



# China's Import Potential for Beef, Corn, Pork, and Wheat

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## What Is the Issue?

China's agricultural imports grew dramatically over the past two decades, and China became the largest importer in the world. Nevertheless, market access for some agricultural products was hindered by tariffs and nontariff measures. Economic theory suggests that a country would import products when foreign prices are lower than domestic prices, decreasing domestic prices and narrowing the "wedge" between domestic and international prices. This report develops a methodological framework to assess China's import potential for agricultural products. We examine differentials between domestic and import prices to assess the presence of trade barriers or frictions that may prevent imports from reaching their potential. We use information on foreign versus domestic prices to evaluate this wedge, estimating the potential for further agricultural imports of several key commodities.



## What Did the Study Find?

The research revealed that Chinese domestic prices consistently exceed import prices for four key commodities:

- China's beef prices were about 80–90 percent higher than U.S. imported beef prices in 2020 despite rapid growth in imports.
- Even with China's record-level corn imports in 2020, the country's domestic prices were still 60 percent above average imported U.S. corn prices.
- The margin between China's and imported U.S. pork prices soared to 200–300 percent of U.S. prices, due largely to a disease-driven reduction in China's domestic pork supplies in 2020.
- China's wheat prices were about 40 percent higher than the average price of imported U.S. wheat in 2020.

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Removing these trade barriers could lead to an increase in China's imports. We provide results from two scenarios: (1) a shortrun scenario (i.e., a year) where production and trade responses are somewhat limited as resource mobility is restricted and (2) a medium/longrun scenario (i.e., 5–10 years) where agricultural producers can shift land, labor, and capital. For each commodity, the results from these scenarios are as follows:

- For beef, the shortrun scenario indicates a 25.2-percent increase in China's imports. The medium/longrun scenario yields a larger increase (46.3 percent).
- For corn, the shortrun increase in China's imports is 12.5 percent, while the medium/longrun scenario shows a 90.9-percent increase. This would exceed China's tariff-rate quota (TRQ), with imports beyond the quota subject to a 65-percent tariff—thus, if the over-quota tariff is applied, results could be overestimated. For 2021, China's imports exceeded the quota, and the over-quota rate was not applied.
- For pork, the large price wedge implies substantial constraints on imports, and the model estimates triple-digit increases in China's imports (117 percent for the shortrun, 402 percent for the medium/longrun). China's pork prices were unusually high during the 2020 base year, so we also consider smaller price wedges from more typical years. But even these smaller price wedges suggest double-digit increases in imports are possible if trade barriers are eliminated.
- China's wheat imports are estimated to increase by 48.2 percent in the shortrun and 248.9 percent in the medium/longrun. Like corn, wheat has a TRQ, and imports could be constrained by the high over-quota 65-percent over-quota tariff.

## How Was the Study Conducted?

To consider how much China could be importing, we use a computable general equilibrium (CGE) model to estimate the removal of price wedges—which occur because of trade barriers—for beef, corn, pork, and wheat. To calculate the price wedge, we used monthly price data—the import unit value (IUV), which is China's reported price that also includes transportation costs. We calculated a 3-month moving average to reduce volatility in the ratios. All price wedges also include the Most-Favored Nation (MFN) tariff for beef and pork, which was 12 percent, and the in-quota tariff rate of 1 percent for corn and wheat. Retaliatory tariffs on U.S. products were not included, nor was the over-quota rate considered, since there is evidence that this has not been applied. The base year of the CGE model is 2017. To update the model to 2021, we used exogenous shocks to population, GDP, labor, and capital. In addition, we used information from the *World Agricultural Supply and Demand Estimates (WASDE)* to update changes in production for the four commodities of interest. Information from Trade Data Monitor (TDM) was used to estimate changes in China's imports of these products from 2017–2021. Assessments depend upon the ability for producers to respond to economic conditions. For each commodity, we considered two scenarios that differ based on the time horizon while the price wedges stayed the same. One scenario considers a shortrun setup where resource production and trade responses are somewhat limited as mobility is restricted. The other scenario considers a medium/longrun setup where agricultural producers can shift land, labor, and capital. For pork, we do consider sensitivity in the price wedge, given the volatile market. For each scenario, price wedges were removed independently.