MACROECONOMICS, TRADE AND INVESTMENT

Prosperity Insight Series

THE 2022 GLOBAL FOOD PRICE SHOCK IN CHILE AND COLOMBIA

Stylized facts from customs data

Erik von Uexkull

WORLD BANK GROUP

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Acknowledgements

This report was prepared by Erik von Uexkull (Senior Economist, ELCMU) under the supervision of Doerte Doemeland (Practice Manager, ELCMU). Helpful comments from two peer reviewers (Viviana Perego, Senior Agriculture Economist, SLCDR and Fernando Giuliano, ELCMU) as well as attendants of a presentation of this work at the Central Bank of Chile in March 2024 are gratefully acknowledged. Maryan Raquel Porras Barrera (Extended Term Consultant, ELCMU) provided significant support with data analysis for Colombia. Typesetting and formatting by Bruna Sofia Simoes (Short Term Consultant). Luis Eduardo San Martin (Junior Data Scientist, DIME3) guided the team in the preparation of the reproducibility package.

EXECUTIVE SUMMARY

This note uses transaction level customs data for Chile and Colombia to provide insights into food price transmission from global markets to import prices. This is a non-trivial relationship with significant cross-country variation that is relevant for policy design for the management of future shocks. Transaction level data makes it possible to look beyond average prices at underlying dynamics in terms of import prices, volumes, origins, etc. Focusing on price movements for wheata and maize during 2021-2022, a time of significant price variation in global markets, the note lays out several stylized facts on the mechanics of price transmission through trade.

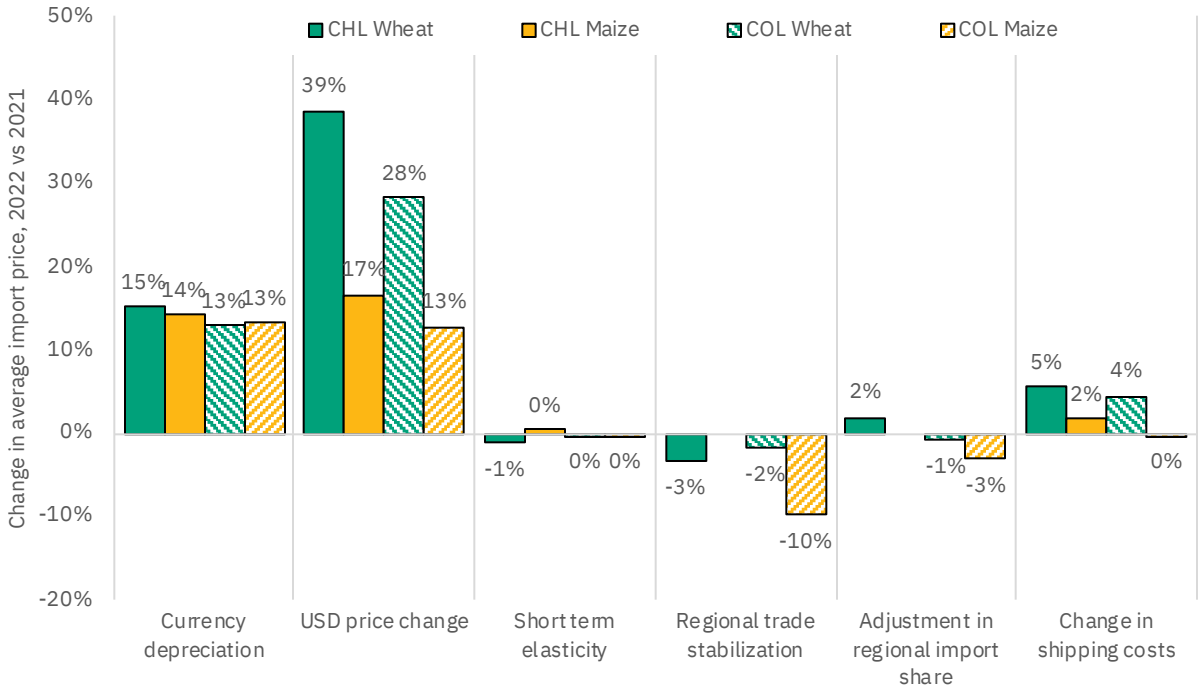
Exchange rate depreciation contributed significantly to rising import prices in local currency in Chile and Colombia, increasing the import prices of wheat and maize between 13 - 15 percent in 2022. Exchange rate depreciation explains nearly half of the total domestic currency price increase for maize and close to one third for wheat in both countries.

There were significant differences in world price transmission between the two countries. In US$ terms, Chile's average imports of wheat and maize became 39 and 17 percent more expensive in 2022, while the corresponding figures are 28 percent and 13 percent for Colombia. Increases in median import prices materialized later for Chile, but also persisted longer, which accounts for most of the discrepancy with Colombia in the total effect. Neither country was able to significantly mitigate global market price increases through short-term adjustments of the times of purchase. Regional trade had a significant stabilizing

role on import prices for both countries as import prices from regional trading partners increased less than global prices. Colombia was able to further reap these benefits by increasing its regional import share, especially for maize. Increases in global transport and fuel costs, on top of already high levels in 2021, accounted for significant shares of the import price increase in wheat in both countries, less so for maize which has a higher regional trade share.

Import structures changed somewhat during 2022, which may have implications for onward price transmission to consumers. In Chile, the dispersion of prices between import transactions increased during the months of price turmoil in global markets. For Chile's maize imports, concentration also increased. Both trends could contribute to higher domestic prices through detrimental effects on competition.

Figure 1: Customs data explains some of the observed differences in transmission from global prices to import prices.



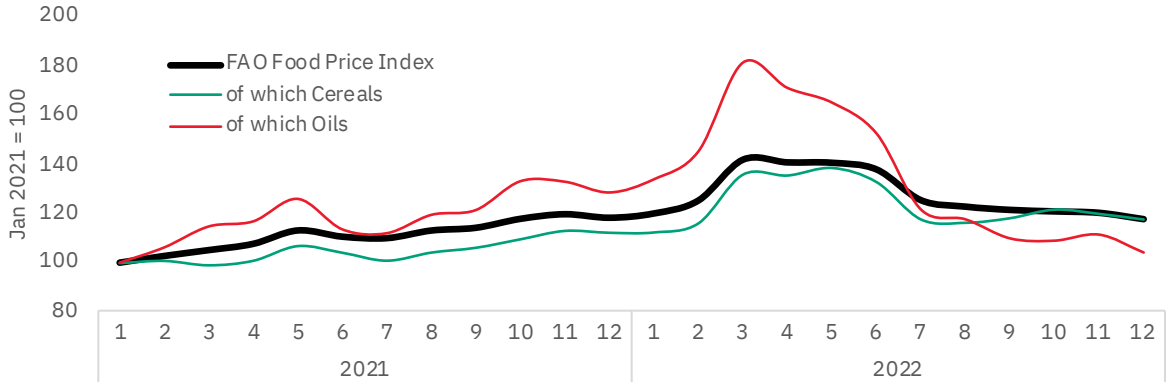
INTRODUCTION

Russia's invasion of Ukraine in February 2022 exacerbated global food, fertilizer and energy price pressures that had been building in the aftermath of Covid, accelerating food inflation around the world. The FAO's global food price index rose 20 percent between January 2021 and January 2022, and then jumped up another 18 percent between January and March 2022. The biggest increases were registered for cereals (+21 percent) and oils (+35 percent). Prices gradually returned to their pre-war levels in the following months. While Chile and Colombia do not import significantly from Ukraine, they are both large importers of wheat and maize, for which Ukraine is a large global exporter. Wheat accounts for 4 percent of Chile's food imports and 7 percent of Colombia's,

while pre-war Ukraine contributed 9 percent of global wheat exports. Maize accounts for 7 and 19 percent of Chile's and Colombia's food imports, while Ukraine supplied around 10 percent of global exports before the war. Chile and Colombia are not large importers of sunflower oil, for which Ukraine supplies close to 40 percent of world exports, so this note focuses on wheat and maize.

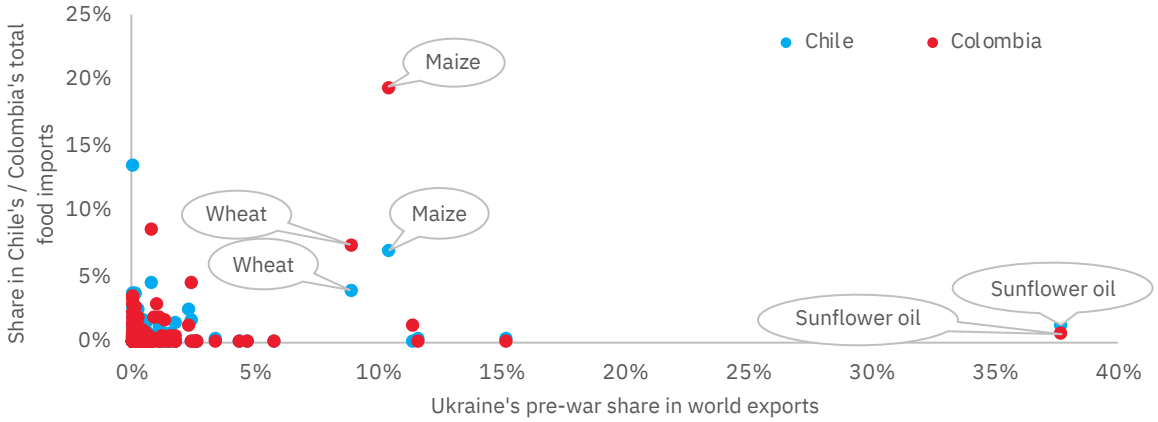
This note uses detailed customs data on imports of maize and wheat by Chile and Colombia to better understand price transmission from global spot prices to import prices. The relationship between world market and import prices is complex and depends on several interacting factors, some of which might be susceptible to policy intervention. Global market prices typically reflect

Figure 2: Global food prices increased sharply following Russia's invasion of Ukraine.



spot transactions at major commodity exchanges. However, commodity imports may follow different pricing arrangements, for instance through longer term supply contracts or futures transactions. In addition, price transmission differs in terms of lead times from world market to import prices, as well as by origin, quality of the product, importer-exporter relationships, and trade costs. Transaction level customs data, which is published by a few countries including Chile and Colombia, makes it possible to assess and quantify the role of these factors. The full richness of this data is illustrated in annex 1. This note demonstrates some insights in the form of stylized facts.

