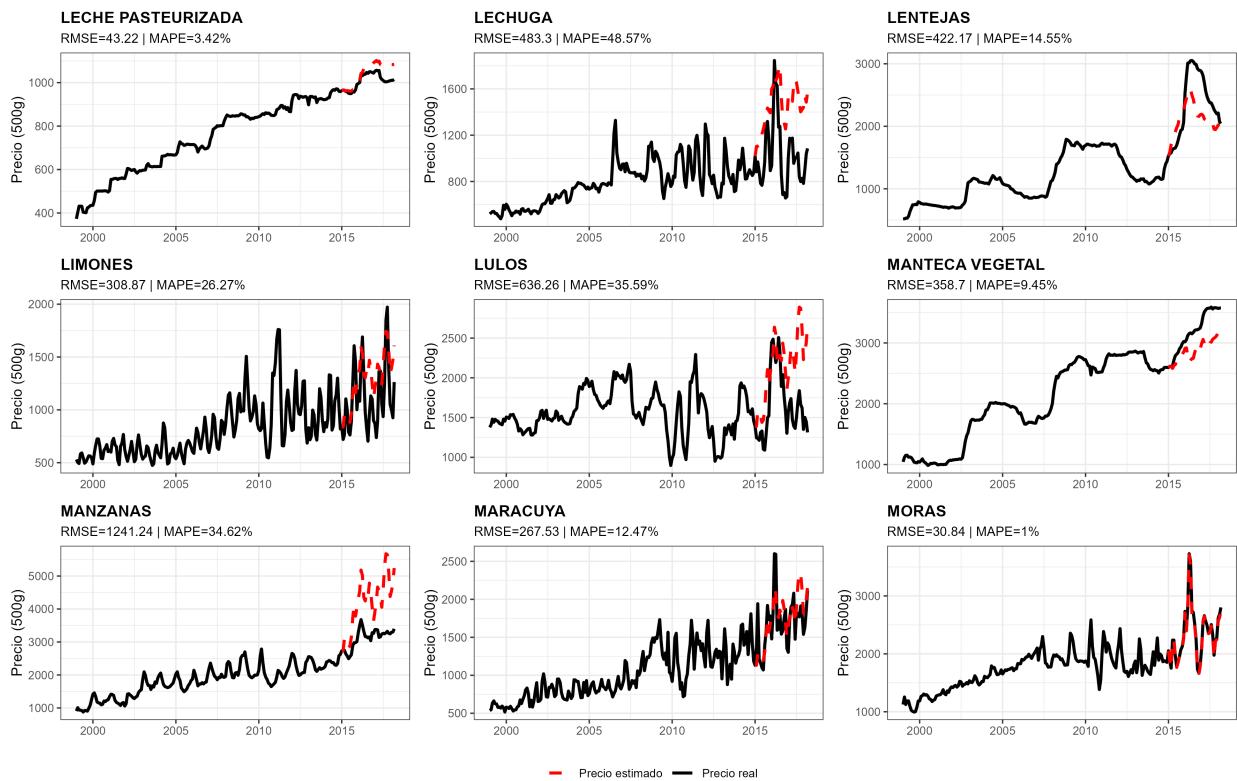
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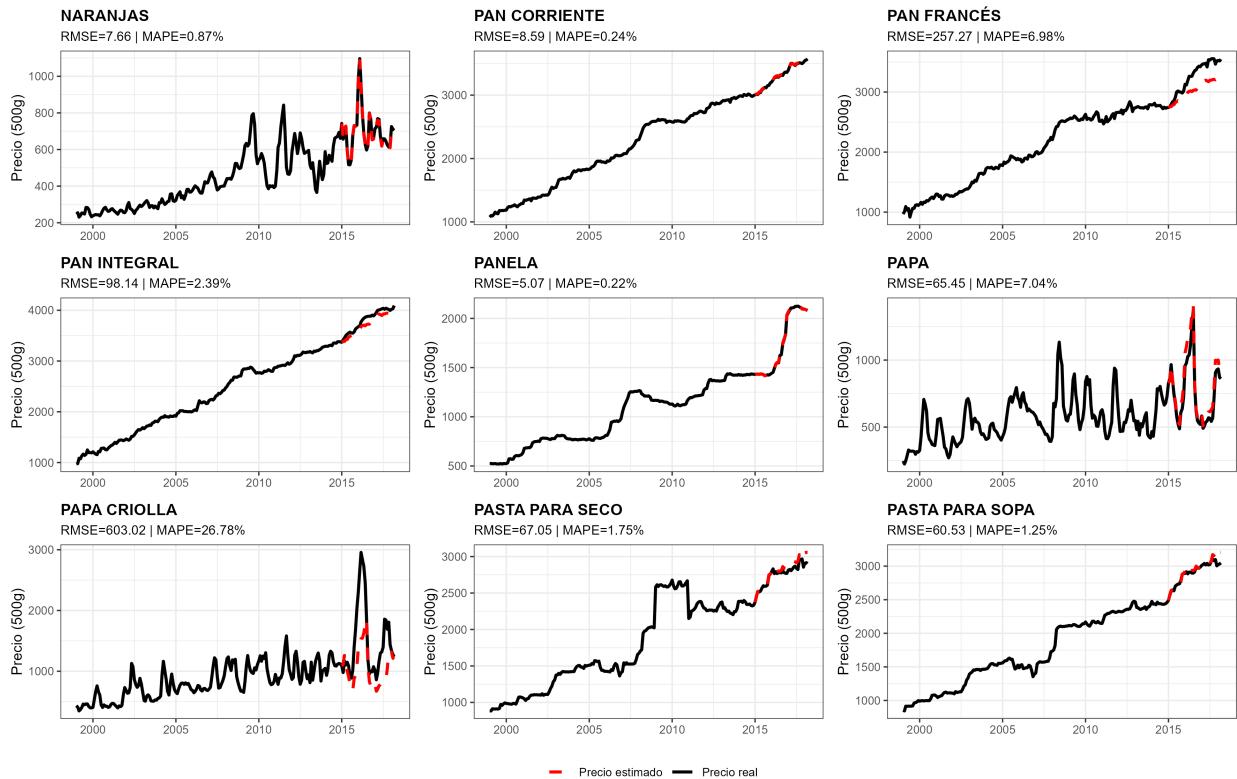
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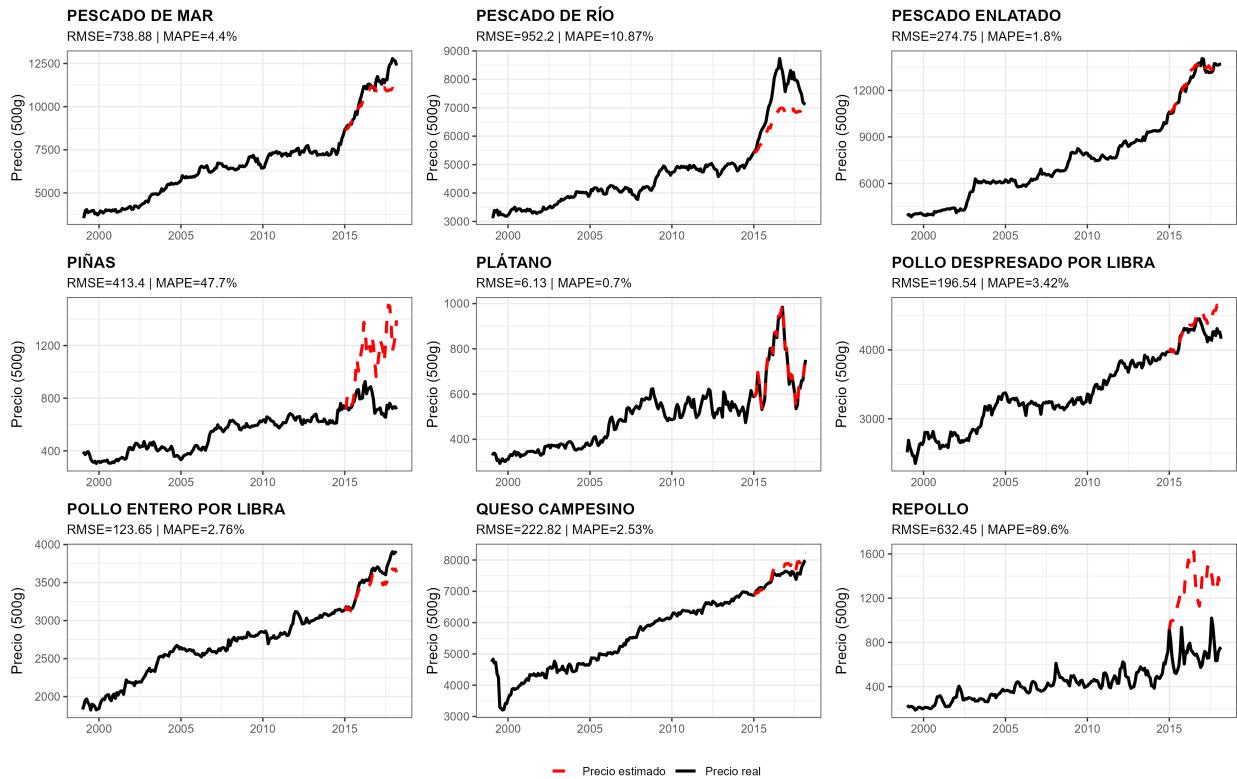
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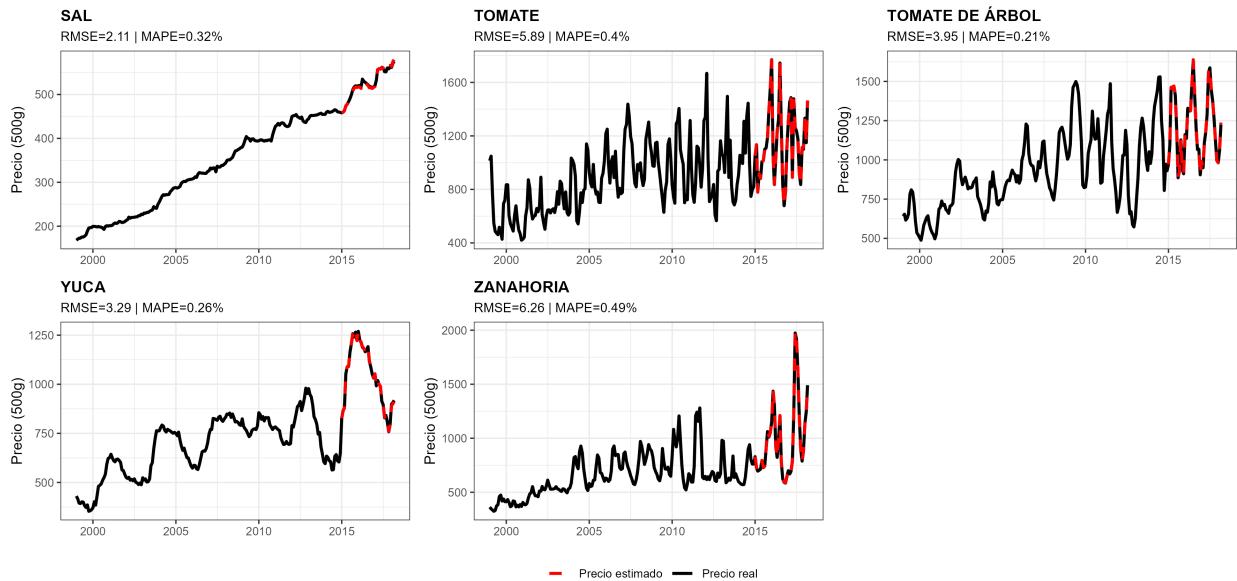
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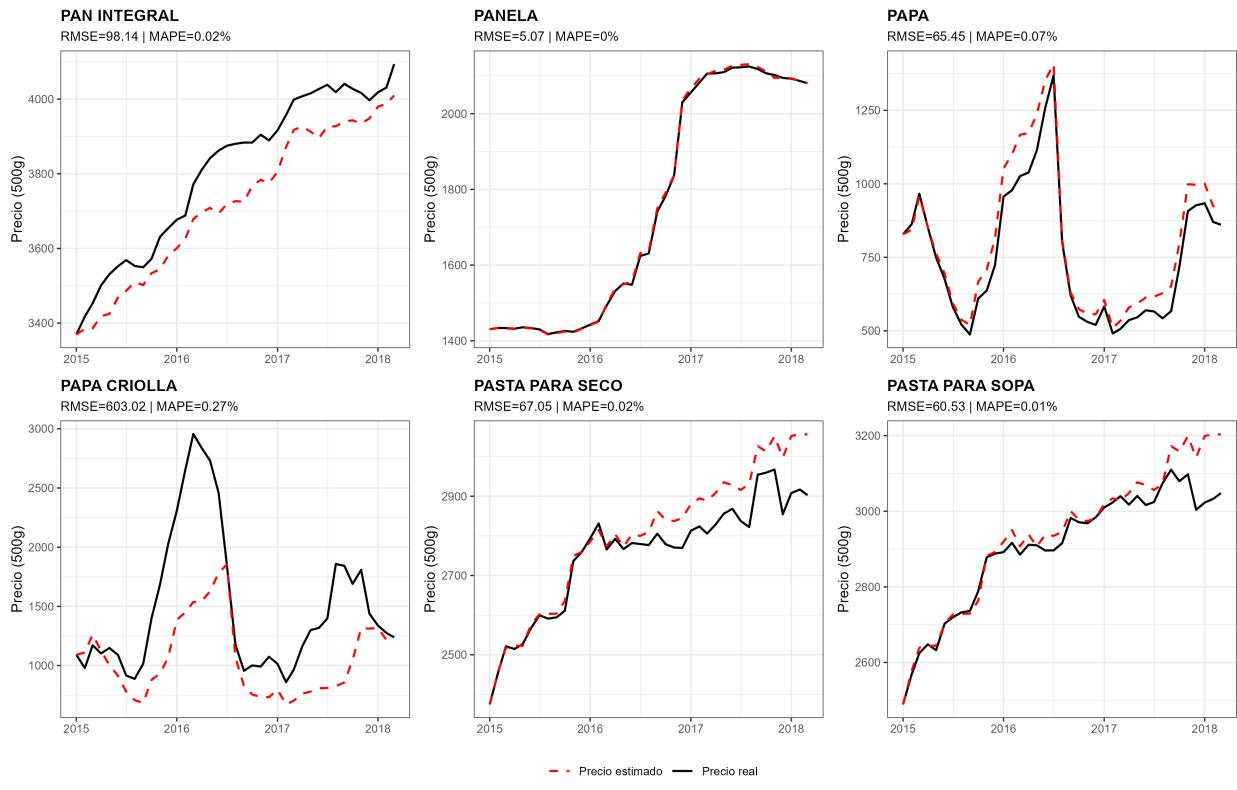
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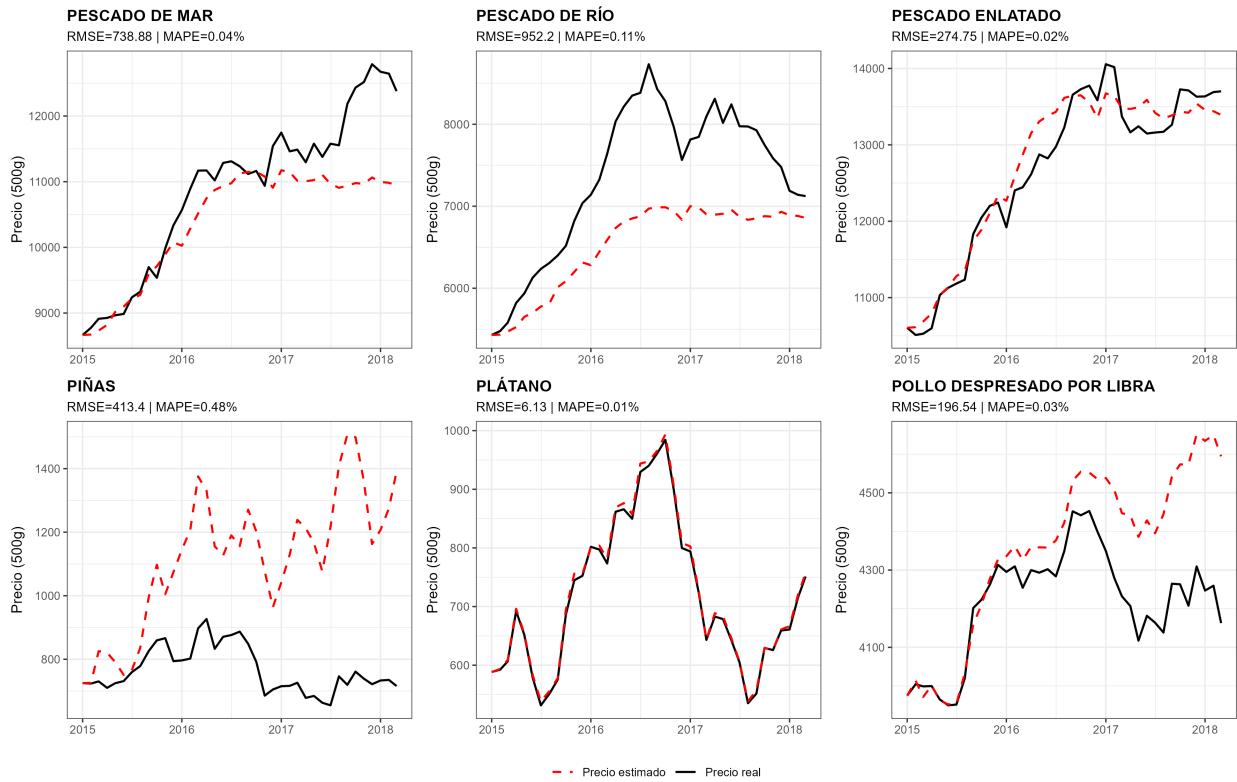
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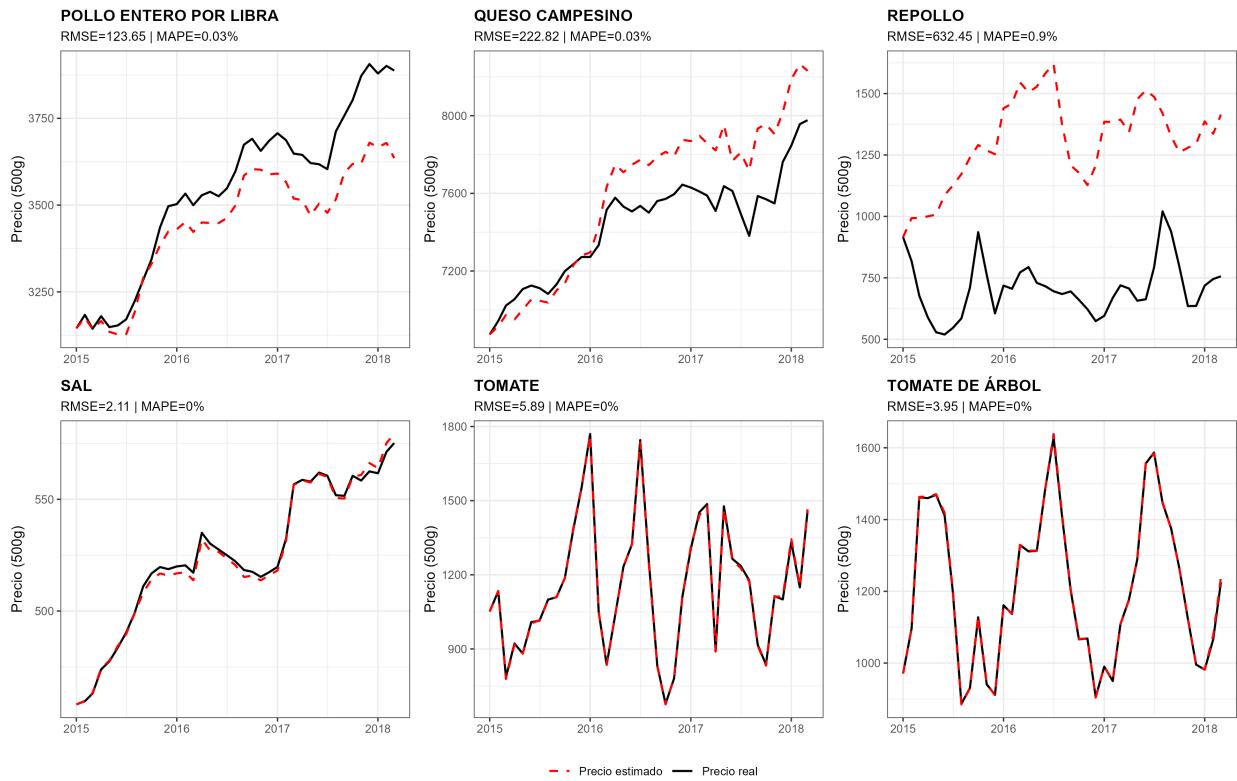
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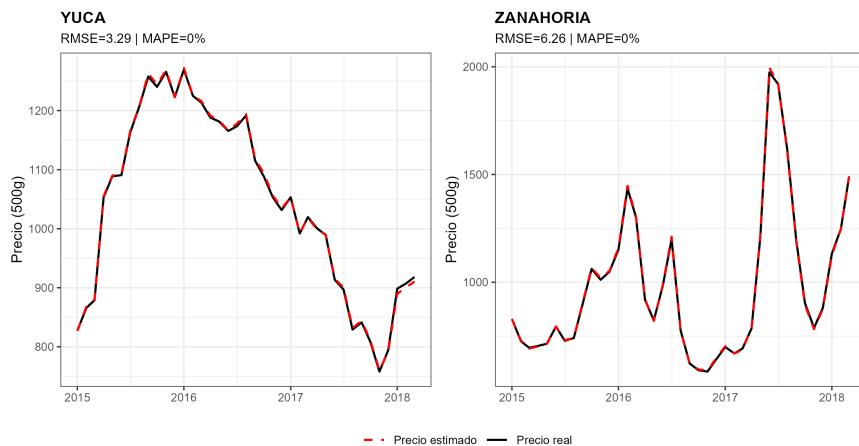
CALI — Precio real vs estimado (IPC subclase)



