The Need for Speed: Chicken Line Speeds and U.S. Industry Competitiveness

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U.S. chicken processors are required by the USDA's Food Safety Inspection Service (FSIS) to use slower evisceration line speeds than other countries such as Canada and Germany.[1] On one hand, the chicken industry would like to increase speeds, and on the other, unions and consumer advocacy groups want to maintain current standards or lower speeds. The U.S. chicken industry points to limits on line speeds as constraints to innovation and meeting demand; while the latter groups argue for worker and food safety protections. This executive briefing gathers regulatory background and opposing viewpoints, compares line speeds in other countries, and briefly discusses possible implications for U.S. industry competitiveness.

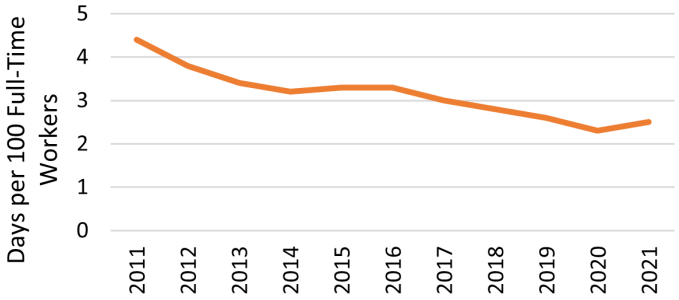
Regulatory Background

Poultry "line speed" refers to the highly-automated evisceration line, which is the part of the chicken processing plant where organs are removed from the bird and the carcass is cleaned and inspected. This is not the less automated part of the processing plant where workers are cutting and deboning chicken in preparation for packing.[2] Since 2014, under the FSIS's New Poultry Inspection System (NPIS), participating plants are allowed to operate chicken lines at 140 birds per minute (bpm). However, processing plants have also been allowed to operate up to 175 bpm, first under the Hazard Analysis and Critical Control Point–Based Inspection Models Project pilot study since 1998 and then via waivers since 2014.[3] The main stated goals of the NPIS are to facilitate pathogen reduction, improve effectiveness of poultry slaughter inspection, and remove obstacles to innovation in poultry processing.[4]

The Disagreement Over Poultry Line Speeds

Increased chicken line speeds have been debated by labor unions and consumer advocacy groups. The United Food and Commercial Workers (UFCW) are primarily concerned about the impact of evisceration line speeds on health and safety of workers involved in evisceration as well as down-stream cutting and deboning.[5] Incident rates of workers' injuries for poultry processing workers, published by the Bureau of Labor Statistics, improved from 2011–20 (fig. 1), although there was an uptick in the average incidence rate of injuries from 2020 to 2021. Meanwhile, because of the line speed pilot program and waivers, some poultry processing plants have operated at 175 bpm for decades. BLS-published data do not specify the line speed at which workers were performing, however, FSIS recently

Fig. 1 Average non fatal occupational injury incidence rate, poultry processing, 2011–21



Source: BLS, Injuries, Illness, and Fatalities, 2011–21.
Note: Table SNR05 or Q6 for NAICS 311615

[1] Poultry are defined as chickens, doves, ducks, geese, grouse, guinea fowl, partridges, pea fowl, pheasants, pigeons, quail, swans, and turkeys. However, this EBOT is primarily focused on line speed requirements for young chickens. USDA-APHIS, "Importing Live Poultry into the United States," September 23, 2022.
[2] NCC, "Four Things You Should Know about Poultry Line Speeds," July 23, 2020.
[3] 9 CFR § 381.69(a); see also, 79 FR 49565, 49566, August 21, 2014 (codified at 9 C.F.R. pts. 381, 500). As of March 2023, 49 out of 141 chicken processing plants participating in NPIS had modified waivers (i.e., 35 percent of chicken plants). FSIS, "Modernization of Poultry," March 31, 2023.
[4] 9 CFR § 381.69(a); see also, 79 FR 49565, 49566, August 21, 2014 (codified at 9 C.F.R. pts. 381, 500).
[5] UFCW, "Three Things You Should Know about Poulty Line Speeds," updated September 8, 2020. Cutting/deboning are not directly adjacent to evisceration. Ahlin, "The Robotic Workbench," April 2022; 12(2): 49–55.