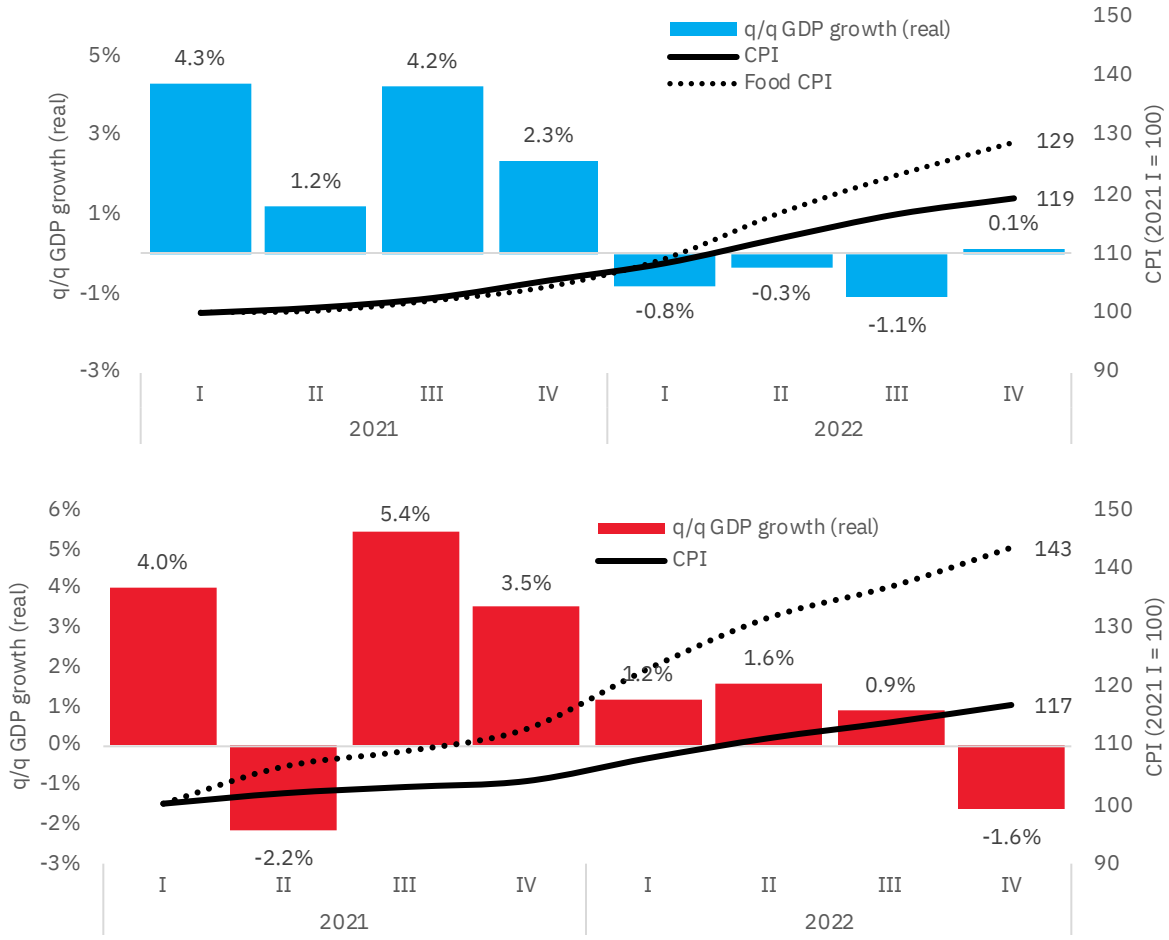
Figure 3: Chile and Colombia are large importers of wheat and maize, for which Ukraine is a major exporter.



Changes in import patterns observed in customs data may also have repercussions for the next steps of price transmission, from importers to domestic producers, retailers, and consumers. An assessment of the link between imported and domestic prices is beyond the scope of this note. However, the note documents two import patterns with potential implications on domestic price transmission: Changes in the concentration of imports and changes in the dispersion of import prices between importers. Both patterns could potentially diminish competition among importers and thus further add to domestic price increases.

Both Chile and Colombia underwent significant macroeconomic adjustments in 2022. While 2021 was characterized by economic recovery from the Covid pandemic, both countries were left with the necessity to scale back Covid-response measures and tighten monetary policy in 2022 to address mounting imbalances. Chile's growth turned negative in the first quarter of 2022 and consumer price inflation accelerated as household spending was slow to adjust. Food was one of the main drivers of inflation, outpacing overall CPI growth in every quarter of 2022 and ending the year 29 percent above its QI 2021 level. In Colombia, growth also slowed in 2022 but remained positive except for QIV. As in Chile, food inflation significantly outpaced overall inflation and accelerated further in 2022, ending the year 43 percent above its level in QI 2021.

Figure 4: Both Chile (top) and Colombia (bottom) experienced slow growth and accelerated food price inflation in 2022

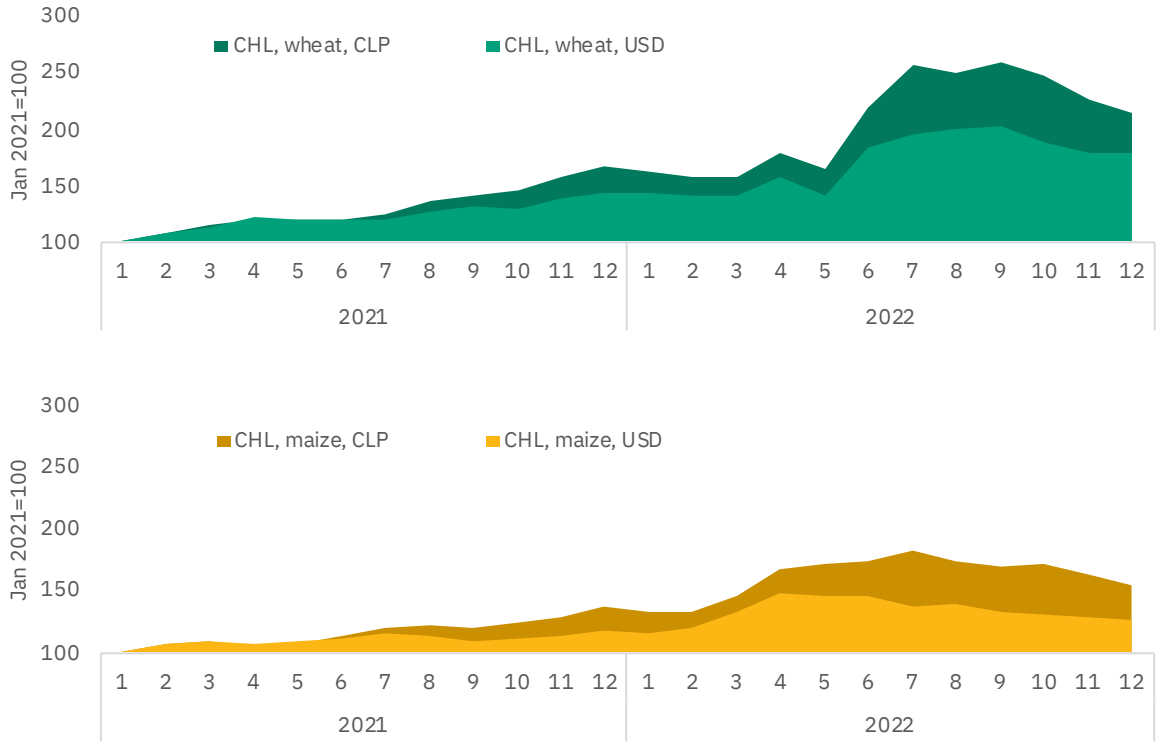


1. A large share of the food price increase is explained by currency depreciation.

Currency depreciation contributed significantly to rising prices of imported food in both Chile and Colombia during 2022. Chile went through a gradual episode of depreciation in the second half of 2021. Then, between March and July 2022, depreciation accelerated, and the peso lost nearly 16 percent of its US$ value until an aggressive intervention program by the Central Bank stabilized and eventually reversed its losses by early 2023. The Colombian peso gained some value in the immediate aftermath of the Russian invasion of Ukraine as oil prices rose. But this was soon reversed, and between June and November 2022 the Colombian peso lost 20 percent of its value. Global food price fluctuations, through their effects on the terms of trade, may have contributed to these dynamics, though several other factors beyond the scope of this note were also at play.