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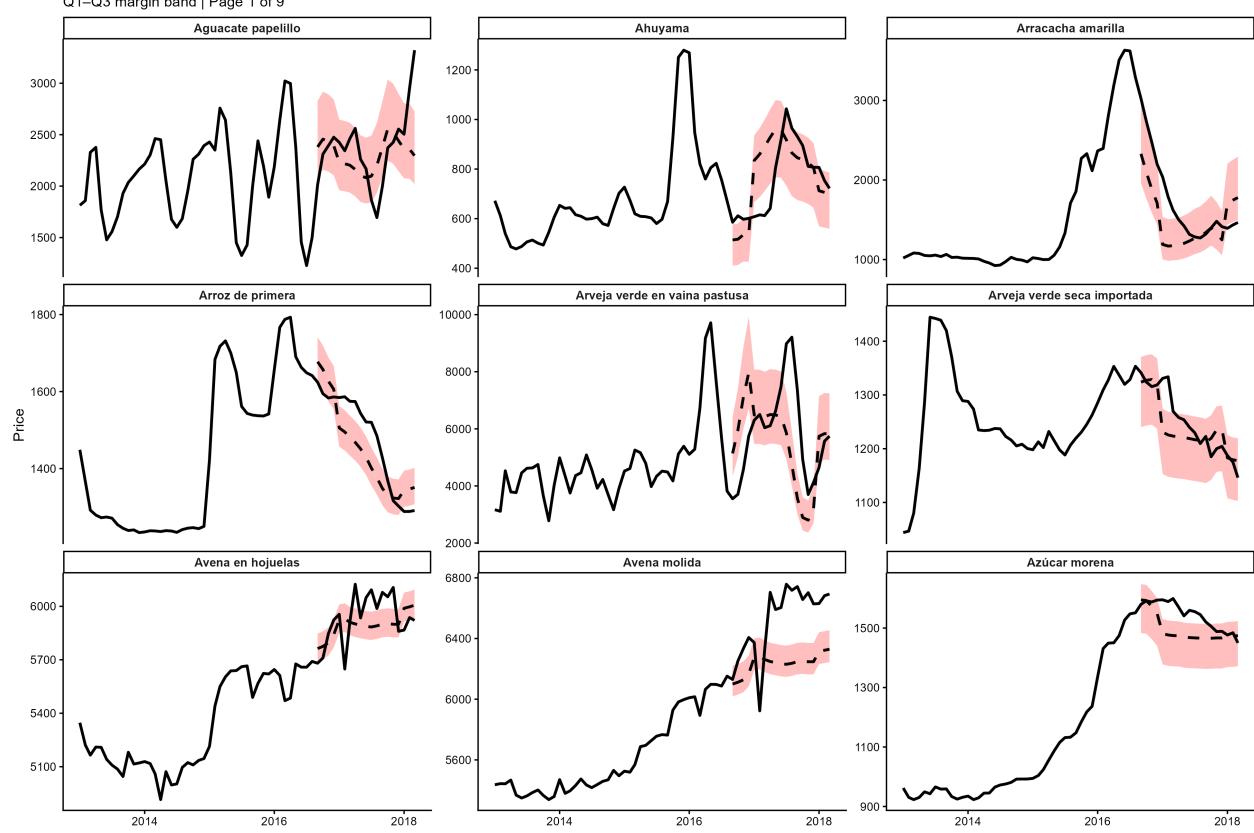


Anexo B. Metodología II: Estimación a partir del margen mediano (Q1 – Q3)

Este anexo documenta los resultados obtenidos a partir del cálculo de los márgenes de comercialización implícitos, incluyendo la distribución de los márgenes y los percentiles utilizados para la estimación de precios minoristas.

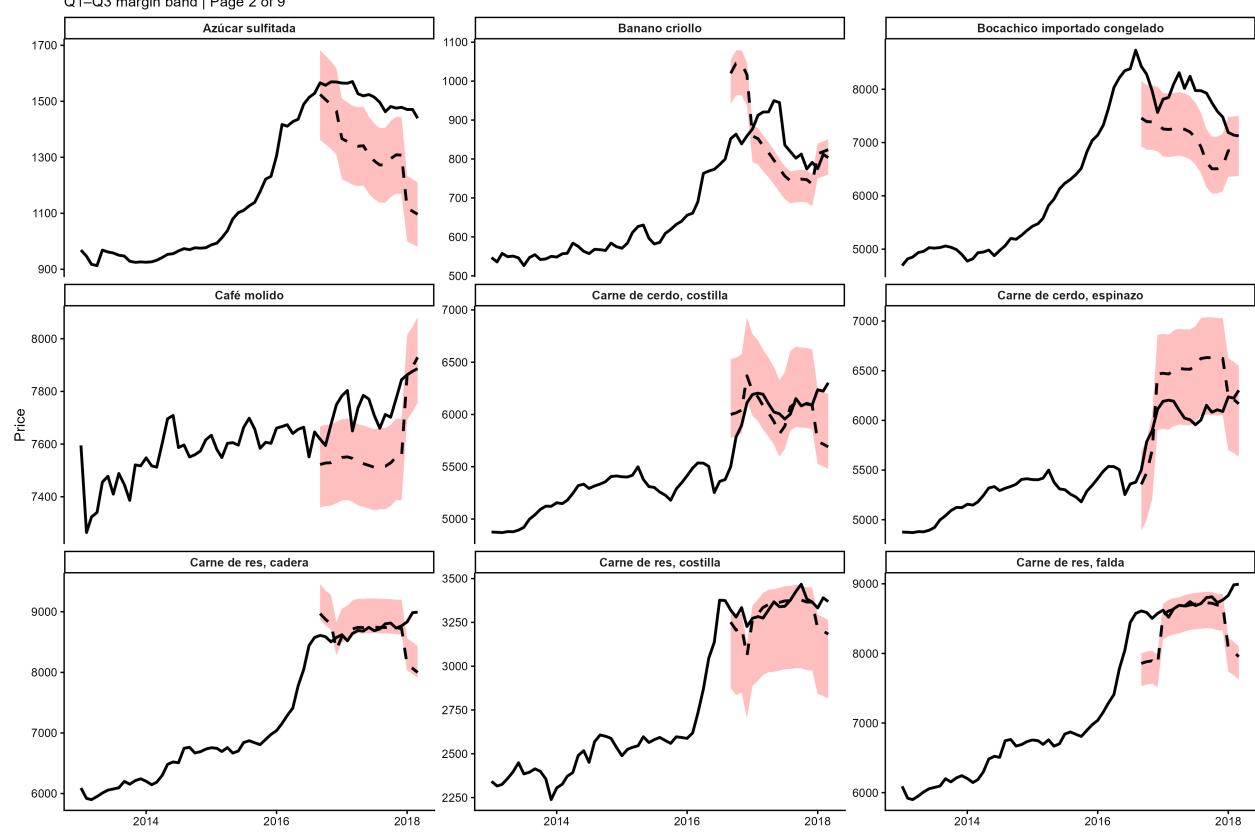
Observed vs Predicted Retail Prices — Methodology 1

Q1-Q3 margin band | Page 1 of 9



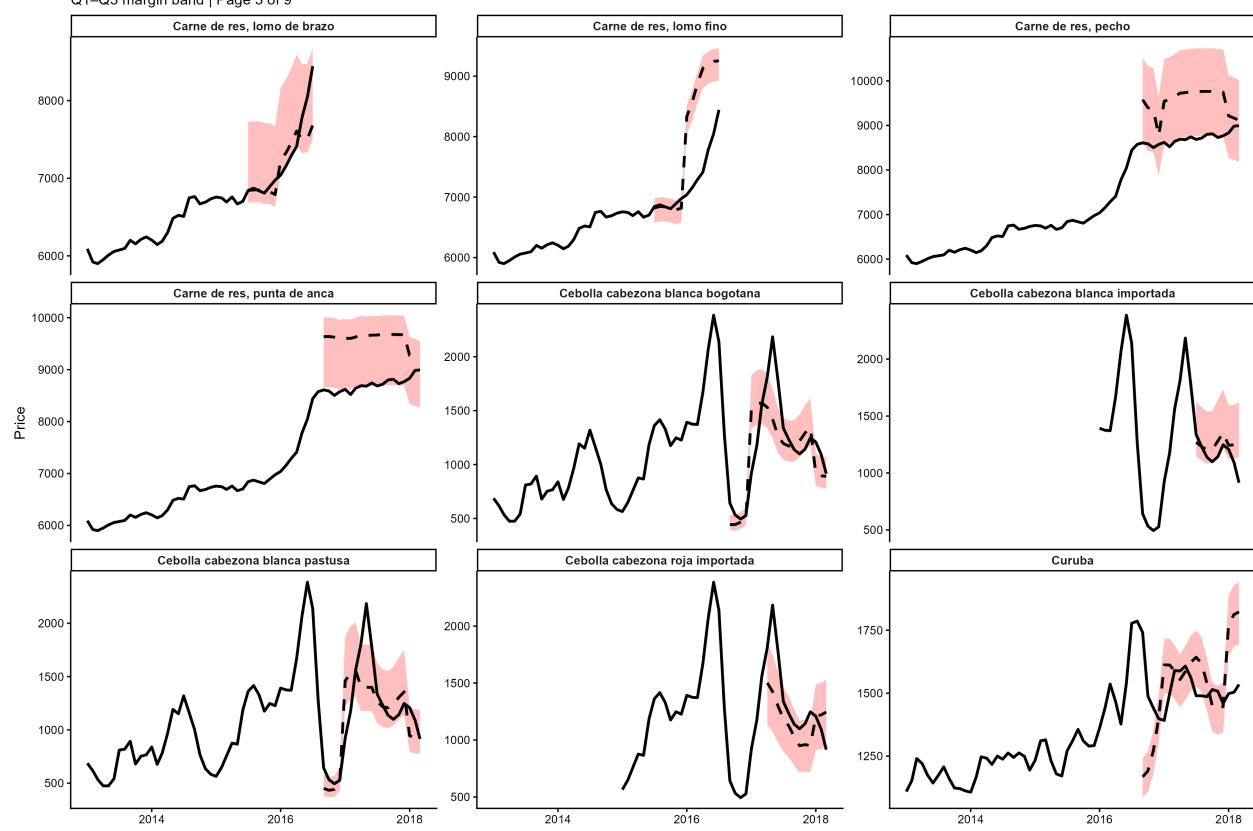
Observed vs Predicted Retail Prices — Methodology 1

Q1-Q3 margin band | Page 2 of 9



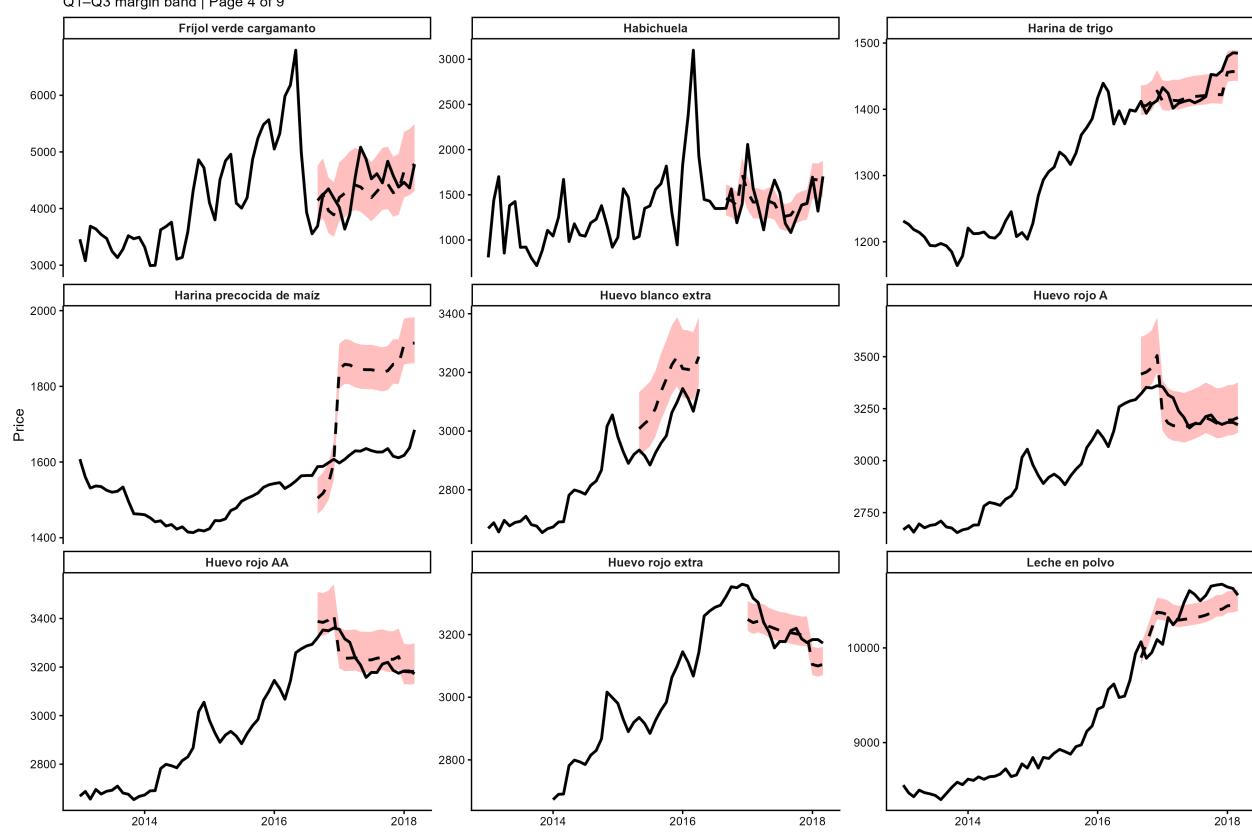
Observed vs Predicted Retail Prices — Methodology 1

Q1–Q3 margin band | Page 3 of 9



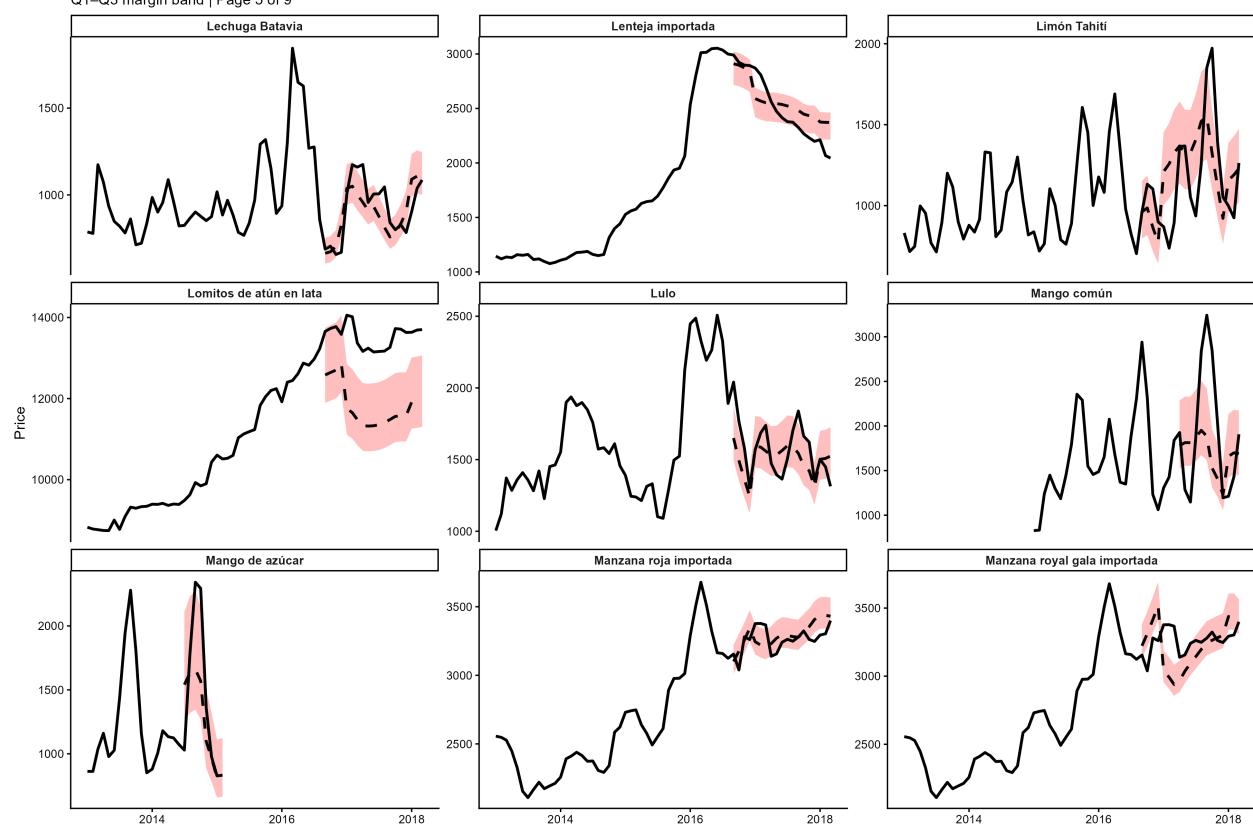
Observed vs Predicted Retail Prices — Methodology 1