announced it will seek to assess worker safety in plants with increased line speeds.[6] Consumer advocacy groups also question the risks to food safety. As line speeds increase, advocates are concerned that more pathogens such as salmonella will pass by FSIS inspectors unnoticed.[7] However, a 2021 study by Cox, from the University of Denver, found that "increased line speeds [in the United States] result in a product that is not contaminated more often than before line speeds were increased."[8]

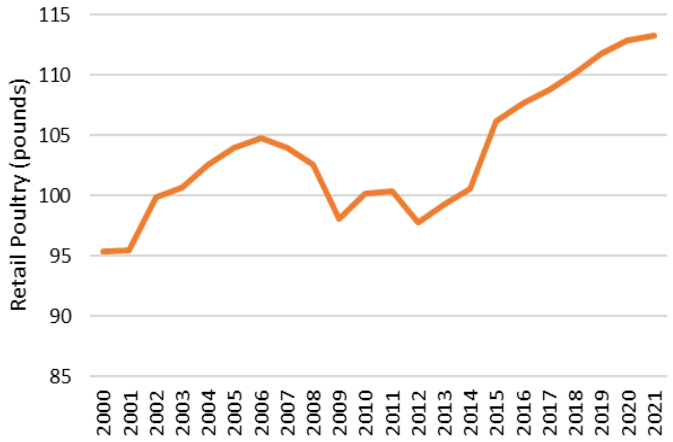
Comparison of Line Speeds by Country

Compared to global competitors in other countries, such as Canada and Germany that operate line speeds higher than 200 bpm, the United States currently has much slower chicken line speeds.[9] Processor participants in Canada's ongoing Modernized Poultry Inspection Program have no maximum line speeds once they have completed the preparatory and trial periods of the program.[10] In Germany, the Celler Land Frischgeflügel poultry processing plant operates at a line speed of 15,000 bph, which translates to 250 bpm. The plant manager noted that increased demand for poultry necessitated the accelerated processing line and equipment upgrade from 13,500 bph to 15,000 bph.[11] Meanwhile, modernized plants in the United States remain limited to 140 bpm or to 175 bpm via waivers.

Possible Implications for U.S. Industry

Like Germany, the U.S. poultry industry also faces increasing demand for chicken meat, as evidenced by poultry disappearance (a proxy for consumption, fig. 2). In light of increasing demand, some U.S. poultry processors have sought to further automate processing (e.g., at cutting and deboning).[12] However, it is unclear if poultry line speed restrictions impact these innovations at plants. Labor costs alone may be enough to spur increased automation on the poultry line, as the real average weekly wage for workers in poultry processing increased 97 percent from 2001–21.[13] The U.S. industry also faces pressure to reduce the prices of their products, as consumers have faced recent large increases in prices of poultry, about 20 percent from 2019–22.[14] To encourage more competition in the poultry sector, the USDA is seeking to provide grants to sole proprietors for new, upgraded, or expanded processing capacity.[15]

Fig. 2 U.S. Poultry Disappearance, Per Capita 2000–21



Source: USDA, World Agricultural Outlook Board, June 13, 2022.

[6] FSIS, "Constituent Update," July 29, 2022.
[7] Food and Water Watch (Gladstone), "USDA Withdraws," January 25, 2021 ; see comments in 79 FR 49565.
[8] Cox, "Higher Line Speed In Young Chicken Slaughter Establishments," February 2021.
[9] NCC, "Chicken Check-in: Poultry Line Speeds," accessed February 21, 2023; NCC, "Testimony of Mike Brown," February 28, 2023.
[10] Canadian Food Inspection Agency, "Post-mortem Examination Program," July 17, 2020.
[11] Landgeflügel, "Celler Land Frischgeflügel," accessed January 26, 2023; Poultry World, "15000 bph Processing," March 20, 2019.
[12] Fuhrman, "Benefits of Automated Cutting," October 12, 2017; Sims, "Automation Becoming Essential," January 13, 2023; Reuters, "Tyson Foods Plans to Spend $1.3 billion," December 9, 2021.
[13] CPI Index March 2023 = 100. BLS-QCEW, "Average Annual Weekly Wage," accessed January 26, 2023.
[14] FRED, "CPI for all Urban Consumers: Meats, Poultry," updated January 21, 2023.
[15] USDA-RD, "Meat and Poultry Processing Expansion Program," July 2022; USDA-RD, "MPPEP,"March 7, 2022.