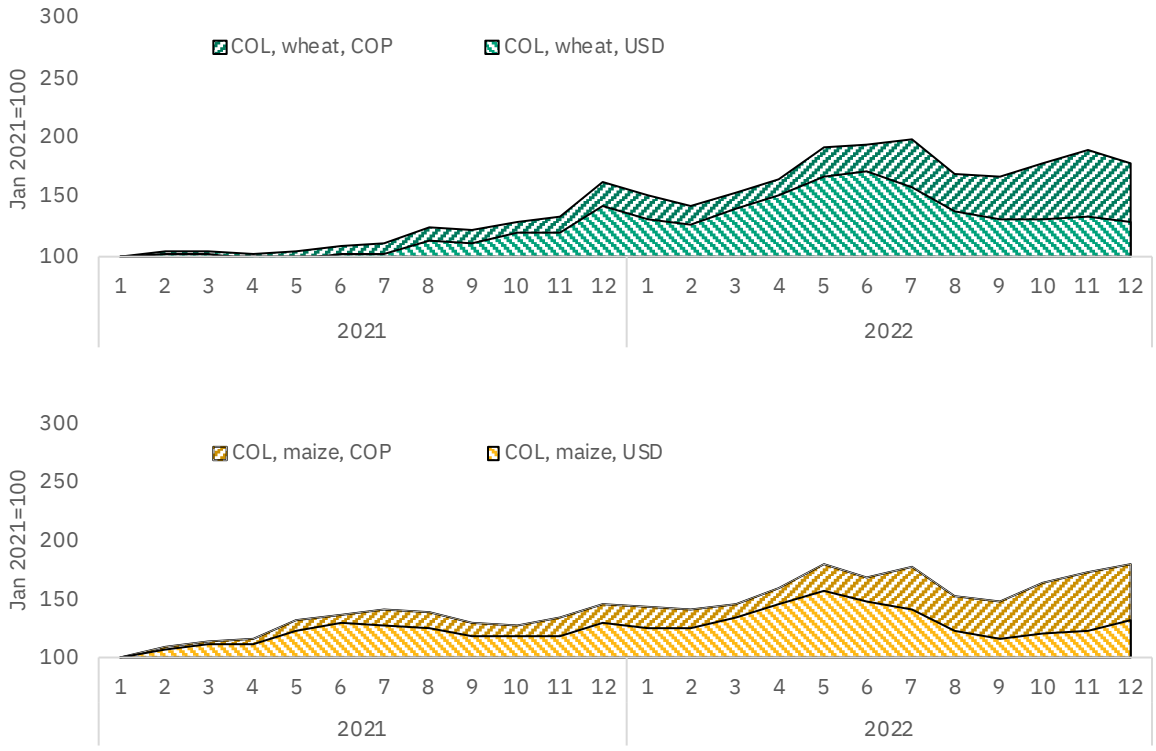
The average local currency price of imported wheat increased by 59 and 45 percent respectively in Chile and Colombia, with currency depreciation accounting for just below one third of the total increase. For maize, the corresponding figures are 33 and 28 percent, with close to half of the effect explained by currency depreciation. While Chile's and Colombia's currencies depreciated significantly against the US$, they gained value against the currency of Argentina, their key regional trading partner for food items. A recent study[i] using transaction level customs data for Chile finds that while the US$ exchange rate dominates exchange rate pass-through in the short run, bilateral effects become more prominent over time. This would suggest that Argentina's parallel depreciation may have helped to mitigate further price increases.

Figure 5 a/b: Exchange rate depreciation in CHL and COL contributed to increases in median import prices in local currency.



i. Giuliano, Fernando and Emiliano Luttini (2020): Import prices and invoice currency: Evidence from Chile. Journal of International Money and Finance, Elsevier, vol. 106(C).

Figure 5 c/d: Exchange rate depreciation in CHL and COL contributed to increases in median import prices in local currency.



2. Price transmission: Delayed is not avoided.

Rising world market prices quickly translated into higher food import costs for both countries in 2022, but with differences in magnitude and timing of transmission. In Chile, the weighted average cost of a kilogram of imported wheat in US$ terms rose 39 percent compared between 2022 and 2021, while in Colombia the increase was 28 percent. The difference results from a higher base price for Colombia in 2021 while both countries paid on average 42 Cents/kg in 2022. For maize, the corresponding increases were 17 percent for Chile and 13 percent for Colombia.

Despite faring better immediately after the Ukraine invasion, Chile faced elevated wheat import prices later in the year for a more prolonged period than Colombia. Global wheat prices peaked in May 2022, and Colombia's median import price followed suit in June. At that point, Colombia was importing wheat at a median price of 51 Cents / kg while Chile was still paying 45 Cents. But fortunes started to change the following month and by September, Chile's median import price peaked at 50 Cents / kg while Colombia's had returned to pre-invasion levels at 39 Cents. By the end of 2022, Chile's median wheat import price still stood at 44 Cents, compared to Colombia's 39 Cents.

The rise of world market prices for maize affected both countries quickly, but Chile's import prices remained elevated for a longer period. Maize import prices in both countries peaked in May 2022 at 39 Cents / kg for Chile and 38 Cents / kg for Colombia, a month after reaching the global price peak in April. However, while Colombia's import prices quickly followed the downward trend in global prices and by August had returned to pre-war levels, Chile's import prices remained significantly elevated until September and had not fallen back to their pre-war level by the end of the year.

Figure 6: Over the course of 2022, Chile's US$ import prices for wheat and maize rose more than those of Colombia.

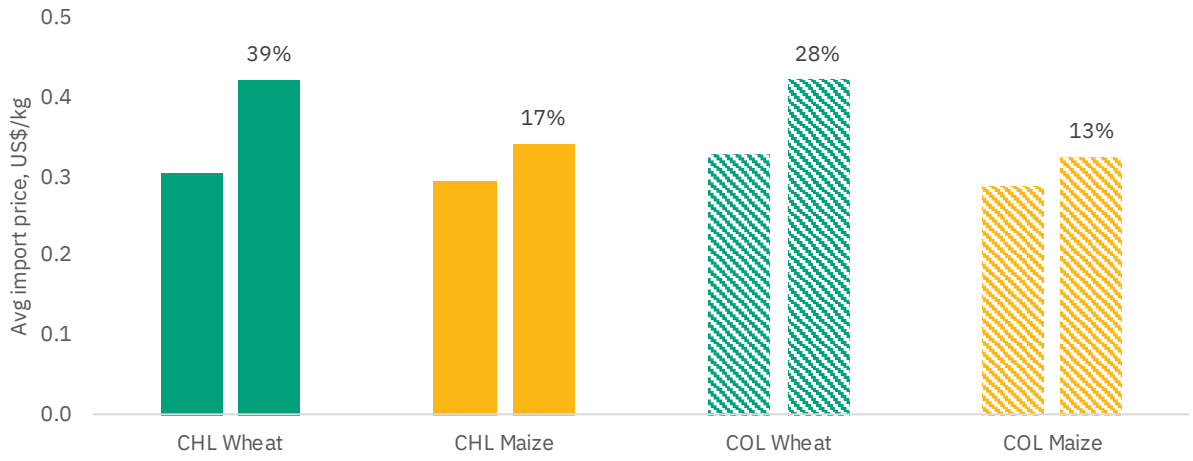
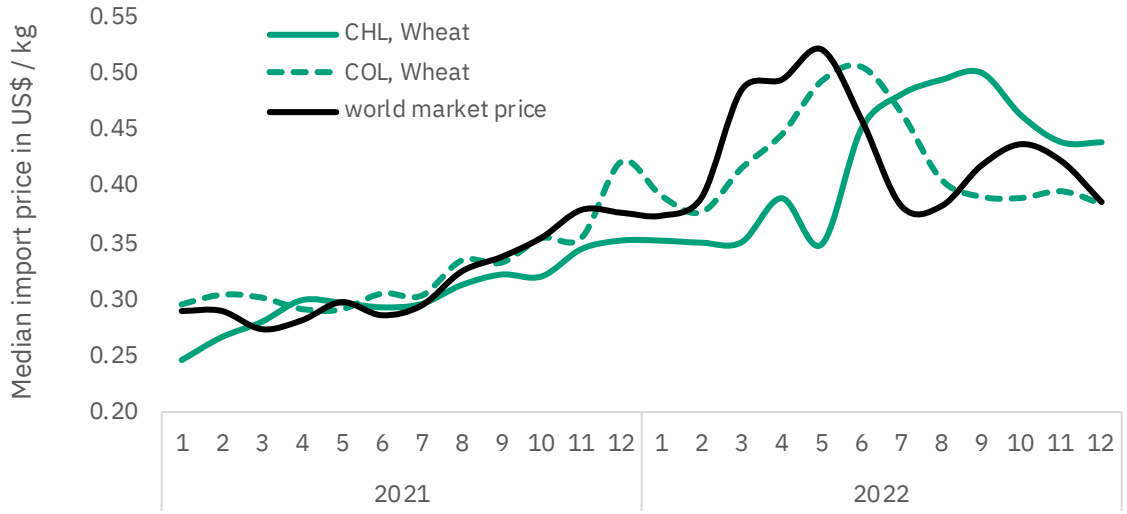
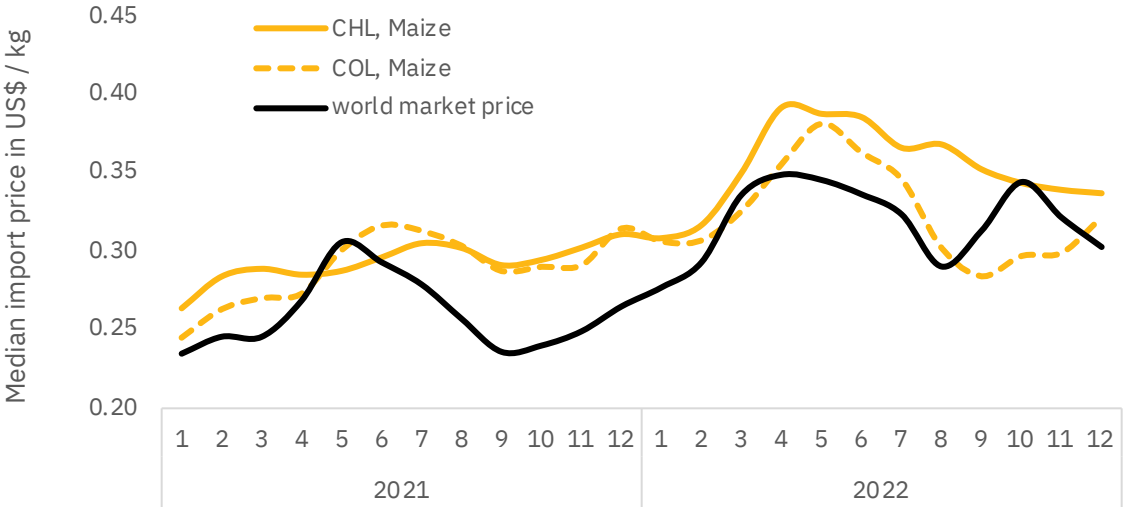