Q1-Q3 margin band | Page 4 of 9



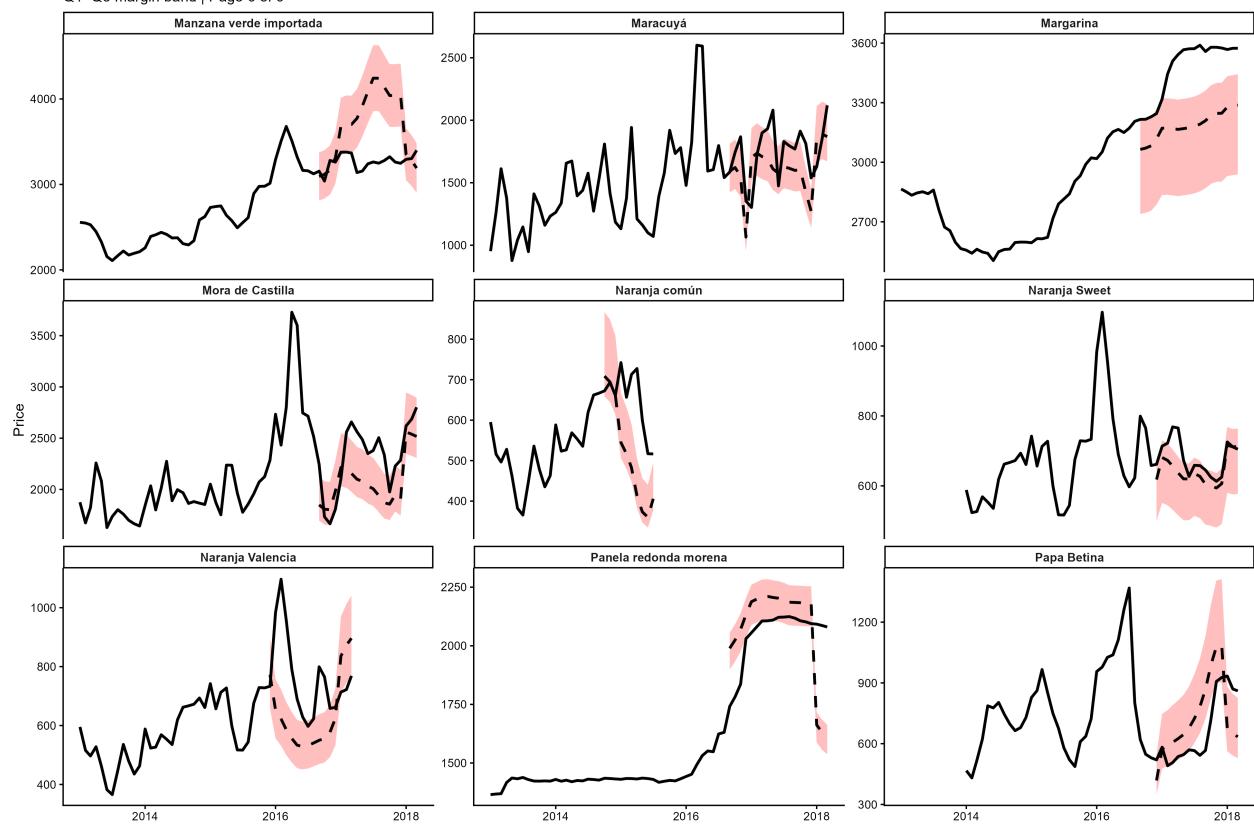
Observed vs Predicted Retail Prices — Methodology 1

Q1–Q3 margin band | Page 5 of 9



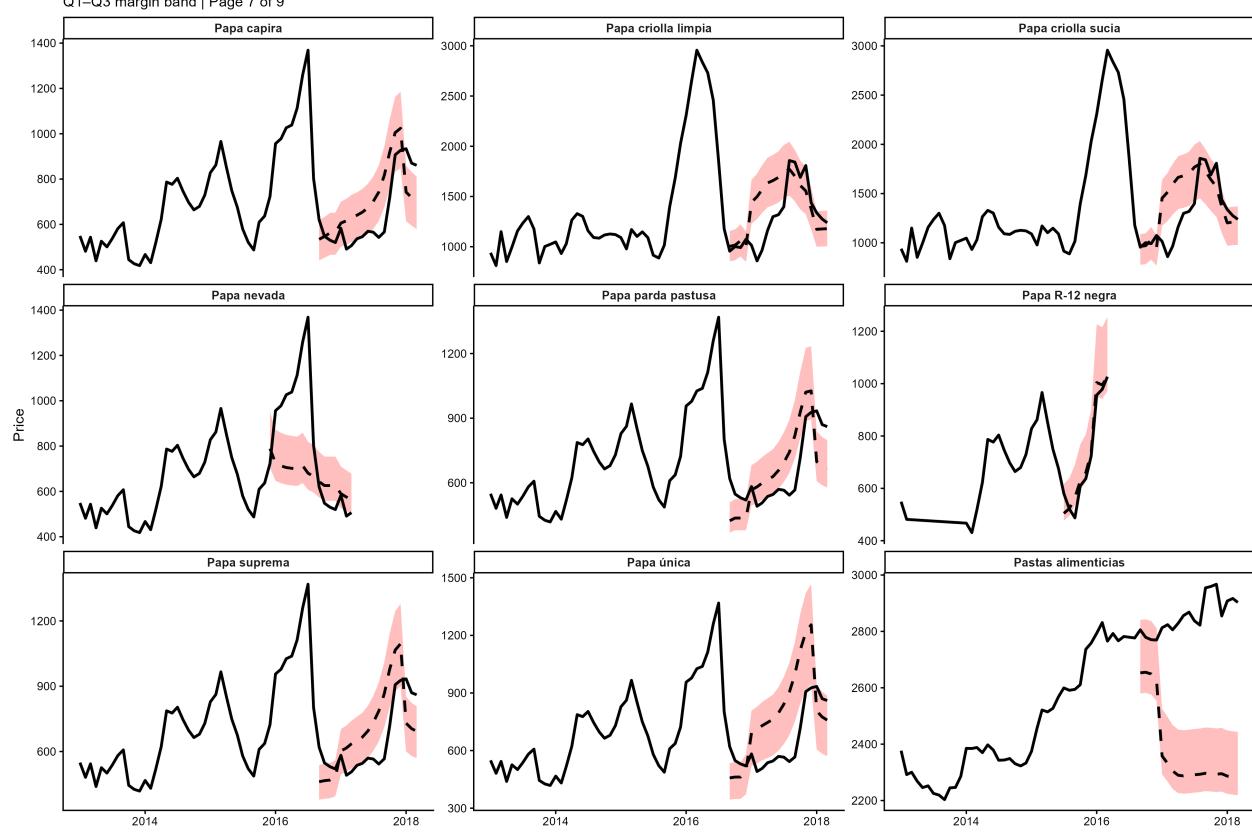
Observed vs Predicted Retail Prices — Methodology 1

Q1–Q3 margin band | Page 6 of 9



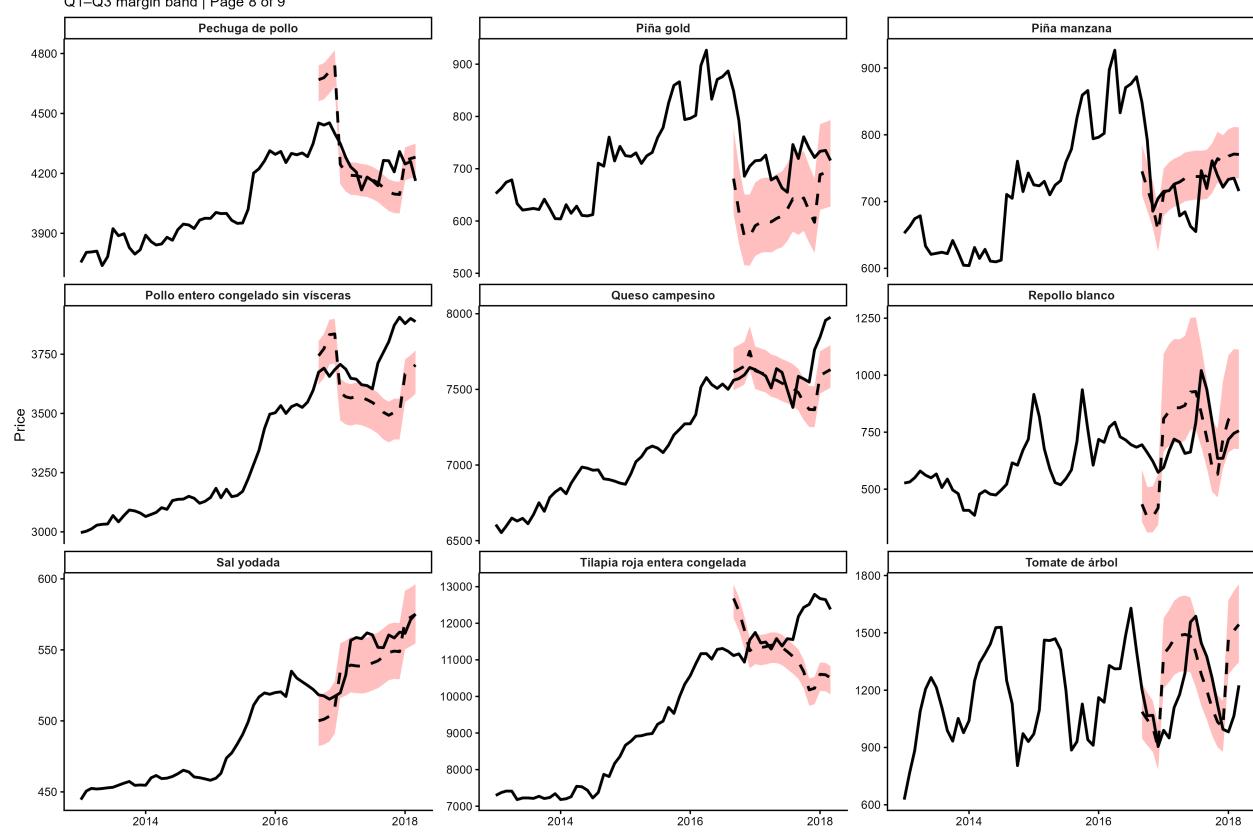
Observed vs Predicted Retail Prices — Methodology 1

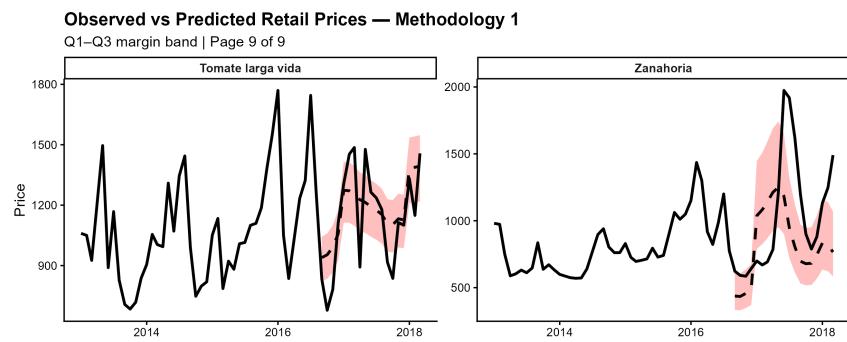
Q1-Q3 margin band | Page 7 of 9



Observed vs Predicted Retail Prices — Methodology 1

Q1-Q3 margin band | Page 8 of 9

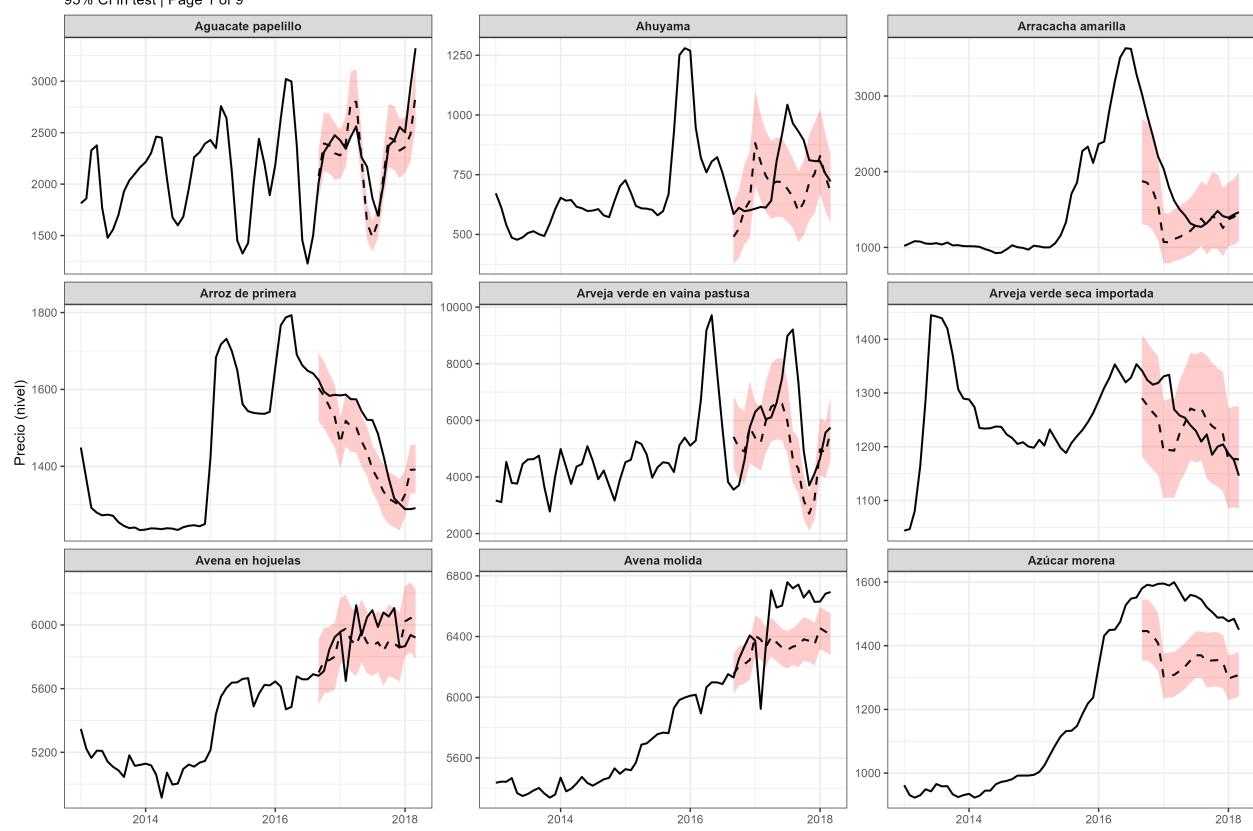




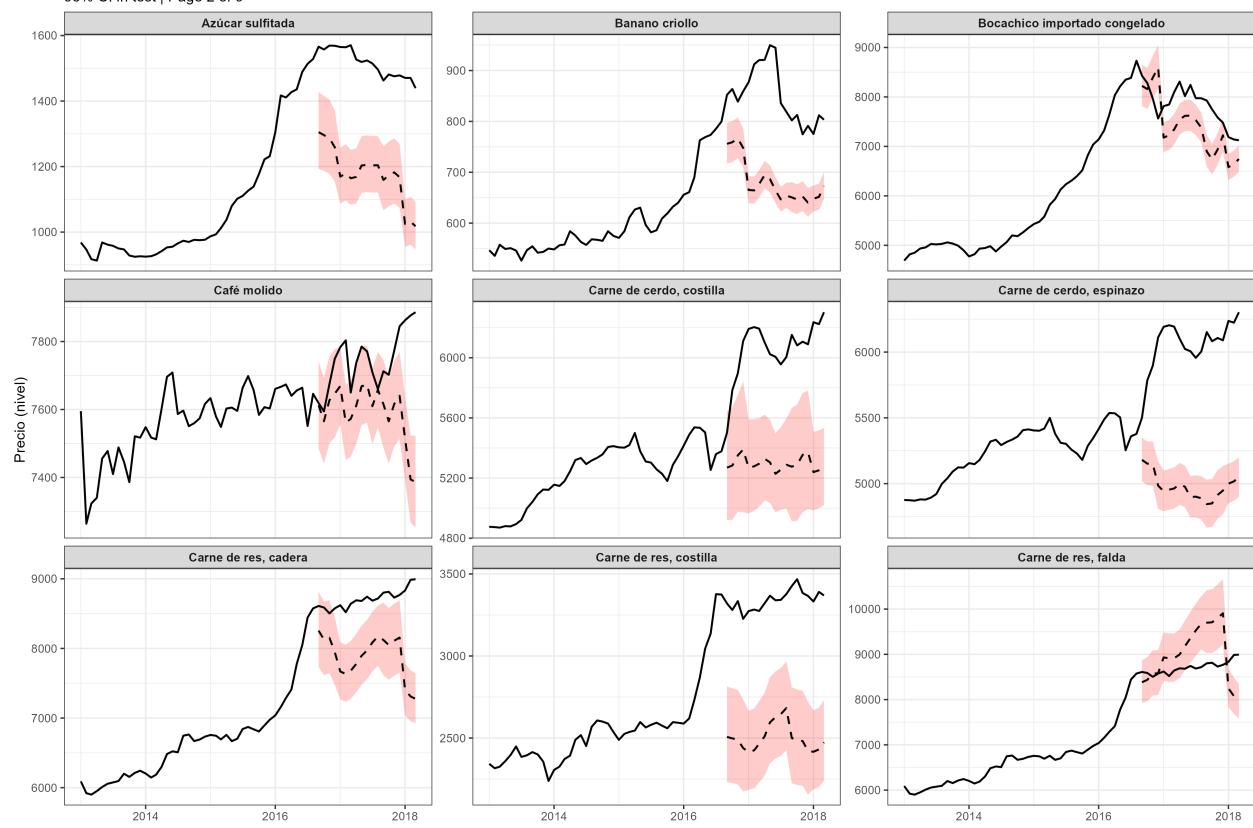
Anexo C. Metodología III: Regresión lineal en niveles y primeras diferencias

En este anexo se presentan los resultados detallados de los modelos de regresión lineal estimados en niveles logarítmicos, incorporando efectos estacionales mediante variables dummy mensuales.