Figure 7 a/b: Chile's import prices remained elevated for a longer time after world market prices had reached their peak.





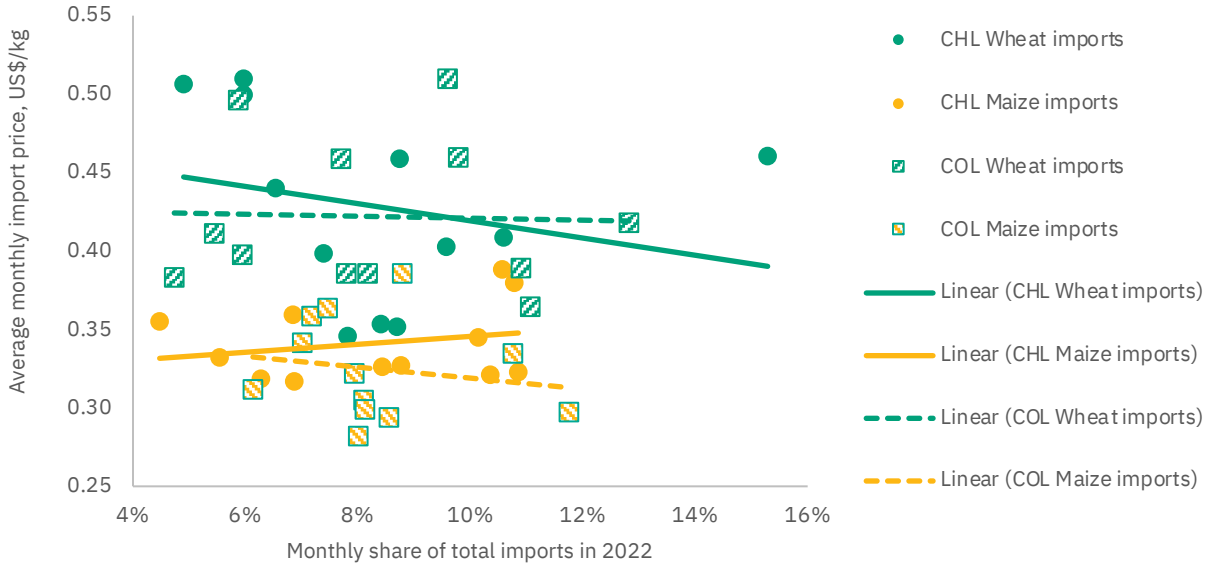
3. No savings through short-term demand adjustments.

Chile significantly lowered its total wheat imports in 2022, while Colombia's increased slightly despite higher prices. Chile imported a total of 1,153 kt of wheat in 2022[ii], 16 percent less than in 2021. At the same time, domestic production also declined 18 percent to 1,107, reflecting a significant decline in wheat consumption. The decline needs to be seen in the context of an overall demand contraction in 2022 following the overheating of the economy in 2021. Reduced demand allowed Chile to lower its wheat imports at times of high prices and thus limit the overall increase in wheat import costs to 17 percent, at the expense of reduced consumption. Colombia, on the other hand, slightly raised its imports by 5 percent to 2,079 kt in 2022 (domestic production is negligible), and in combination with higher prices this led to a 35 percent increase in import costs for wheat in 2022.

Both countries increased maize imports in 2022. Chile imported a total of 2,424 kt of maize in 2022[iii], 4 percent more than in 2021. At the same time, domestic production declined 23 percent to 608 kt, implying a small decline in overall consumption. The value of maize imports rose 21 percent. Colombia increased its imports 8 percent to 6,498 in 2022 while domestic production increased 24 percent to 1,921 kt, with its import bill for maize rising 22 percent.

Neither country was able to benefit significantly from short-term adjustments in imports to sit out the price hike. While Chile shows slightly lower imports of wheat during the months of July, August and September 2022 when import prices were highest, the overall effect was relatively small: Compared to a hypothetical uniform distribution of imports over the year, Chile's actual wheat import costs in 2022 were just 1 percent lower. For Chile's imports of maize, and Colombia's imports of both wheat and maize, the two figures are nearly identical, suggesting very low short-term elasticity in demand. Higher short-term demand elasticity would have allowed companies to time their imports to more favorable market conditions.

Figure 8: In the short term, import demand was inelastic to prices and there were almost no cost savings through strategic timing of purchases.



ii. This excludes durum wheat, wheat for sewing, and some other small transactions that were likely not intended for consumption.

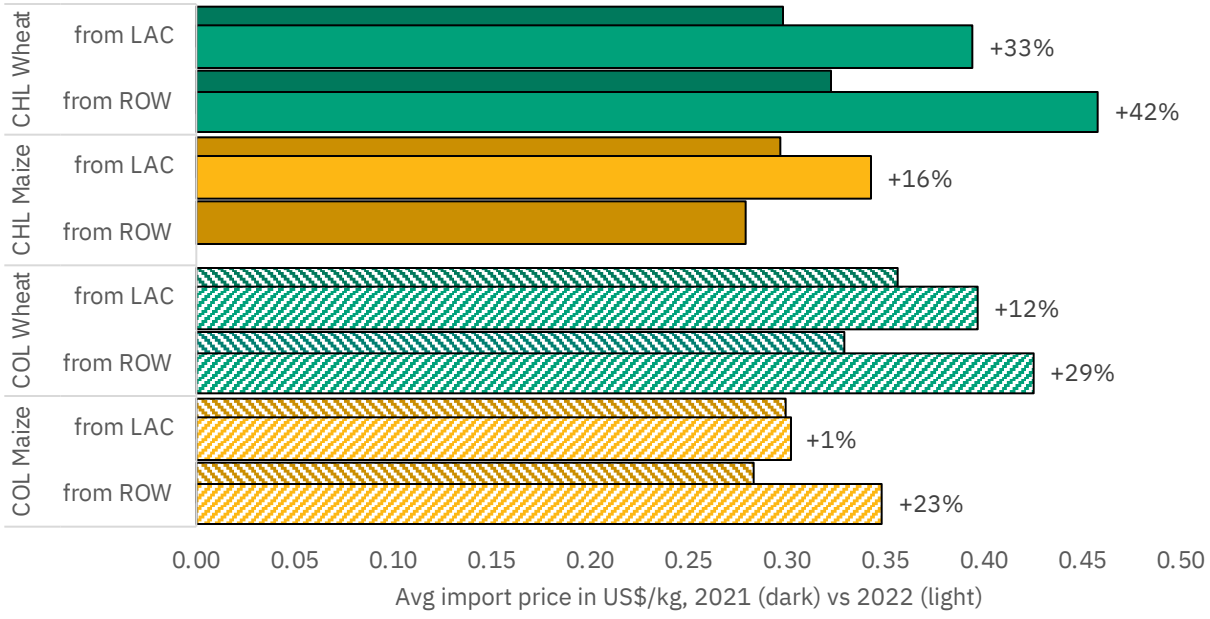
iii. This excludes maize for sewing and some other small transactions that were likely not intended for consumption.

4. The stabilizing role of regional trade.

Prices of regional imports increased less than those of global imports. For both Chile and Colombia, the price increases on regional imports were smaller than for imports from the rest of the world. The differences are significant: The ability to rely on regional imports reduced the increase in prices by 3 percentage points for wheat in Chile[iv], 2 percentage points for wheat in Colombia, and 10 percentage points for maize in Colombia compared to a scenario where regional import prices increase in line with the rest of the world.

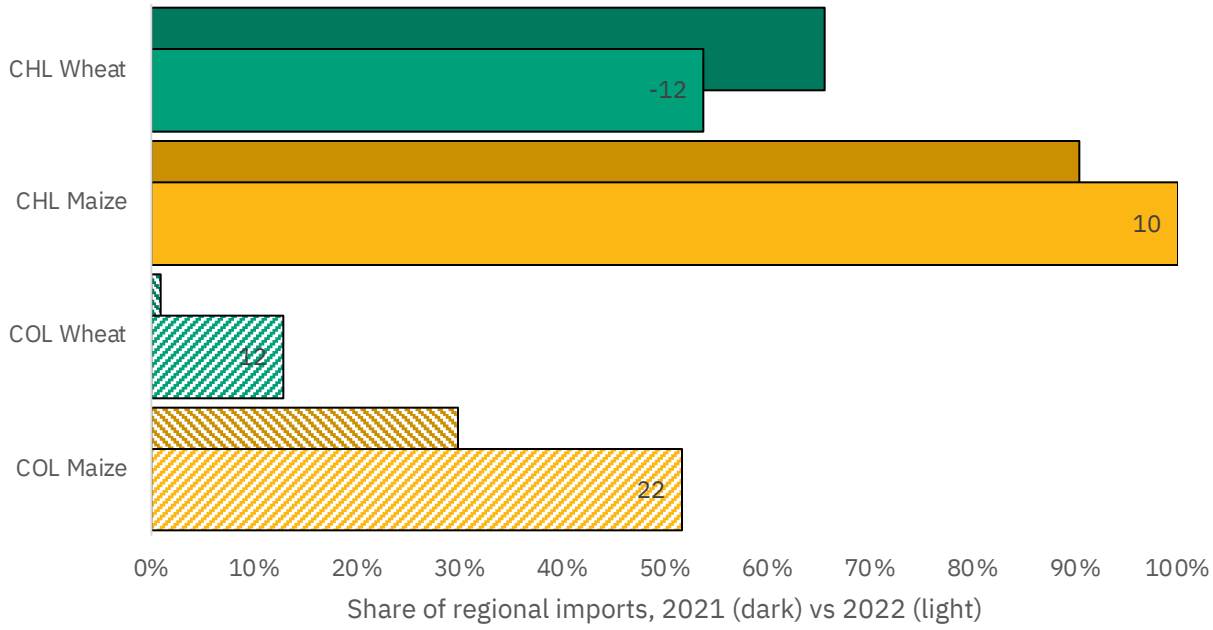
Chile has a higher reliance on regional imports, but Colombia lowered its import costs by raising regional imports in 2022. Despite lower prices in the regional market, Chile reduced its share of wheat imports from LAC by 12 percentage points while Colombia's increased by the same margin (starting from near zero). For maize, both countries increased their import share from LAC. Chile traditionally imports most of its maize from within the region, and in 2022 the share reached 100 percent compared to 90 percent in 2021. For Colombia, the import share from LAC rose from 22 percentage points to 52 percent in 2022. There is an obvious seasonal pattern with most maize imports from LAC to Colombia occurring in the second half of the calendar year. During this time, presumably due to ample regional supply, the price wedge between maize from LAC and the rest of the world in Colombian imports grows, and this was even more pronounced in 2022 with LAC import prices in some months more than 10 Cents / kg lower than those from the rest of the world. In 2022, Colombia switched almost entirely to regional imports of maize during these months, which limited the increase in import prices by 3 percentage points for maize and 1 percentage point for wheat. For Chile, import prices for wheat increased an additional 2 percentage points due to its shift towards more extra-regional imports.

Figure 9: Regional trade helped stabilize import prices.



iv. Since Chile imported all its maize from within the region in 2022, no counterfactual calculation is possible as extra-regional import prices are not observed.

Figure 10: Colombia benefitted from lower prices within LAC by raising its regional imports, Chile did so only for maize.

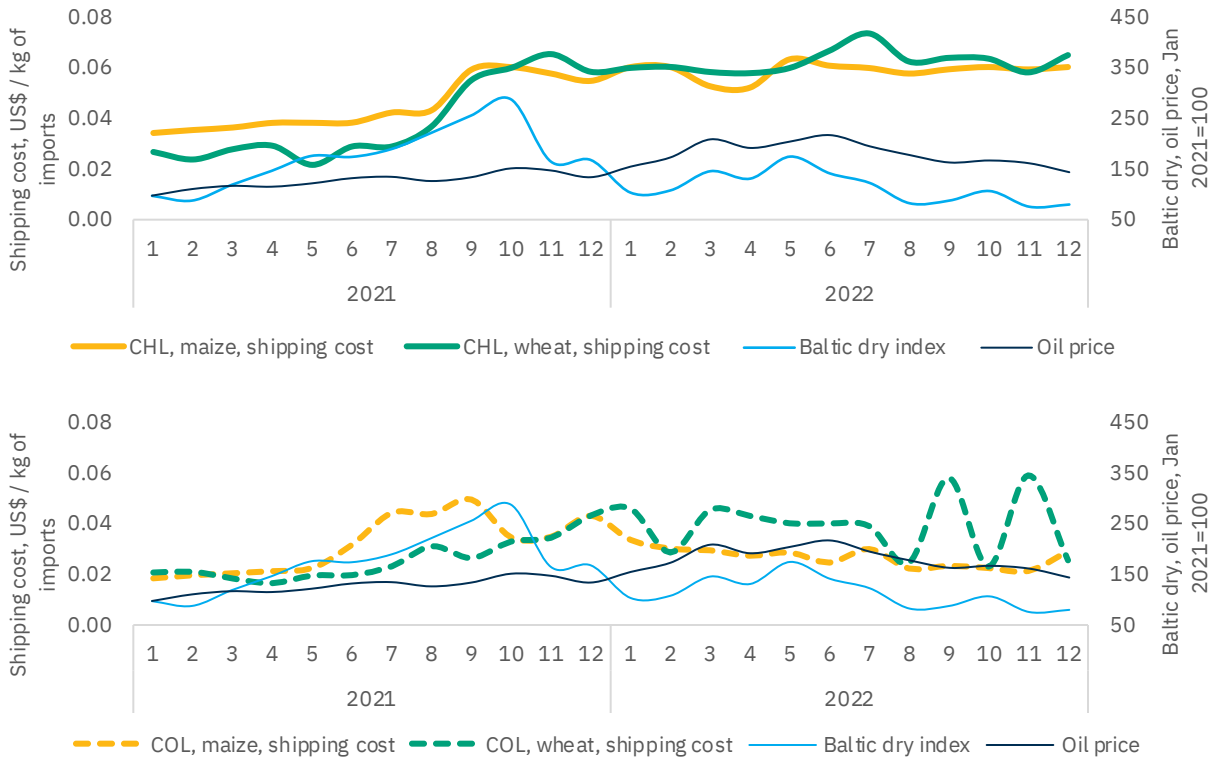


5. Transport costs: The shock before the shock.

Both Chile and Colombia experienced significant increases in transport costs, linked to external factors. In October 2021, the Baltic dry index, a measure of bulk shipping rates, peaked at nearly three times its level at the beginning of that year. As global shipping disruptions subsided, rates began to drop and reached levels similar to those in January 2021 by early 2022. With Russia's invasion of Ukraine in February 2022, the global oil price began to rise and reached a peak of more than twice its January 2021 level in June 2022 before gradually subsiding. Both events had repercussions for Chile's and Colombia's transport costs, especially for low value per weight items like wheat and maize. In Chile, transport costs per kg increased by roughly 50 percent for wheat imports and 30 percent for maize imports in the second half of 2021 and remained at that level throughout 2022. Colombia's transport costs, lower than Chile's from the beginning, increased as well, and remained elevated for wheat while transport costs for maize eventually declined again in 2022.

The increase in transport costs further raised import prices. Import prices are quoted inclusive of cost, insurance, and freight (cif), and for Chile's and Colombia's imports of wheat and maize, such costs constituted between 10 and 17 percent of the total import price. Transport cost increases explain 5 and 4 percentage points respectively of the cost increases in wheat imports for Chile and Colombia. For maize imports, the impact was smaller, at 2 percentage points for Chile and 0 for Colombia since the increase in freight rates was largely offset by the move towards regional imports with lower transport costs.

Figure 11 a/b: Rising transport costs contributed to higher food import



6. Import concentration increased only for maize in Chile.

Beyond import prices, the structure of imports can have an impact on domestic prices. Importer concentration has been linked to higher domestic prices, arguably through diminished competition[v]. The trade data suggests that wheat markets in both countries and the maize market in Colombia appear to be characterized by many importers competing, and this did not significantly change during 2022. Despite a large number of active firms, Chile's maize imports appear to be more concentrated, with a Herfindahl index around 0.4 in 2021 that rose to occasionally exceed 0.6 in 2022. This suggests that few importers account for large market shares which could potentially give them some market power.