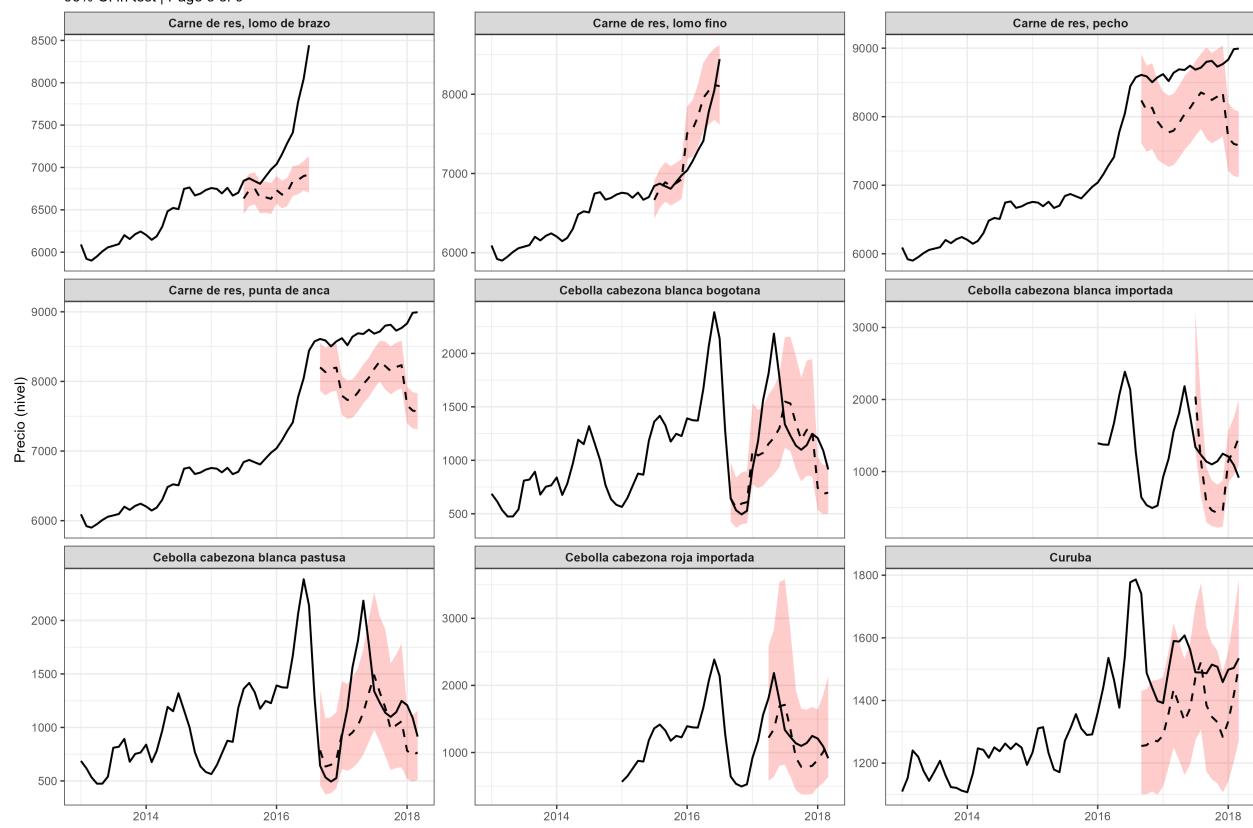
M6: Observed vs Predicted Retail Price (levels) — Month dummies
95% CI in test | Page 1 of 9



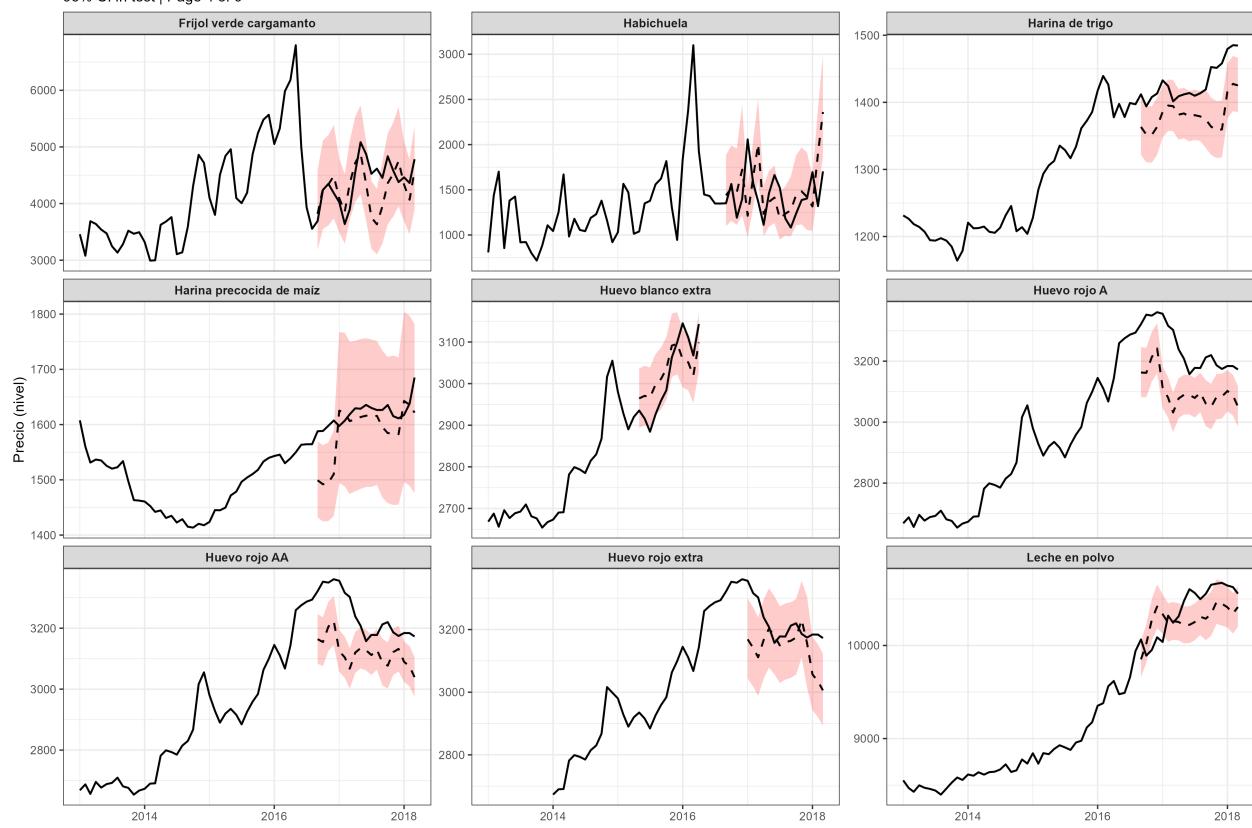
M6: Observed vs Predicted Retail Price (levels) — Month dummies
 95% CI in test | Page 2 of 9



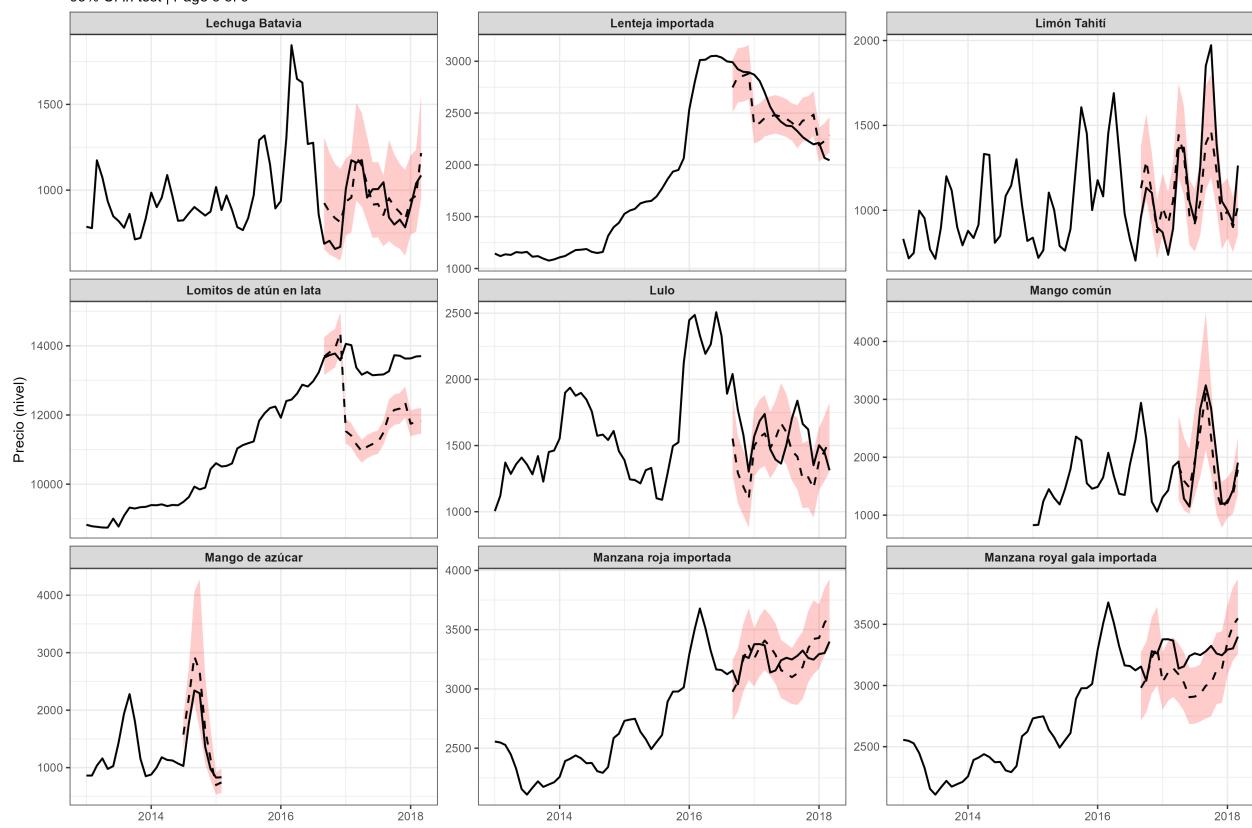
M6: Observed vs Predicted Retail Price (levels) — Month dummies
 95% CI in test | Page 3 of 9



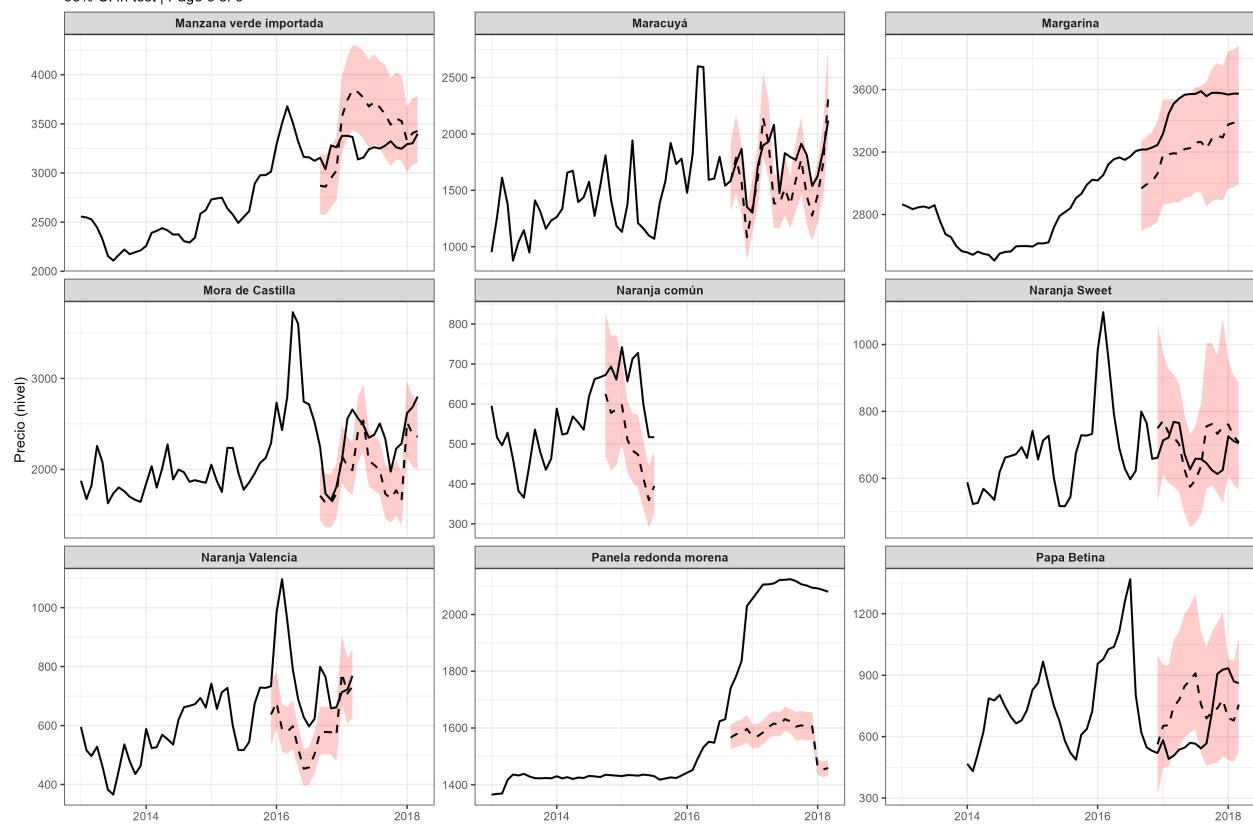
M6: Observed vs Predicted Retail Price (levels) — Month dummies
95% CI in test | Page 4 of 9



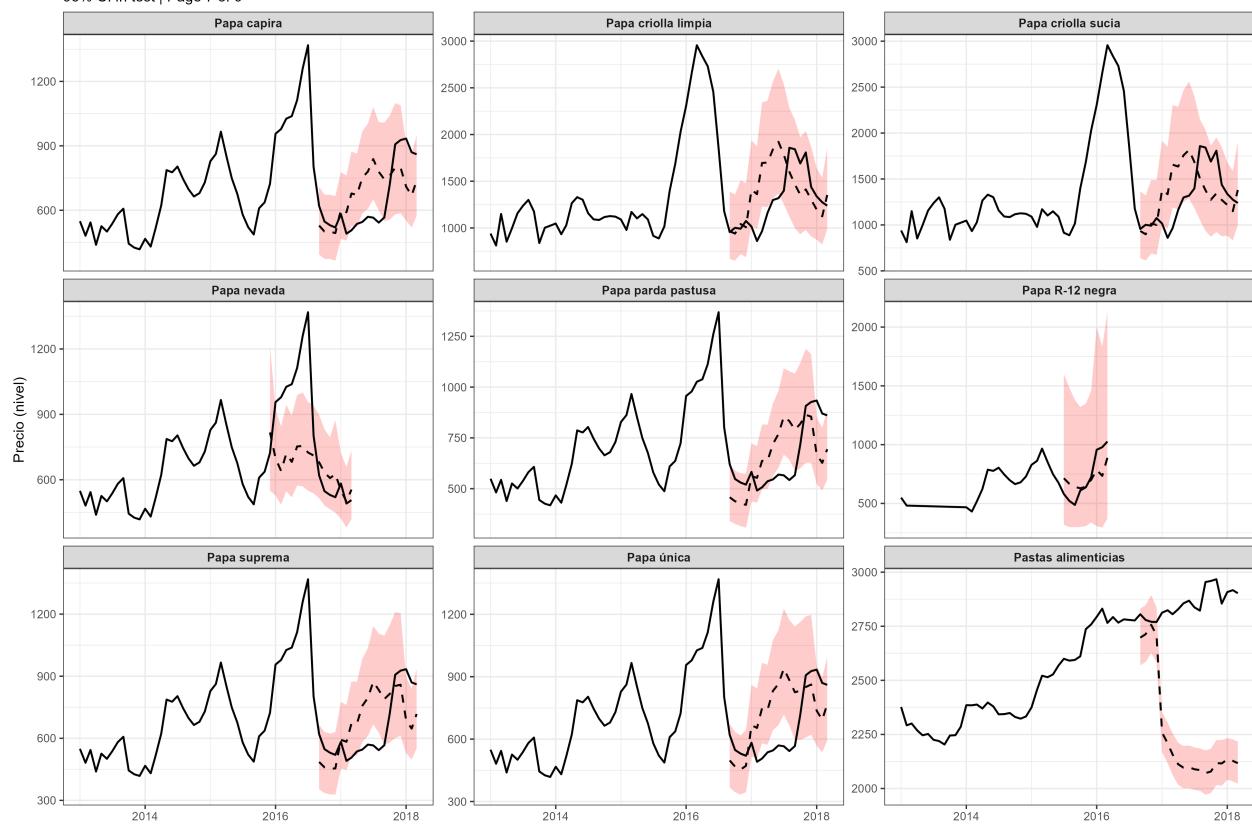
M6: Observed vs Predicted Retail Price (levels) — Month dummies
 95% CI in test | Page 5 of 9



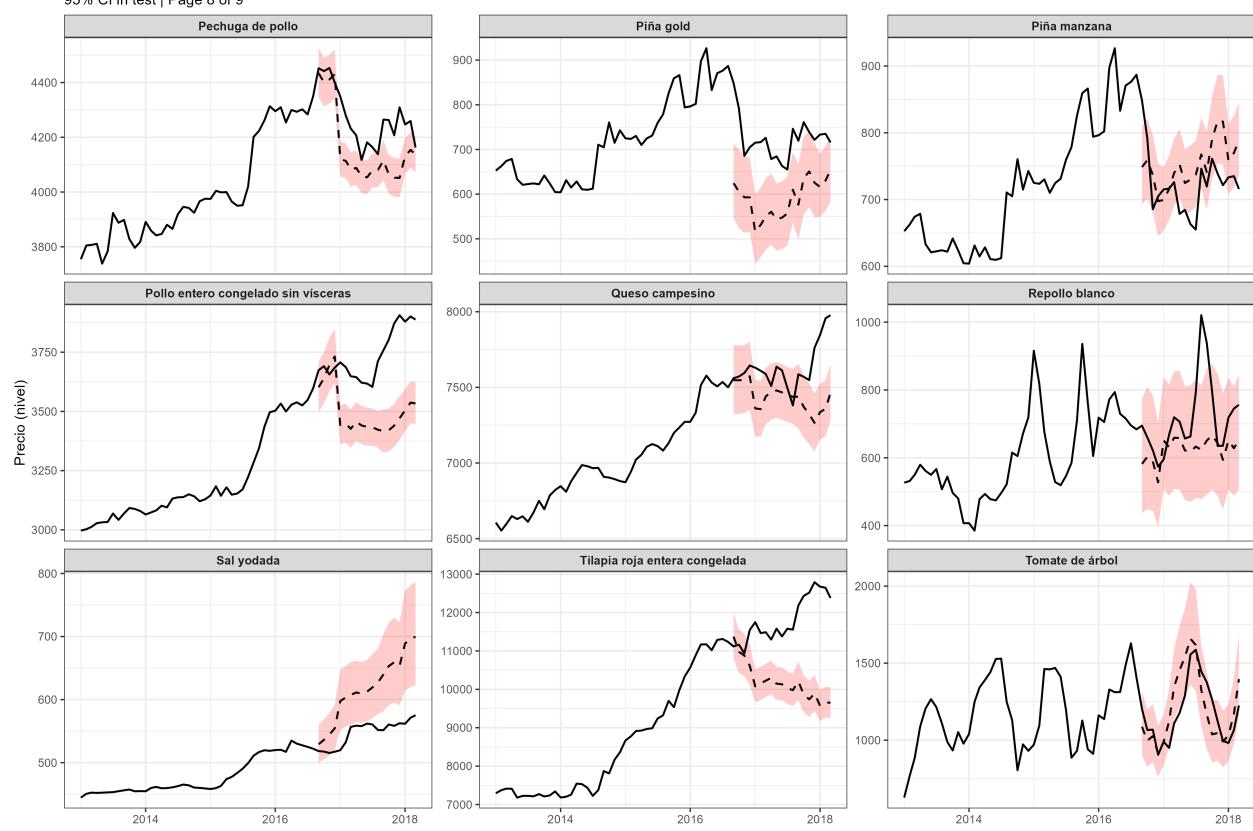
M6: Observed vs Predicted Retail Price (levels) — Month dummies
95% CI in test | Page 6 of 9

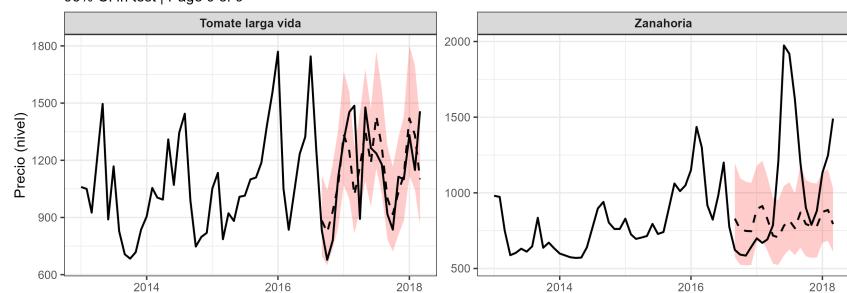


M6: Observed vs Predicted Retail Price (levels) — Month dummies
 95% CI in test | Page 7 of 9



M6: Observed vs Predicted Retail Price (levels) — Month dummies
 95% CI in test | Page 8 of 9