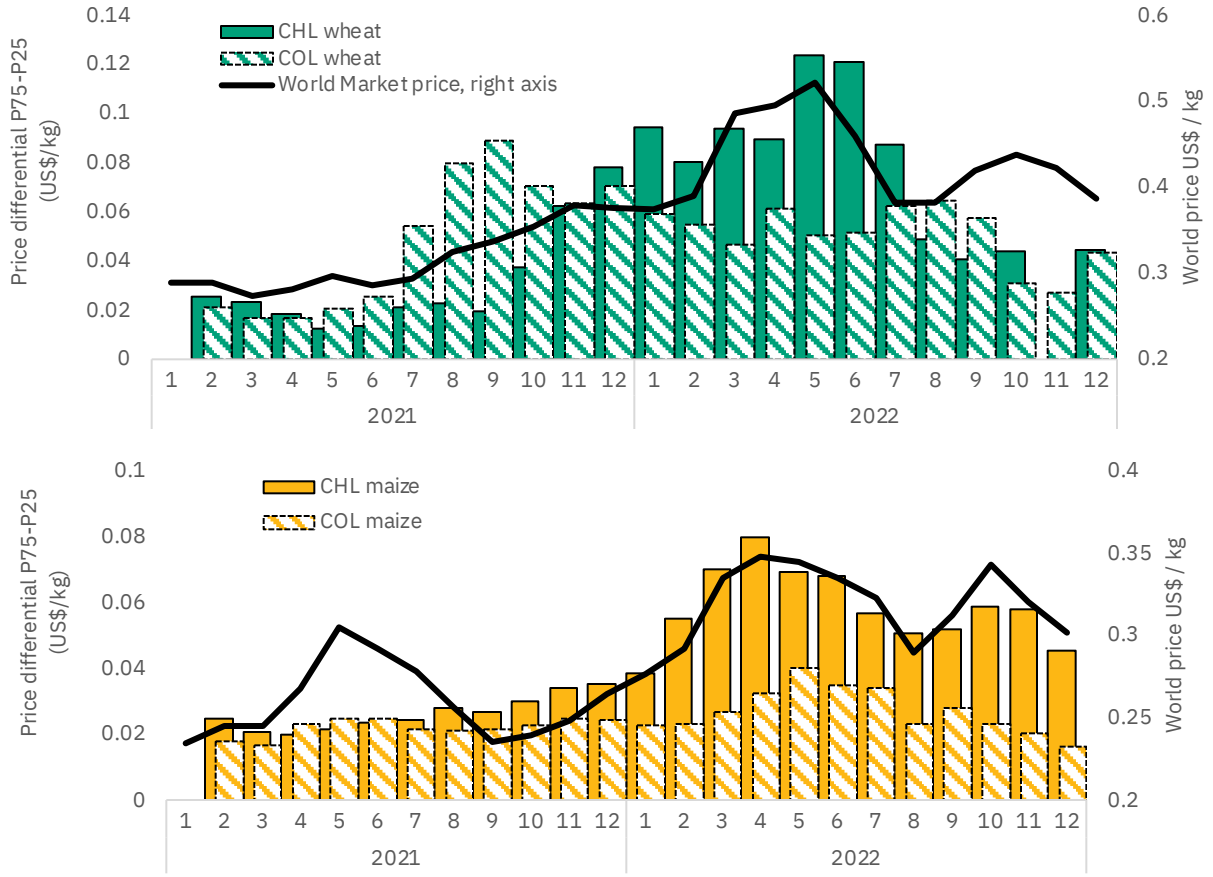
Figure 12 a/b: Import concentration for maize increased in Chile.

v. Arezki,Rabah, Ana Margarida Fernandes, Frederico Merchán, He Nguyen and Tristan Reed (2023): Natural Resource Dependence and Monopolized Imports. Policy Research working paper no. 10339, Washington, D.C. : World Bank Group.

7. Price dispersion among importers increased, especially in Chile.

Some importers appear to have been more successful than other in maintaining lower cost supply relationships, potentially creating windfall profits. For both countries and products, the dispersion of import prices – measured as the different between the 75th and 25th percentile of import prices in a given month – increased. The effect was more pronounced in Chile where it also coincides more clearly with the onset of global price turbulences. For instance, the P75-P25 price dispersion of Chile's wheat imports, at 2 Cents in the fall of 2021, rose to 12 Cents by May 2022. For maize, it went from 3 Cents in November 2021 to 8 Cents in May 2022. While a number of factors might contribute to such wide price dispersion, the fact that they coincide with fluctuations in global markets suggests that some importers were better positioned than others to mitigate the global price hikes. Such dispersion is not uncommon in the context of rising inflation[vi]. Similar to import concentration, this could have detrimental effects on competition to the extent that lower cost importers may be able to increase profits rather than passing lower import prices on to food manufacturers and ultimately consumers. A similar effect for Chile is shown in a recent micro analysis of intra-firm input price dispersion for Chile[vii] (Burstein et al, 2024)

Figure 13 a/b: Rising world prices coincide with higher price dispersion between import transactions.



vi. Nakamura, Emi, and Jón Steinsson (2013): Price rigidity: Microeconomic evidence and macroeconomic implications. Annual Review of Economics. 5.1: 133-163.

vii. Burstein, Ariel, Javier Cravino and Marco Rojas (2024): Input price dispersion across buyers and misallocation, Documentos de Trabajo No 1006, Banco Central de Chile.

Conclusions and areas for further research

Food price inflation is not least a macroeconomic problem. Both Chile and Colombia built up macroeconomic imbalances in the aftermath of the pandemic that led to significant exchange rate depreciations in 2022. This exacerbated the increase in global prices. The policy challenge for both countries in this context was to provide protection to the most vulnerable parts of the population while at the same time scaling back the expansive fiscal policies they had enacted during the Covid pandemic. Further research could more formally explore the role of exchange rates in determining food price inflation and informing policy, including through a exchange rate passthrough analysis for key food items, distinguishing US$ and bilateral exchange rate effects with key food exporters in the region.

There is heterogeneity in how quickly and how long countries are affected by higher world market prices, but the determinants are not well understood. Chile was initially able to continue importing food at lower prices than Colombia, but ultimately experienced a larger increase in its import bill as price hikes persisted for its imports. The determinants of these effects, likely related to the way firms organize their imports, merit further analysis. The same goes for the question whether a country's ability to time its imports to market conditions, i.e. by maintaining strategic reserves that would allow it to sit out particularly turbulent periods in the market, is susceptible to cost efficient public policies.

There is little governments can (or should) do to isolate their country from transport cost fluctuations. While transport costs did play a role in exacerbating the food price shock, they were initially driven by global shipping issues outside of the control of individual countries, and eventually by fuel price increases. As a result, fuel subsidies became a topic in many countries during this period. However, due to their poor targeting and regressive nature, they are not a useful instrument for protecting vulnerable populations from food price shocks.

Regional markets matter for price stability. Both Chile and Colombia clearly benefitted from their proximity to and established trade relationships with Argentina and other large food producers in the region. Further research could focus on better understanding the interplay between global and regional food trade in LAC, their degree of substitutability based on factors such as quality and seasonality, and the role of prices.

Transaction level customs data can provide insights into the mechanics of how food prices transmit from the global level to consumers. This is a non-trivial relationship with significant cross-country variation that can provide insights on policy design for the management of future shocks. Further research could look at the transmission from trade to domestic prices, and assess the role of changes in trade composition – e.g. importer concentration and price dispersion – that is observable through customs data in the transmission from global to domestic prices.

Annex 1a: Data sources and methodology

Chile customs data:

https://datos.gob.cl/organization/servicio_nacional_de_aduanas

Colombia customs data:

https://www.dian.gov.co/dian/cifras/Paginas/Bases-Estadisticas-de-Comercio-Exterior-Importaciones-y-Exportaciones.aspx

Chile's and Colombia's customs agencies report imports and exports at the transaction level, including the date, value, quantity, product type at tariff level precision, firm identifier, transport costs, and country of origin. Temporary trade flows were removed, as well as those of less than 1,000 kg to reduce noise. Seed grains are also removed based on the customs codes. Import prices are calculated as the import value inclusive of freight and insurance divided by the quantity. Most figures in this report use different indicators calculated with these two datasets. A reproducibility package is available at this link: https://reproducibility.worldbank.org/index.php/catalog/157

The following additional data sources are used:

- Figures 1 & 5a/b/c/d: Average annual exchanges rates COP/USD and CLP/USD from OECD
- Figure 2: Food price index from FAO
- Figure 3: Global trade data from UN COMTRADE
- Figure 4: Banco Central de Chile (quarterly growth for Chile), INE (inflation Chile), DANE (quarterly growth for Colombia), Banco de la República de Colombia (inflation Colombia)
- Figure 7a/b & 13a/b: Global wheat and maize prices from World Bank
- Figure 11a/b: Baltic Dry Index from Baltic Exchange, oil price from World Bank

Figure 1:

The impact of currency depreciation effect is defined as

$$\frac{MUV_{LC}^{2022} / MUV_{LC}^{2021}}{MUV_{US\$}^{2022} / MUV_{US\$}^{2021}} - 1$$

Where MUV denotes the import unit value, defined as the value of a country's imports of wheat or maize divided by the quantity of total imports in a given year.

LC subscript stands for local currency: Import transaction values are converted to local currency using the monthly average exchange rate during the month in which they took place before aggregating to annual data.

The US$ price change is defined as

$$MUV_{US\$}^{2022} / MUV_{US\$}^{2021} - 1$$

The short-term elasticity effect is defined as

$$\frac{MUV_{US\$}^{2022} / MUV_{US\$}^{2021}}{MUVCQ_{US\$}^{2022} / MUV_{US\$}^{2021}} - 1$$

where MUVCQ denotes the import unit value under a hypothetical scenario in which import quantities are spread out evenly throughout the year:

$$MUVCQ_{US\$}^{2022} = \frac{\sum_{m=1}^{12}\left(\frac{1}{12} * MQ_{total}^{2022} * \frac{MV_m^{2022}}{MQ_m^{2022}}\right)}{MQ_{total}^{2022}}$$

MQ_{total} stands for a country's total annual import quantity of wheat or maize, MQ_m stands for import quantity in month m, and MV_m stands for import value in month m.

The effect of regional import stabilization is defined as

$$\frac{{}^{MUV_{US\$}^{2022}}/_{MUV_{US\$}^{2021}}}{{}^{MUVROWP_{US\$}^{2022}}/_{MUV_{US\$}^{2021}}} - 1$$

where MUVROWP denotes the import unit value under a hypothetical scenario where imports of wheat and maize from within the LAC region experience the same percentage price increase in 2022 as imports from the rest of the world:

$$MUVROWP_{US\$}^{2022} = \frac{MV_{ROW}^{2022} + MQ_{LAC}^{2022} * MUV_{LAC}^{2021} * \frac{MUV_{ROW}^{2022}}{MUV_{ROW}^{2021}}}{MQ_{total}^{2022}}$$

MVROW denotes the value of imports from the rest of the world, MQLAC is the quantity of imports from LAC, MUVLAC is the unit value of imports from LAC, and MUVROW is the unit value of imports from the rest of the world.

The impact of the change in regional import shares is defined as

$$\frac{{}^{MUV_{US\$}^{2022}}/_{MUV_{US\$}^{2021}}}{{}^{MUVCLAC_{US\$}^{2022}}/_{MUV_{US\$}^{2021}}} - 1$$

where MUVCLAC denotes the average import unit value under a hypothetical scenario where the quantity import shares between LAC and the rest of the world remain the same in 2022 as in 2021 while unit prices for imports from LAC and the rest of the world perform as observed in 2022.

$$\frac{{}^{MUV_{US\$}^{2022}}/_{MUV_{US\$}^{2021}}}{{}^{MUVCSHP_{US\$}^{2022}}/_{MUV_{US\$}^{2021}}} - 1$$

Where MUVCSHP denotes the import unit value under a hypothetical scenario where shipping costs per quantity unit remain the same in 2022 and in 2021.

Figure 5:

Graphs show the median unit value (import value / import quantity) of all import transactions for wheat / maize in a given month. Transactions are reported in USD values and local currency values are calculated based on average monthly exchange rates. All data is normalized to Jan 2021.

Figure 6:

Average annual import prices are defined as the total value of imports divided by the total quantity of imports in that year.

Figure 7:

The graphs show the median unit value (import value / import quantity) of all import transactions for wheat / maize in a given month in US$.

Figure 8:

The x-axis value is defined as $\frac{MQ_m}{\sum_{m=1}^{12} MQ_m}$

and the y-axis value is $\frac{MV_m}{MQ_m}$

where MQ_m denotes import quantity in month m and MV_m denotes import value in month m.

Figure 9:

Average annual import prices are defined as the total value of imports divided by the total quantity of imports per year and region of origin.

Figure 10:

Import shares are defined as quantity of imports from LAC divided by total imports.

Figure 11:

Shipping costs are reported separately in the customs raw data. Graph shows the total value of shipping costs divided by total import quantity in a given month.

Figure 12:

The monthly Herfindahl concentration index is calculated as

$$\sum_{i=1}^{n} \left[\frac{MQ_i}{MQ_{total}}\right]^2$$

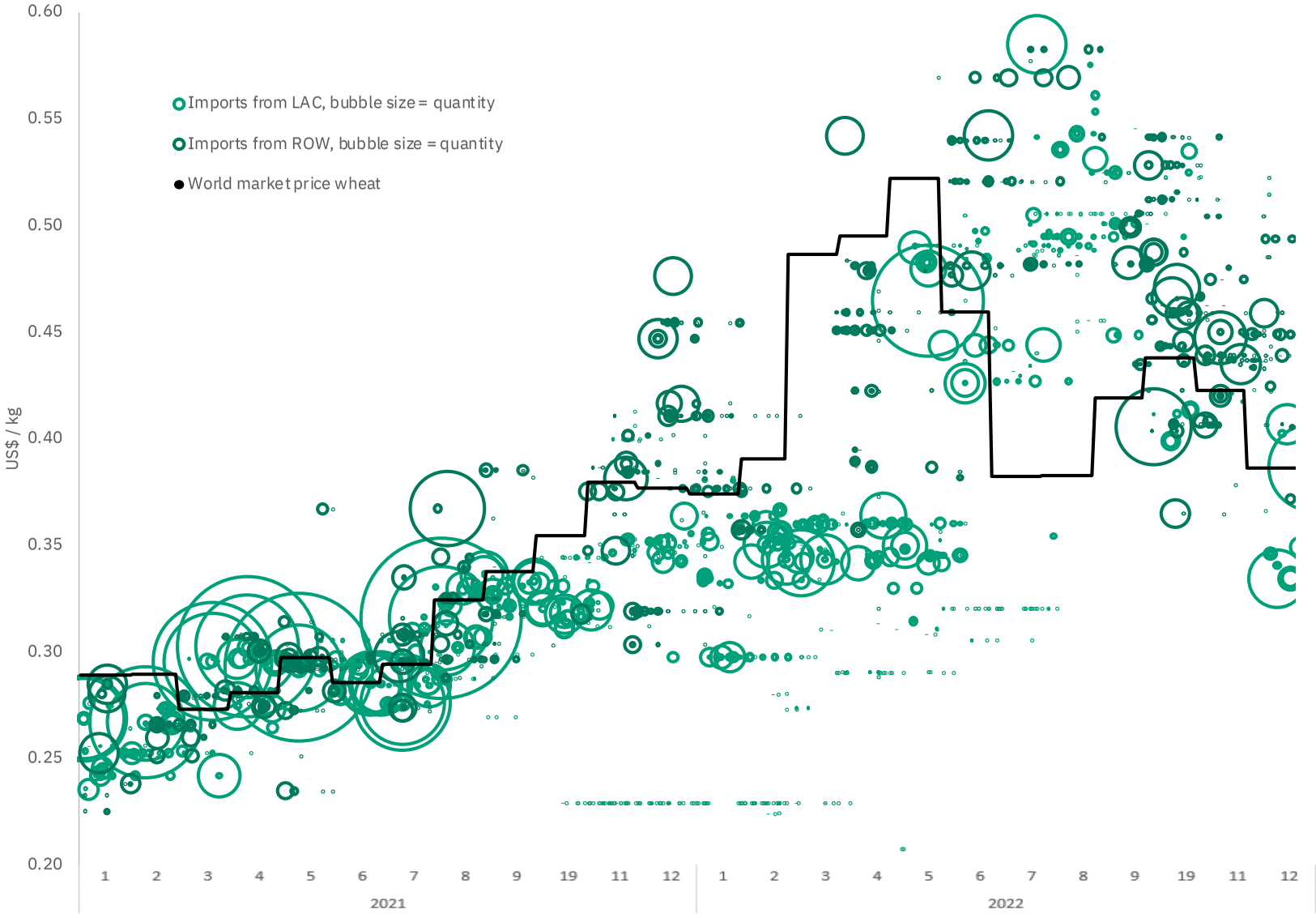
where MQ^i denotes the quantity imported by importer i in a given month and MQ_{total} denotes the total import quantity in that month.

Figure 13:

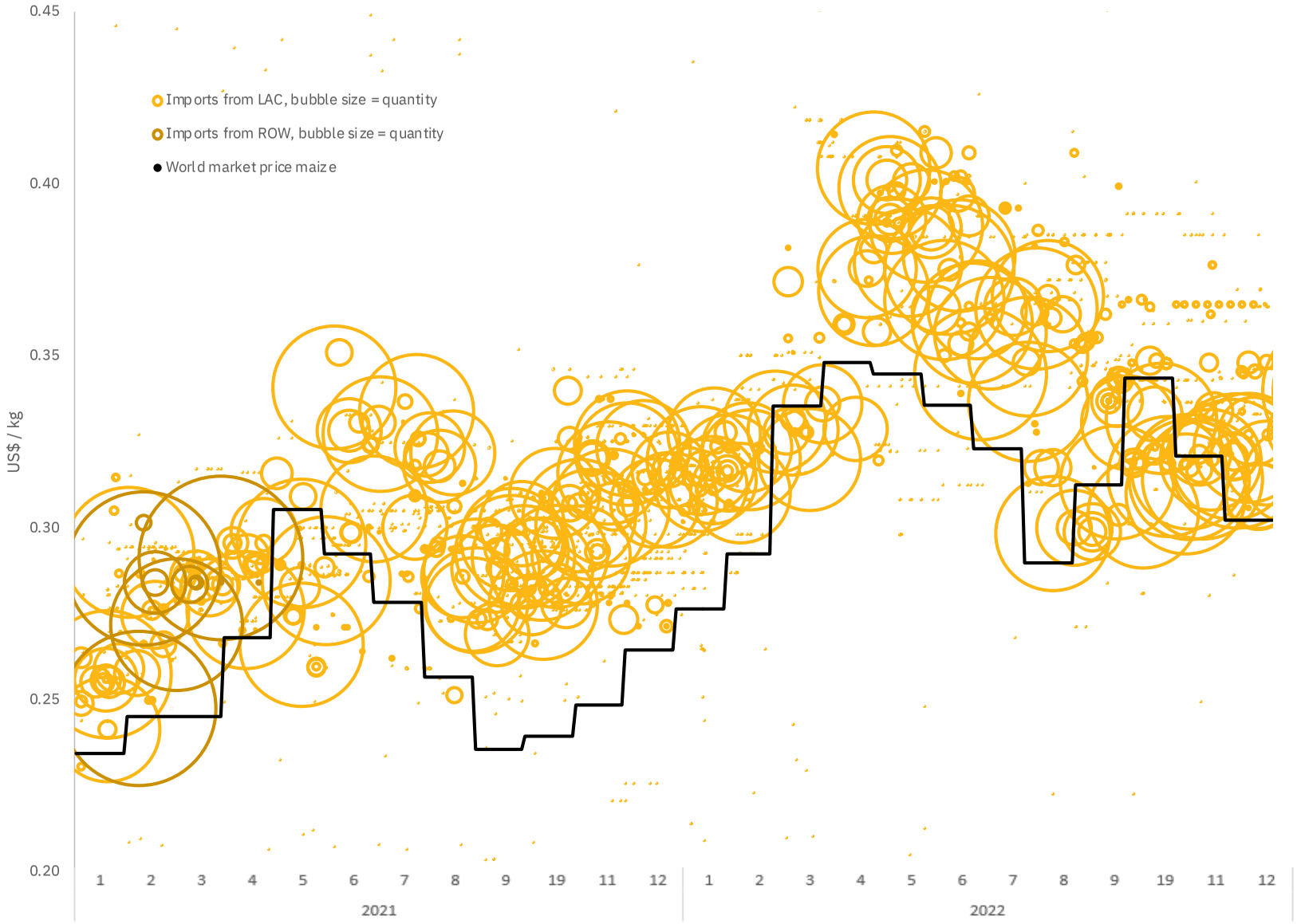
The monthly price differential is calculated as P75[MUV]-P25[MUV]