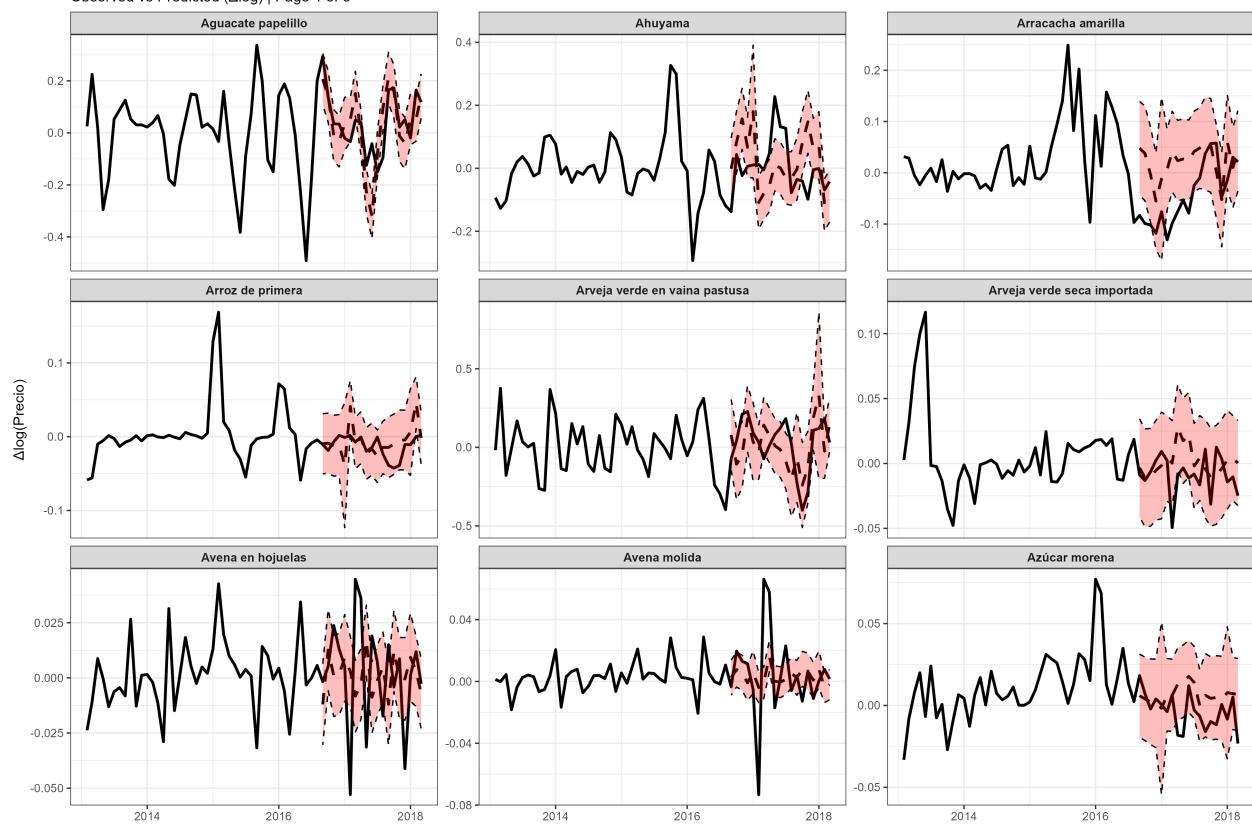


Anexo D. Metodología IV: Regresión lineal en primeras diferencias

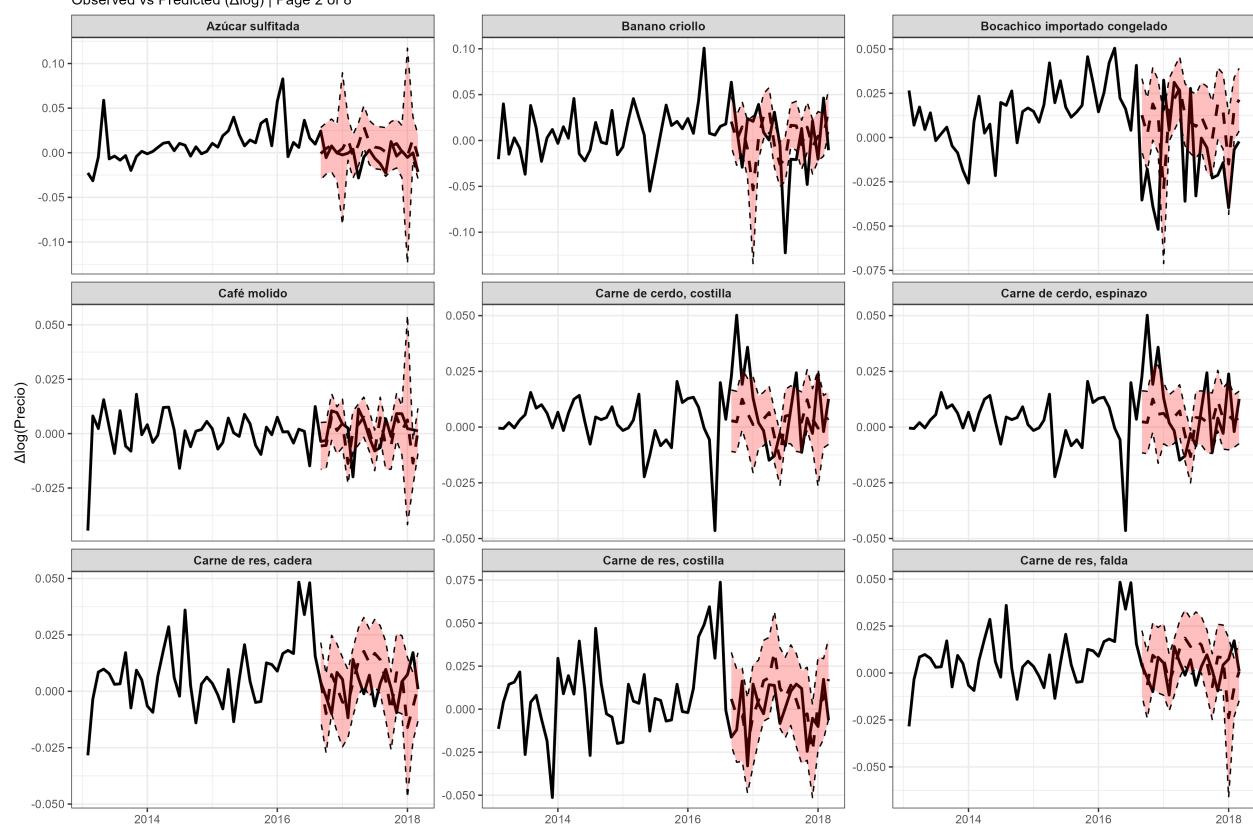
Este anexo recoge los resultados de la estimación en primeras diferencias, aplicada para evitar problemas de no estacionariedad y correlaciones espurias, conforme a las pruebas de raíz unitaria realizadas.

M7: $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + \text{month dummies}$

Observed vs Predicted ($\Delta \log$) | Page 1 of 8

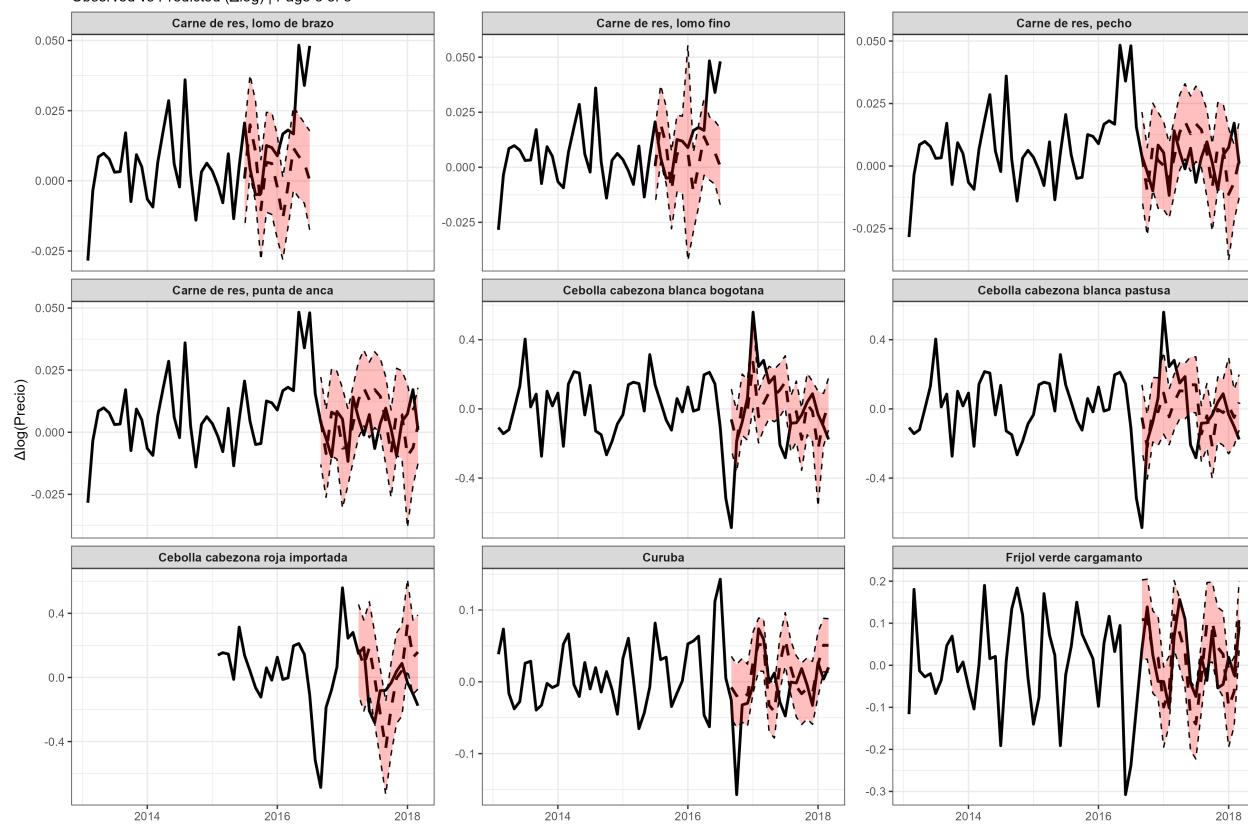


M7: $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + \text{month dummies}$
 Observed vs Predicted ($\Delta \log$) | Page 2 of 8



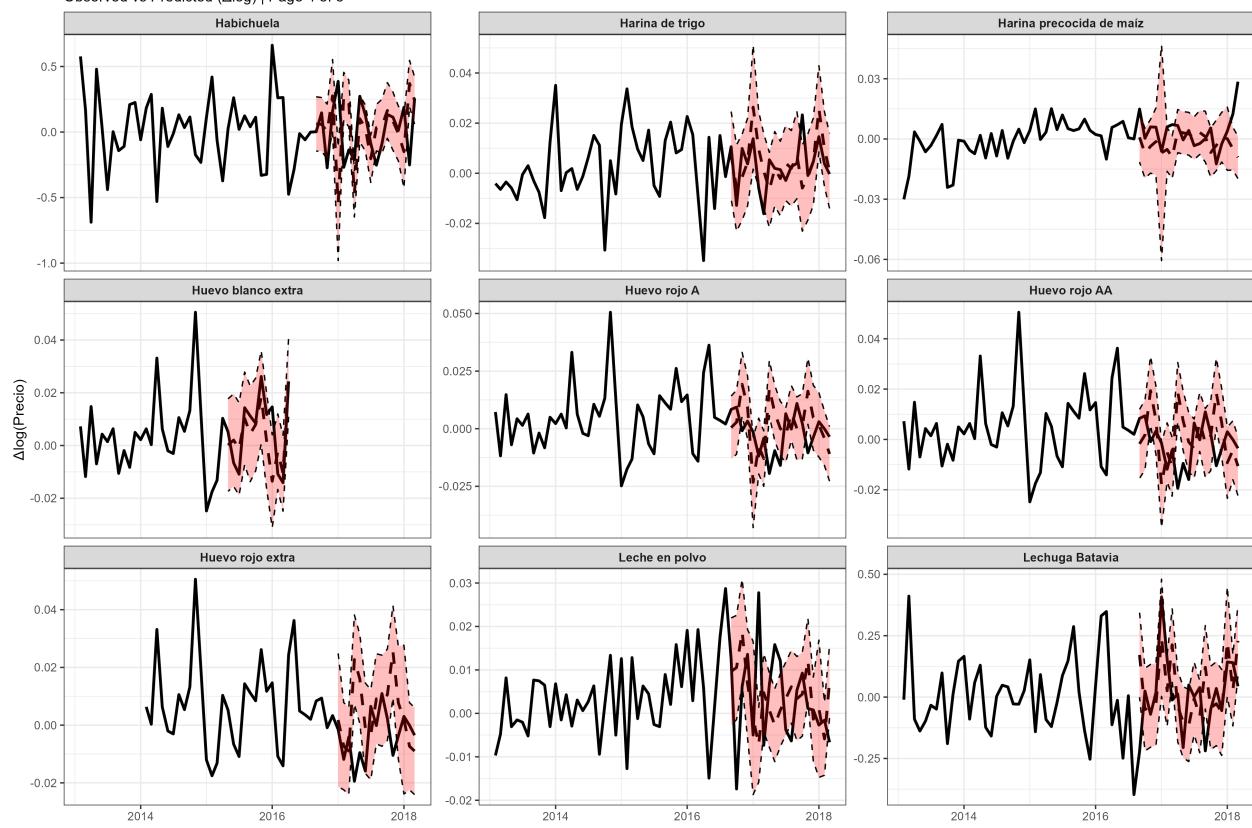
M7: $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + \text{month dummies}$

Observed vs Predicted ($\Delta \log$) | Page 3 of 8



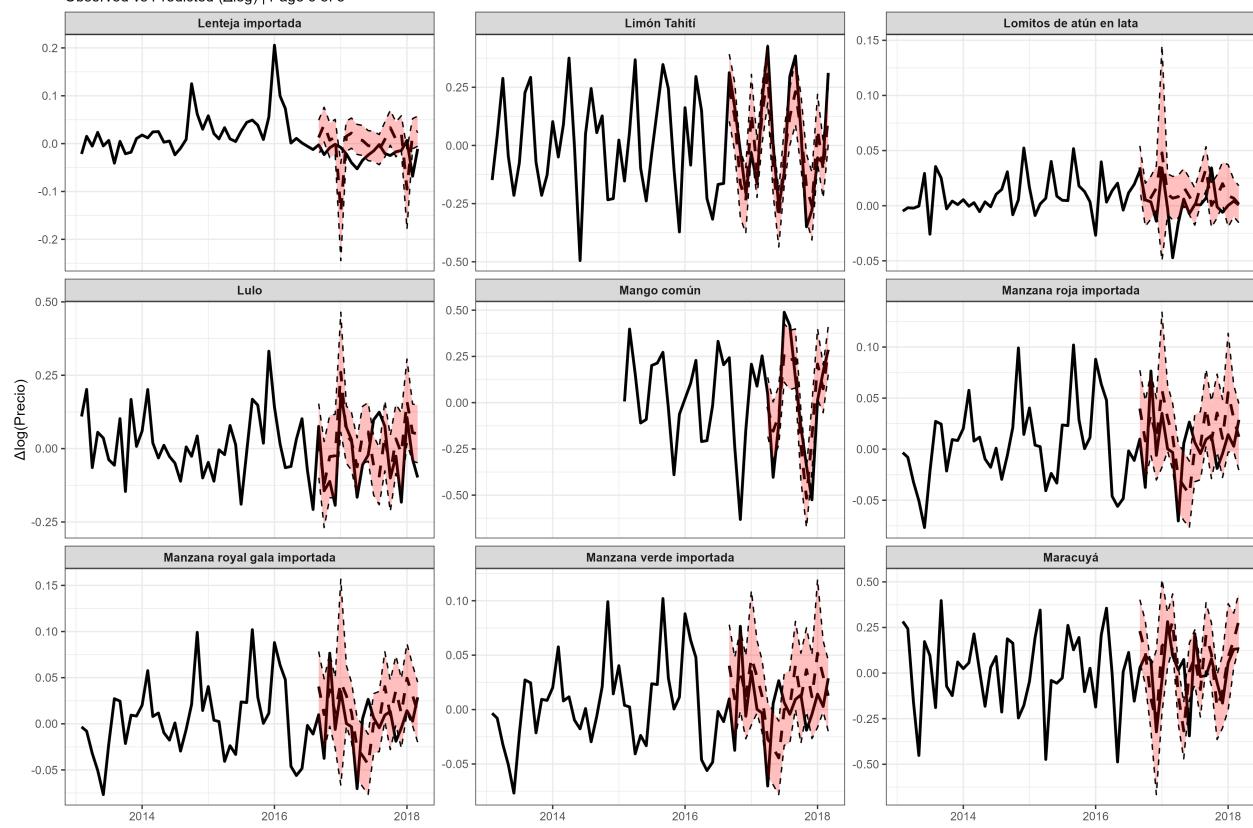
M7: $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + \text{month dummies}$

Observed vs Predicted ($\Delta \log$) | Page 4 of 8



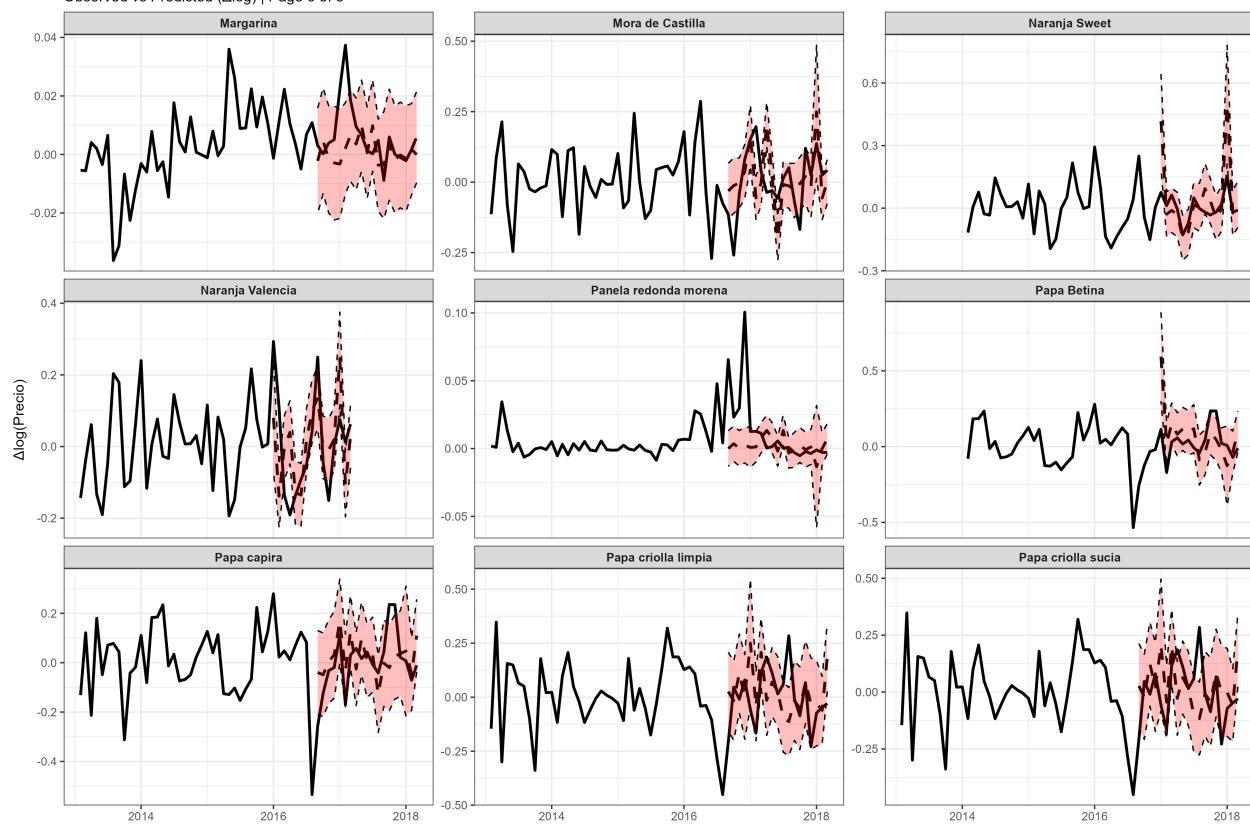
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Observed vs Predicted ($\Delta \log$) | Page 5 of 8



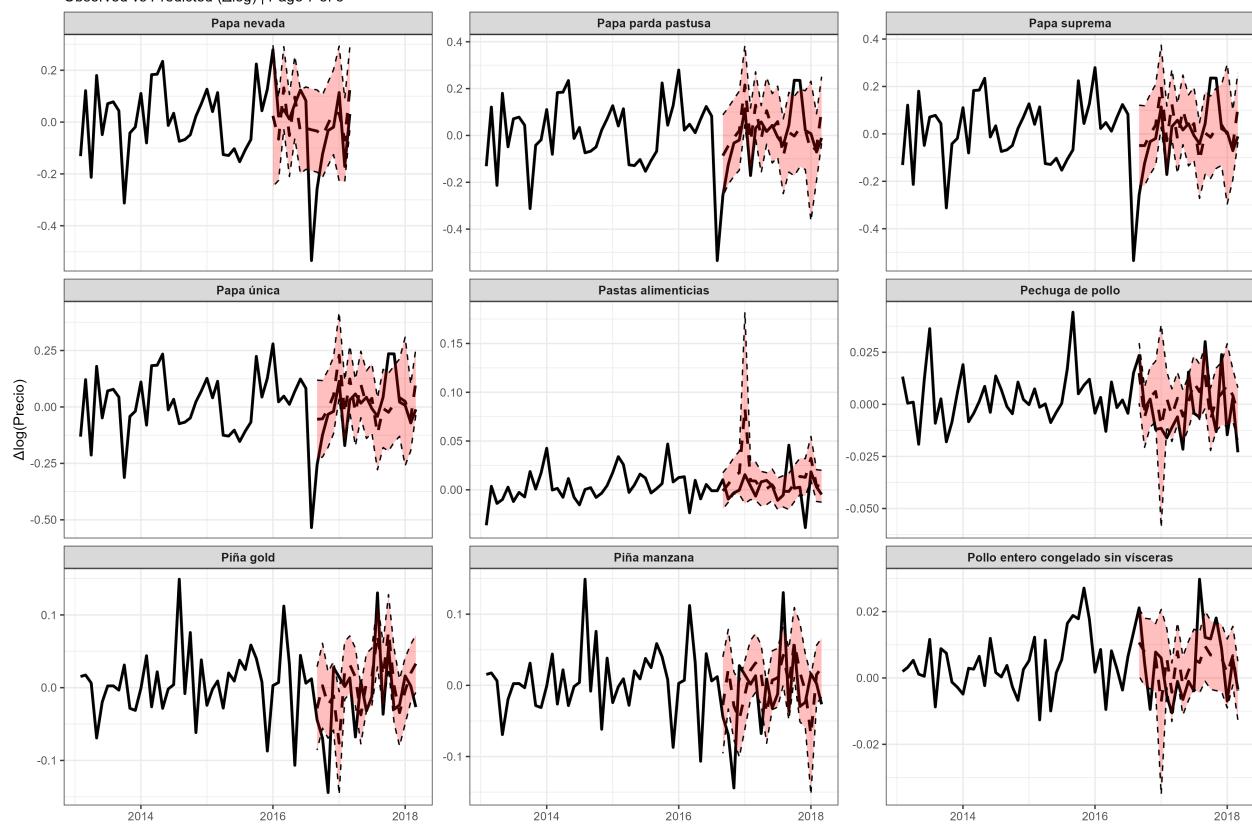
M7: $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + \text{month dummies}$

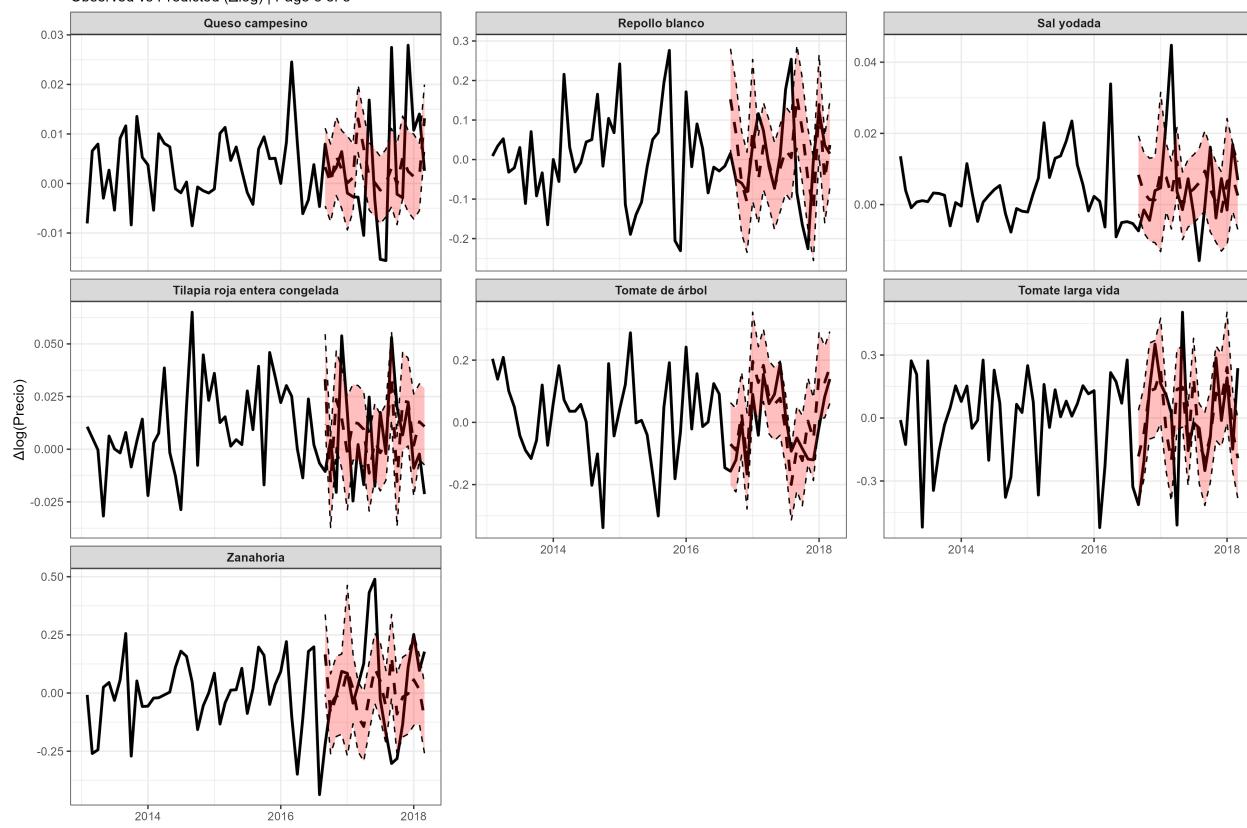
Observed vs Predicted ($\Delta \log$) | Page 6 of 8



M7: $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + \text{month dummies}$

Observed vs Predicted ($\Delta \log$) | Page 7 of 8

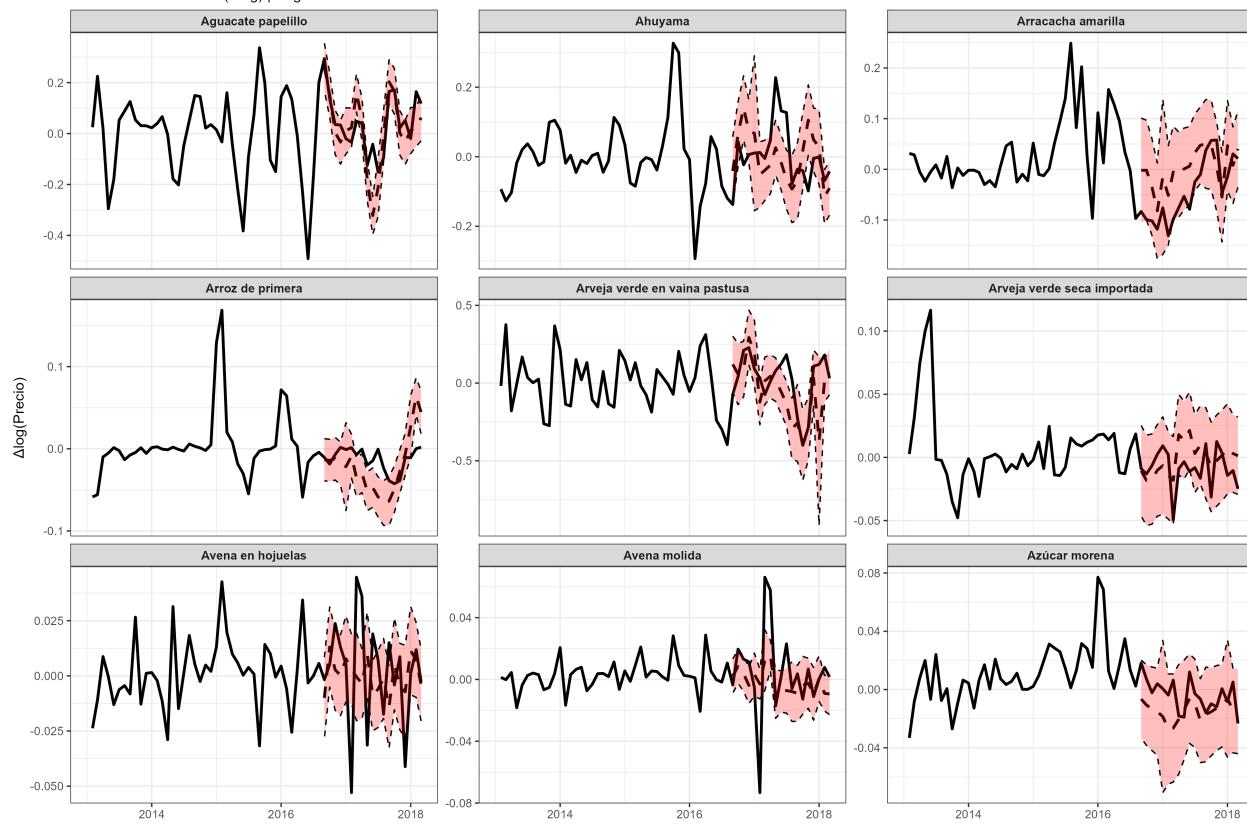




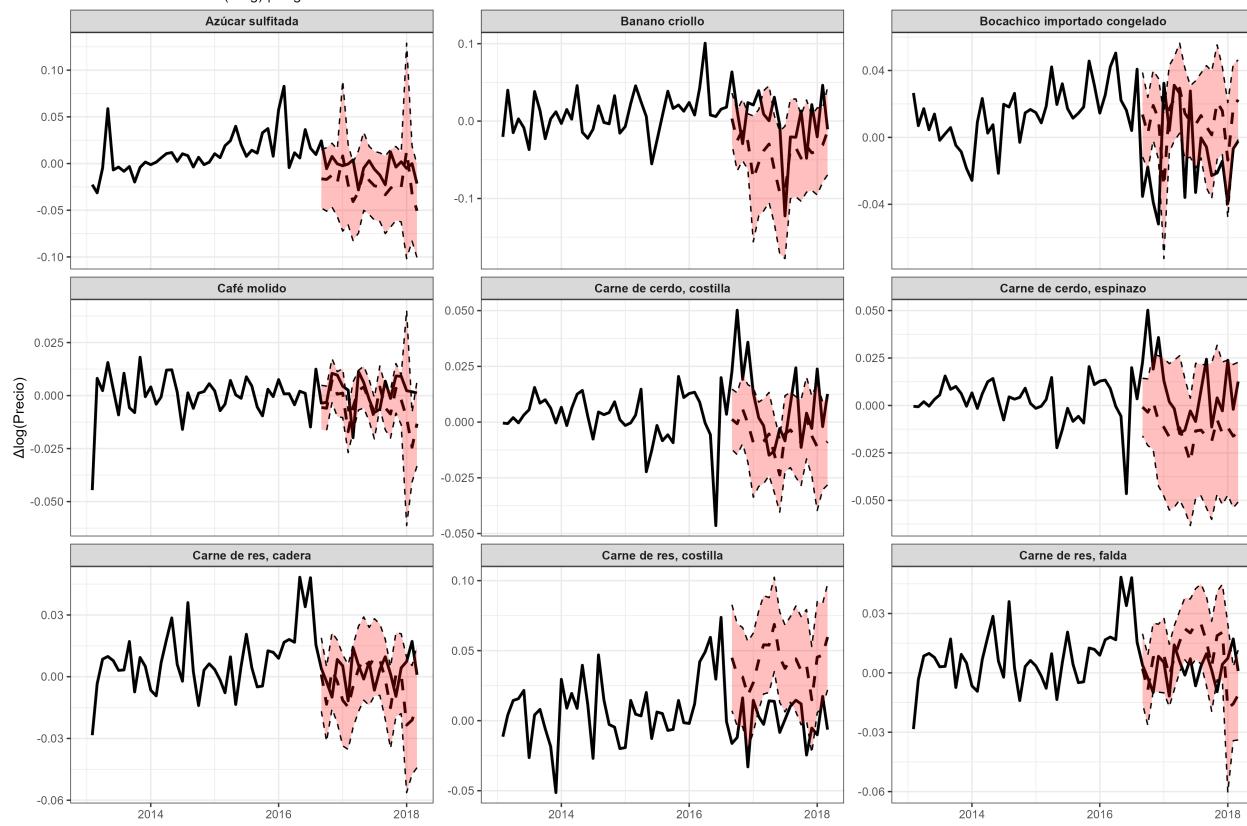
Anexo E. Metodología V: Modelo de Corrección de Error (ECM)

Este anexo desarrolla en detalle los resultados del modelo de corrección de error, incluyendo la relación de largo plazo entre precios mayoristas y minoristas, así como la dinámica de ajuste de corto plazo.

M5 (ECM): $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + ECT_{\{t-1\}} + \text{month dummies}$
 Observed vs Predicted ($\Delta \log$) | Page 1 of 8

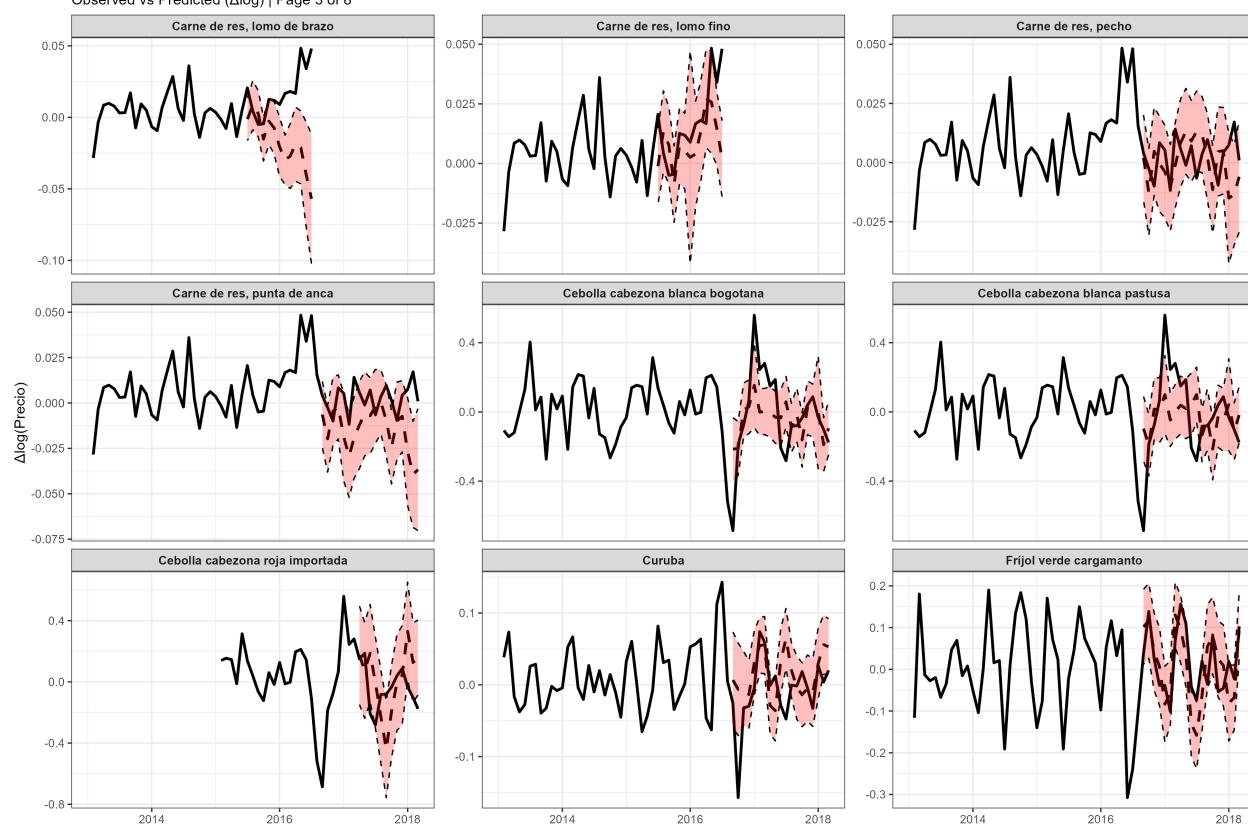


M5 (ECM): $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + ECT_{\{t-1\}} + \text{month dummies}$
 Observed vs Predicted ($\Delta \log$) | Page 2 of 8

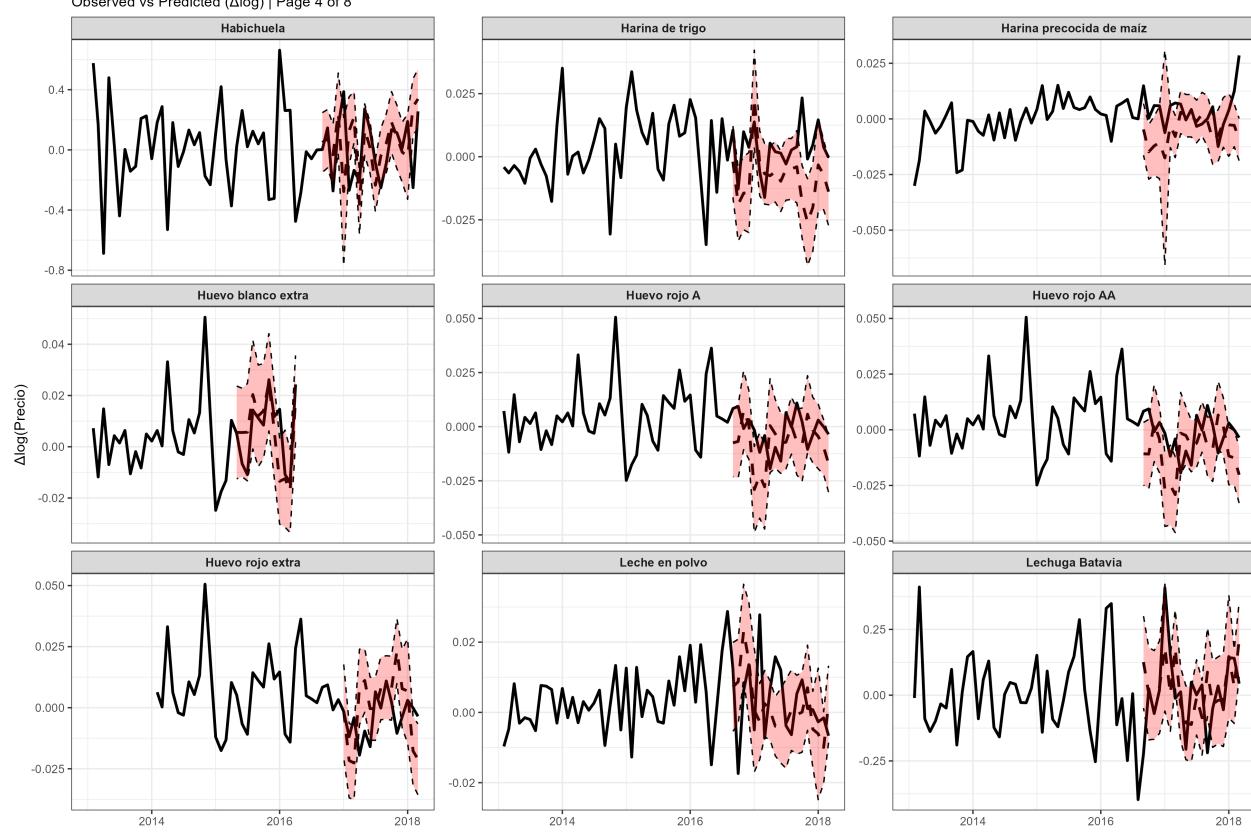


M5 (ECM): $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + ECT_{\{t-1\}} + \text{month dummies}$