Where P75[MUV] and P25[MUV] respectively denote the 75th and 25th percentiles of the unit values of all import transactions of wheat or maize in a given month.

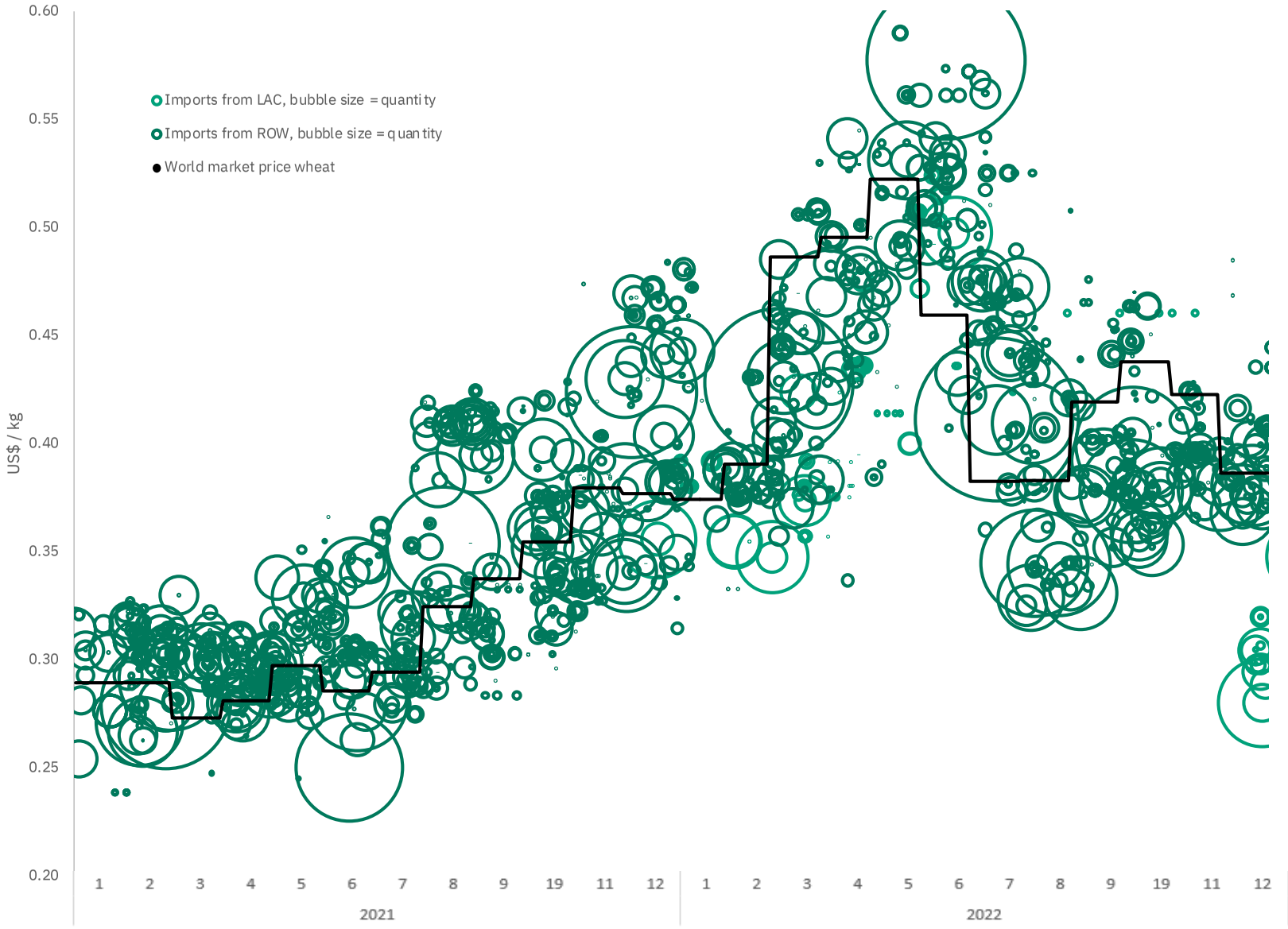
Annex 1b: Transaction level imports and global price data: Chile wheat



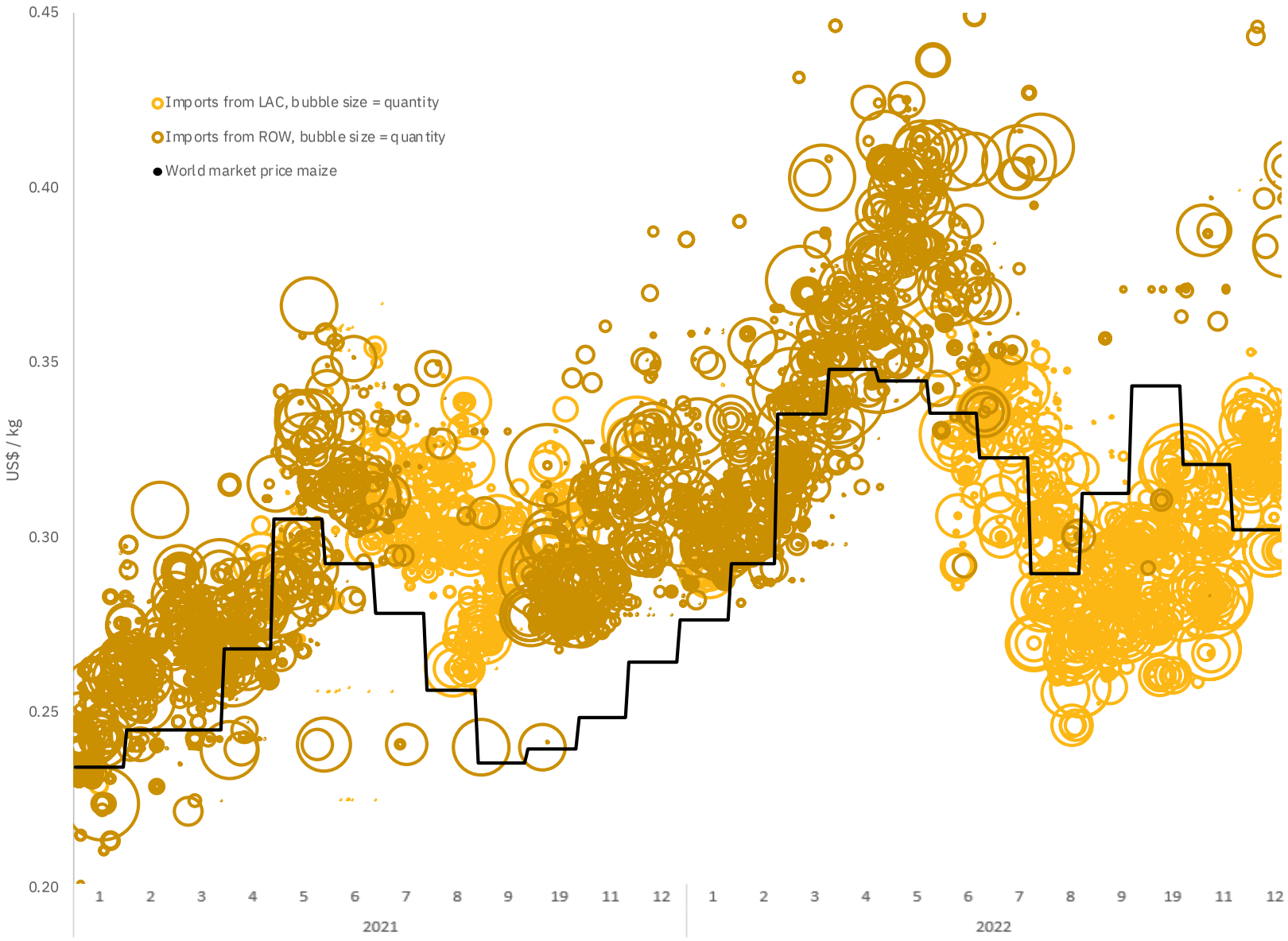
Annex 1c: Transaction level imports and global price data: Chile maize



Annex 1d: Transaction level imports and global price data: Colombia wheat



Annex 1e: Transaction level imports and global price data: Colombia maize



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