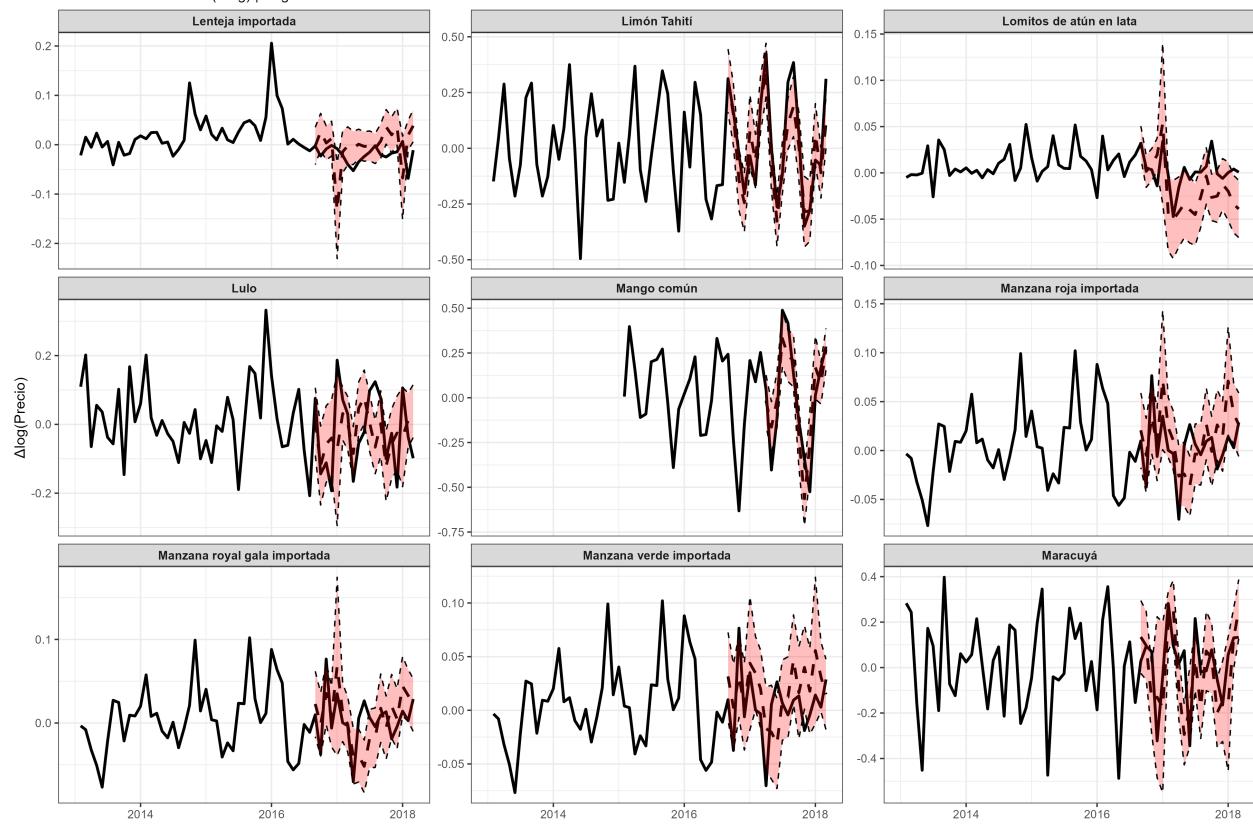
Observed vs Predicted ($\Delta \log$) | Page 3 of 8



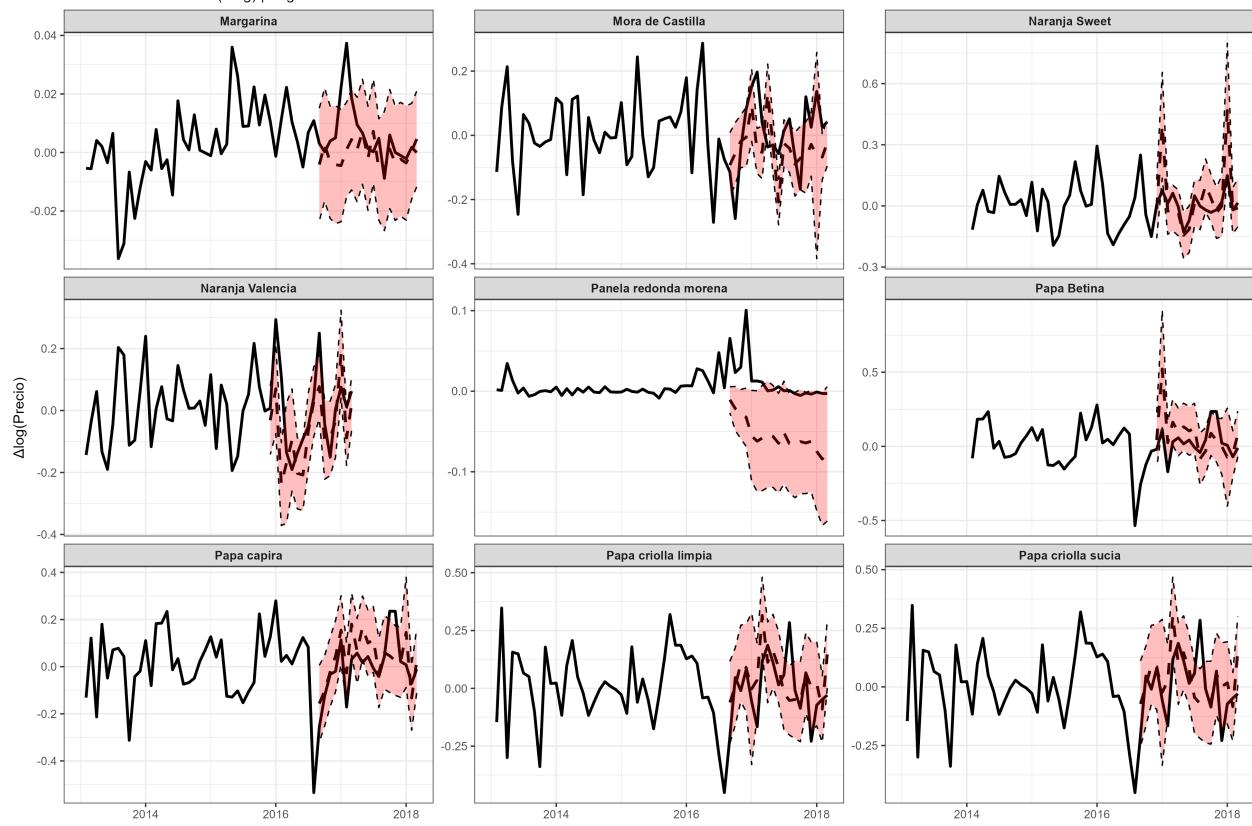
M5 (ECM): $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + ECT_{\{t-1\}} + \text{month dummies}$
 Observed vs Predicted ($\Delta \log$) | Page 4 of 8



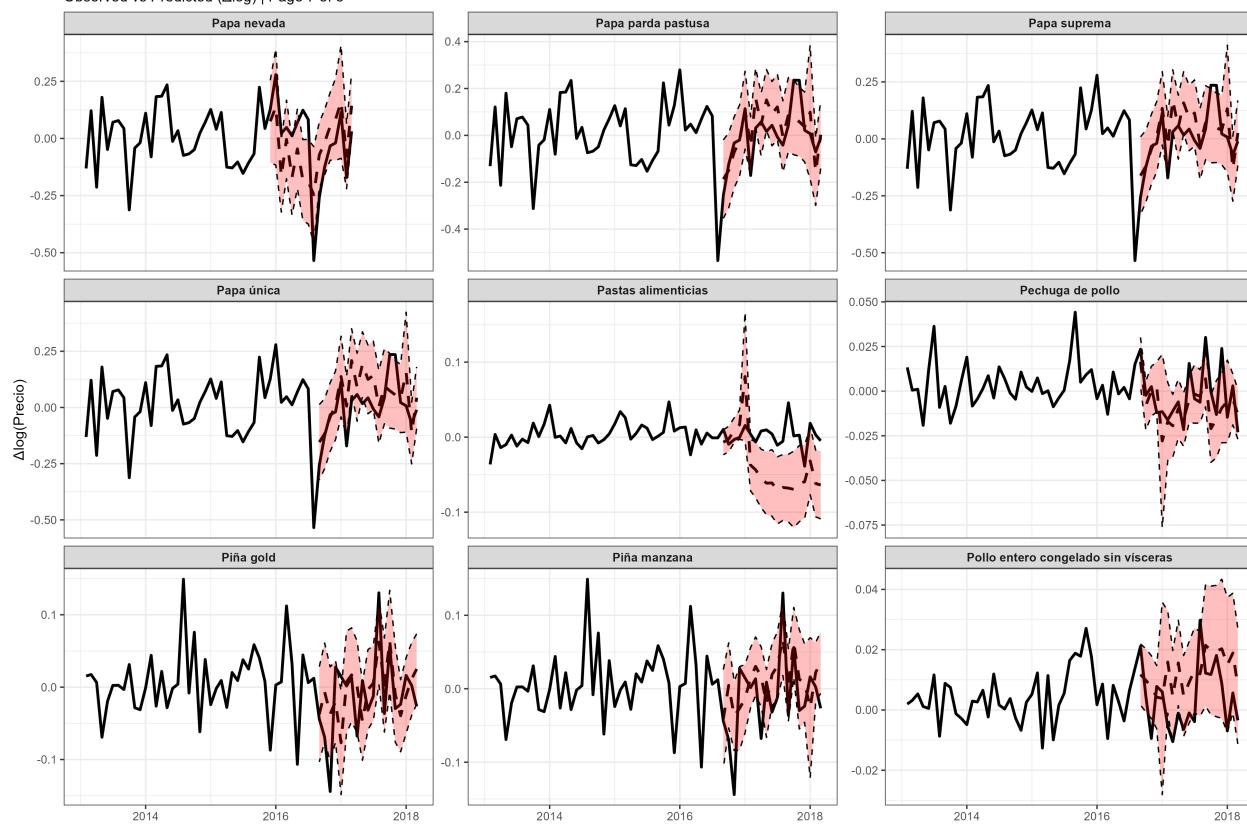
M5 (ECM): $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + ECT_{\{t-1\}} + \text{month dummies}$
 Observed vs Predicted ($\Delta \log$) | Page 5 of 8



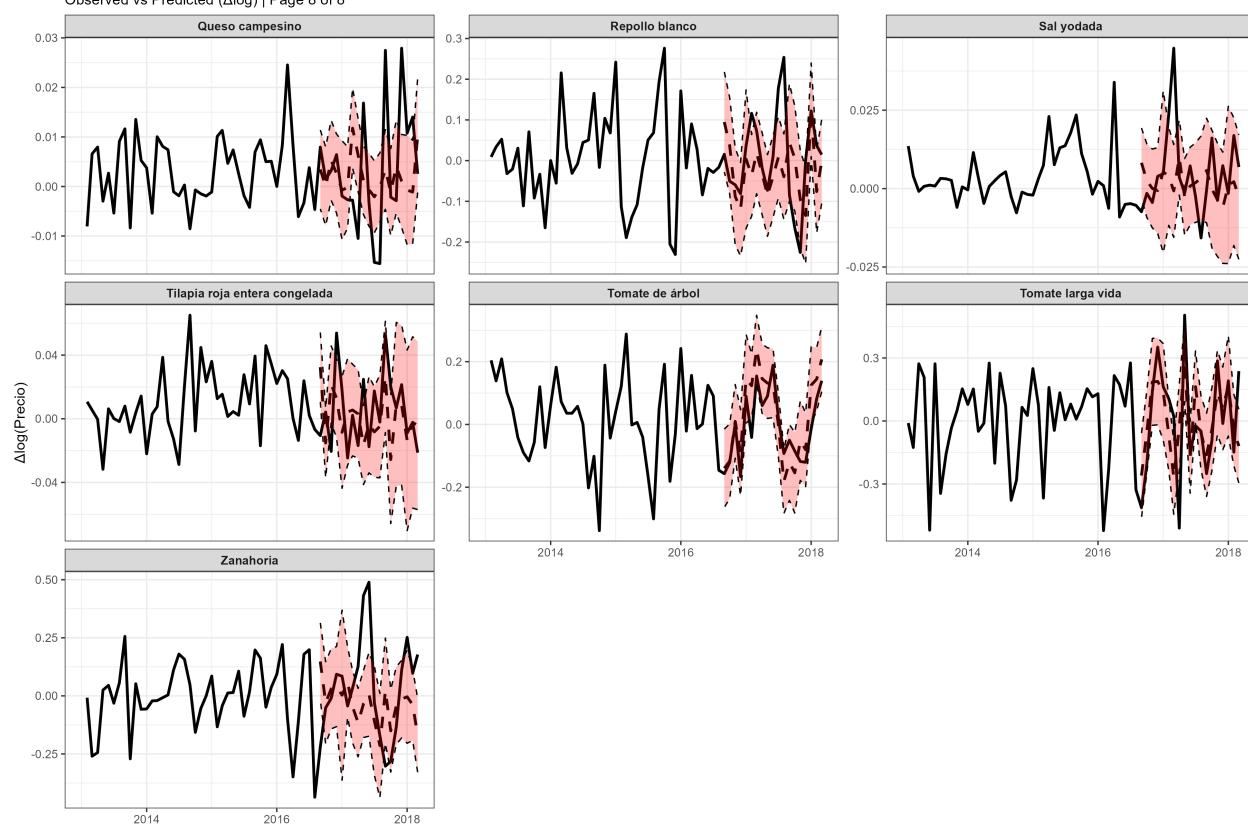
M5 (ECM): $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + ECT_{\{t-1\}} + \text{month dummies}$
Observed vs Predicted ($\Delta \log$) | Page 6 of 8



M5 (ECM): $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + ECT_{\{t-1\}} + \text{month dummies}$
 Observed vs Predicted ($\Delta \log$) | Page 7 of 8



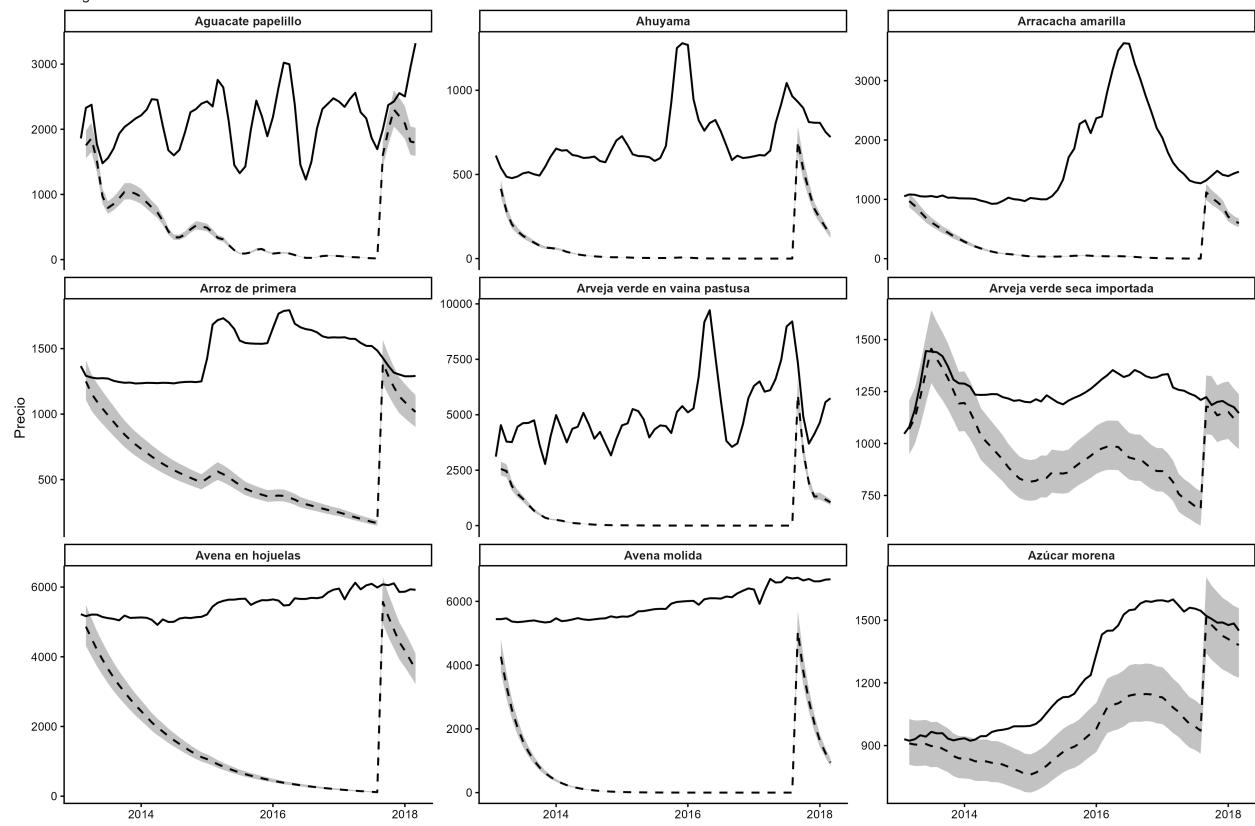
M5 (ECM): $\Delta \log(P_{min}) \sim \Delta \log(P_{may}) + ECT_{\{t-1\}} + \text{month dummies}$
 Observed vs Predicted ($\Delta \log$) | Page 8 of 8



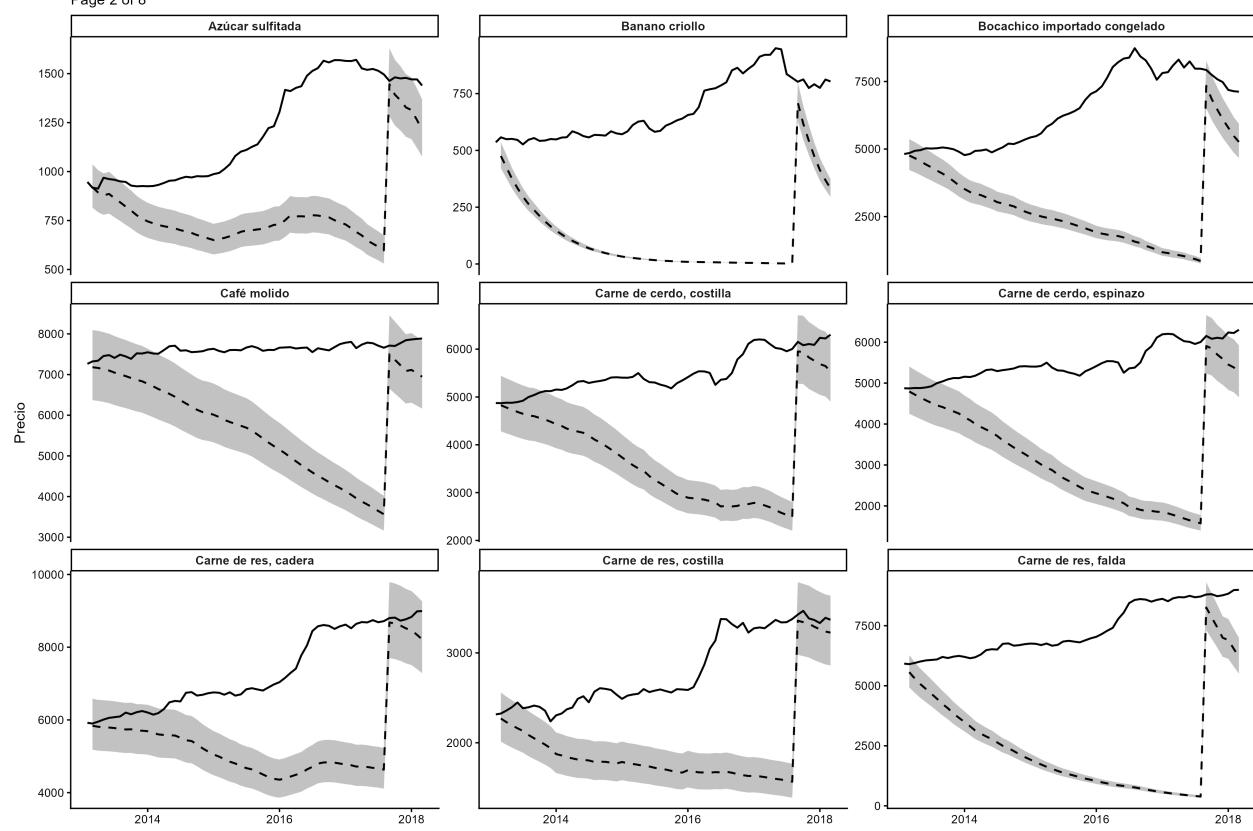
Anexo F. Metodología VI: Modelo de Corrección de Error Asimétrico (A-ECM)

Este anexo presenta los resultados del modelo ECM asimétrico, diseñado para capturar posibles diferencias en la velocidad y el patrón de ajuste ante aumentos y reducciones en el precio mayorista.

M4: Asymmetric ECM (MTAR) — Observed vs Predicted
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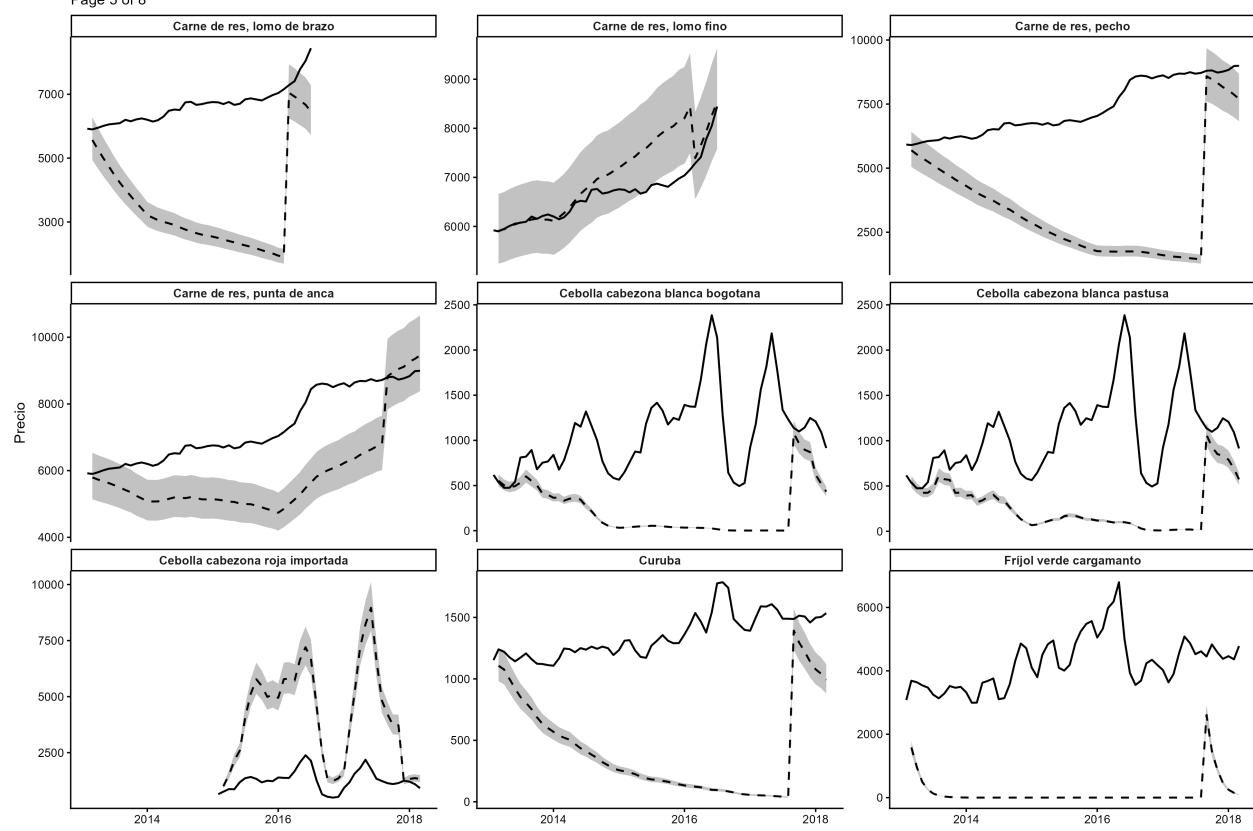


M4: Asymmetric ECM (MTAR) — Observed vs Predicted
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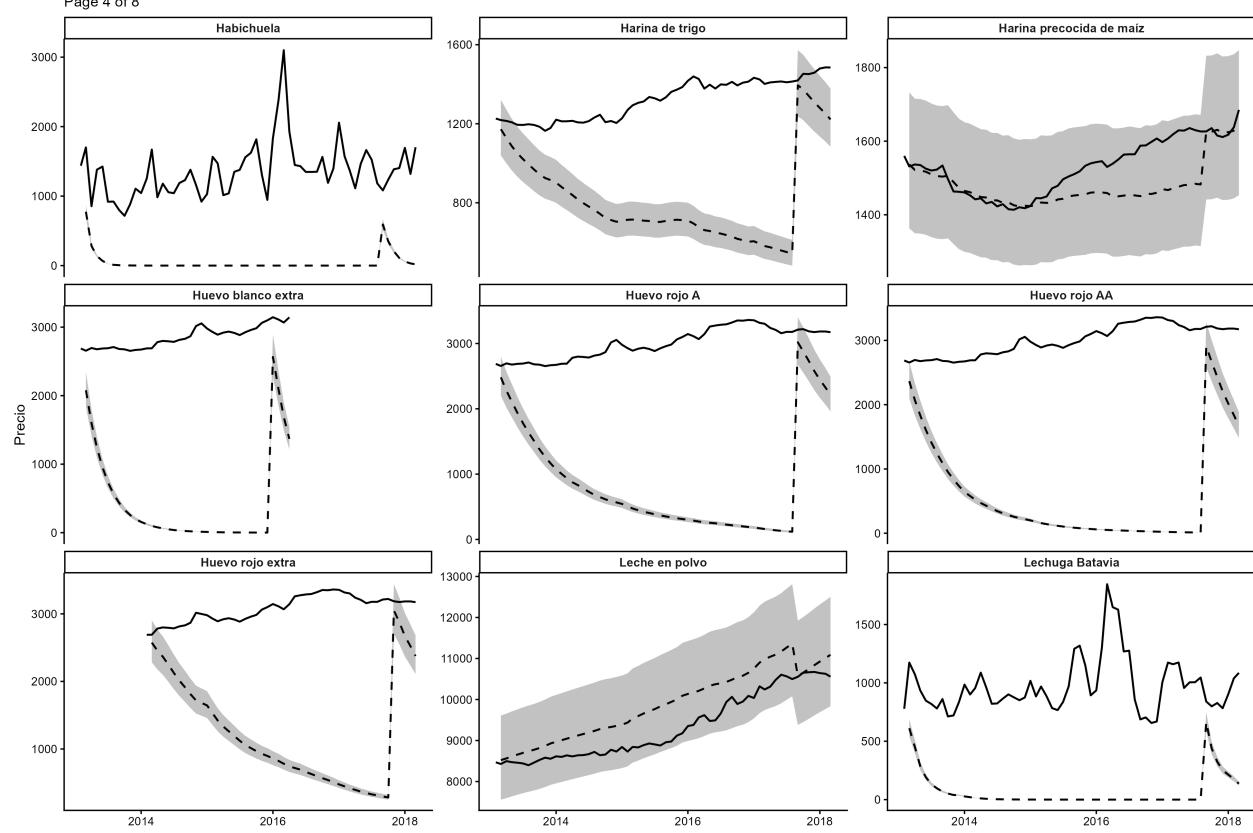
M4: Asymmetric ECM (MTAR) — Observed vs Predicted

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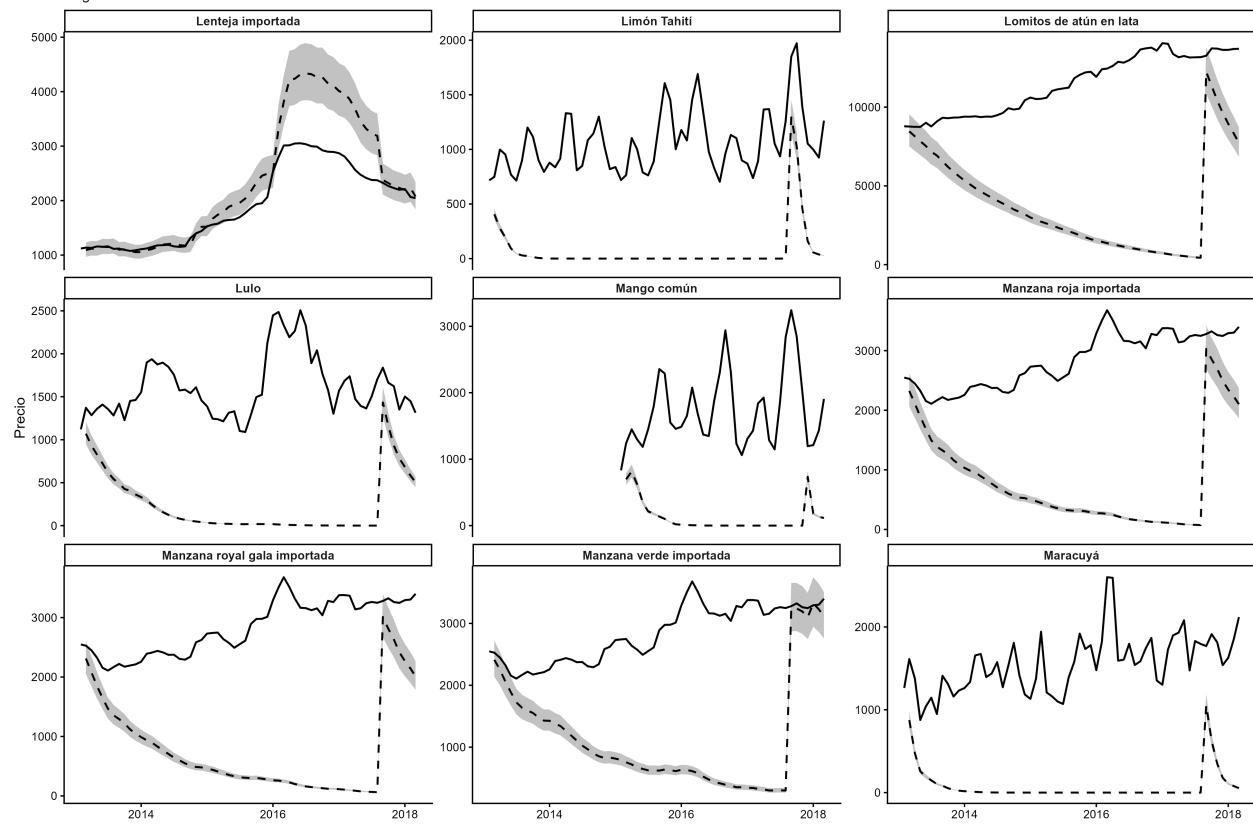


M4: Asymmetric ECM (MTAR) — Observed vs Predicted

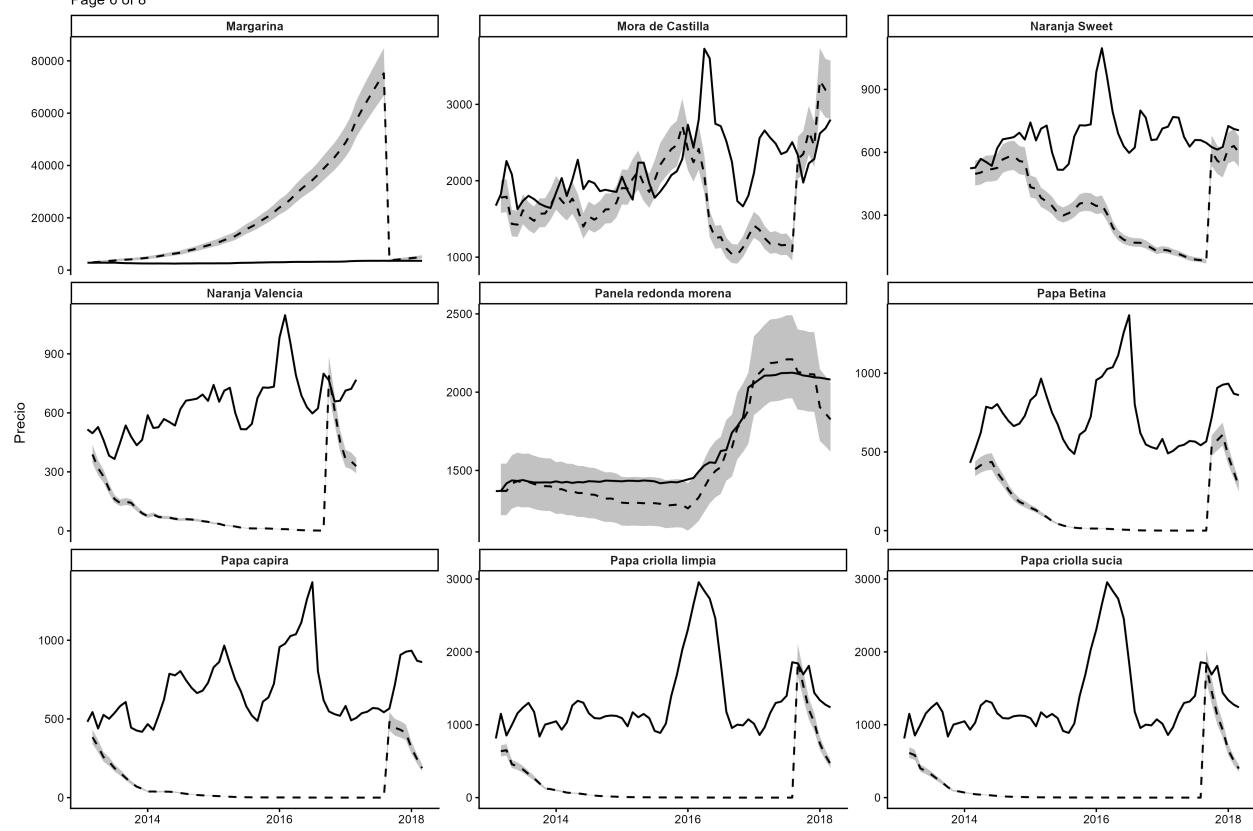
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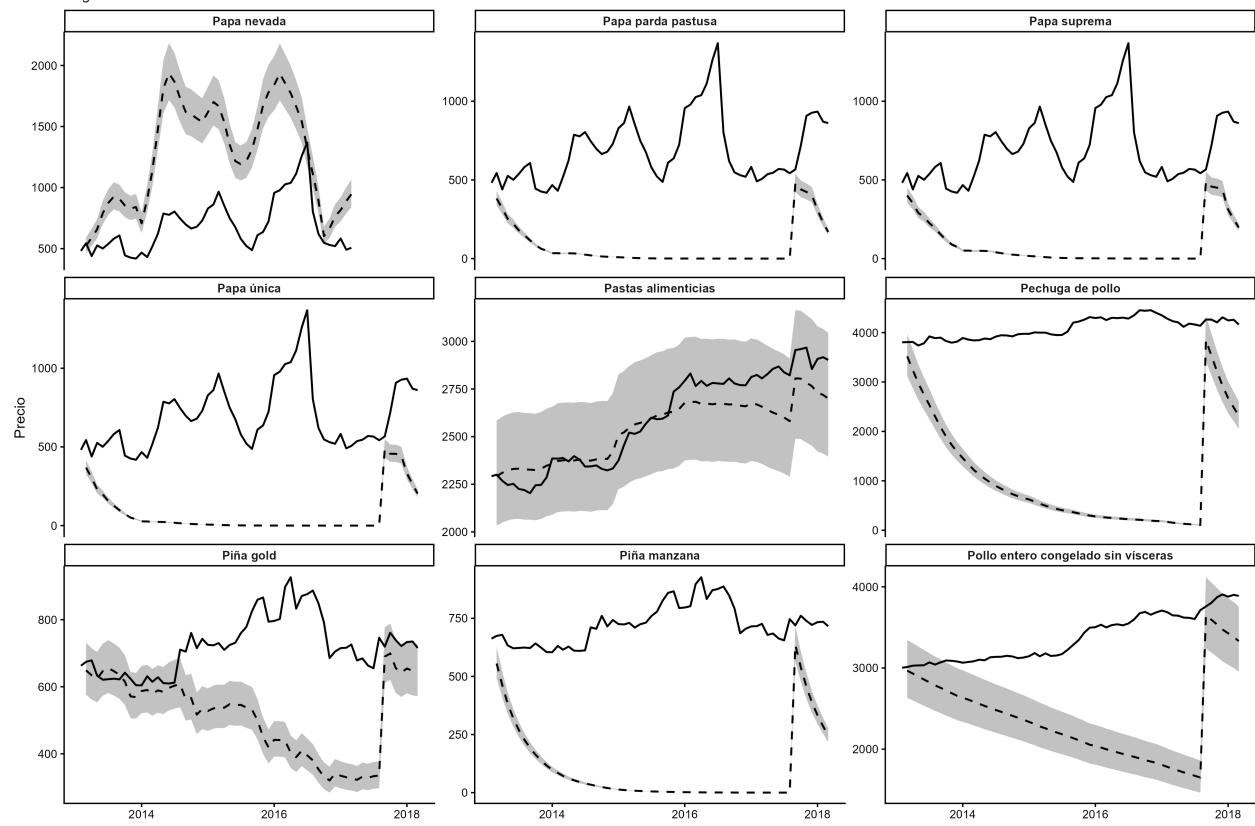


M4: Asymmetric ECM (MTAR) — Observed vs Predicted
Page 5 of 8



M4: Asymmetric ECM (MTAR) — Observed vs Predicted
Page 6 of 8





M4: Asymmetric ECM (MTAR) — Observed vs Predicted
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