

# What Price Chicken Wings?

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*Chicken wings, long considered trash, are now the snack food of choice for Americans watching the Super Bowl, and are often more expensive than breast meat. How does the market work, when each bird can produce only two wings?*

*Wally Thurman is an agricultural economist who spent most of his career at North Carolina State University studying agricultural markets, including the poultry industry.*

**Wally Thurman:** Modern boilers don't live that long. I like to ask people at cocktail parties what age they think the boiler was when it was slaughtered. The broiler, the chicken they just ate. And they'll say, Oh, you know, a couple of years. Well, the answer is seven weeks. It is part of the remarkable thing about chicken as a protein source. Over the course of that seven weeks, they convert two pounds of feed into a pound of meat. They only need two pounds of feed per pound of meat. Now, you compare that to other sources of animal protein. I don't know the exact numbers, but hogs are in the order of eight to ten pounds of feed over the life of the hog to produce a pound of pork. Beef cattle, we're talking 15 or more pounds of feed to convert into a pound of beef. So it's a very efficient means of producing chicken.

I call it the economics of production in fixed proportions. Every chicken has two wings. So a billion chicken wings amounts to half a billion chickens. And at the same time, you can't produce chicken wings. There's not a chicken wings industry. There's a broiler chicken industry. And when they produce chickens, produce — the way we describe them — two portions of breast meat, two wings, two thighs, et cetera. And so somehow the market has to clear. If there are half a billion chickens produced, it has to clear all those quantities produced, and there are rather different uses for the different parts of the chicken.

Some are substitutable one for the other. Consumers might be price sensitive to thighs versus legs versus breast meat, but for the most part there are sort of dedicated uses of chicken — and chicken wings is the greatest example.

It's a great example because when Super Bowl rolls around in the United States, that is the Super Bowl party snack of choice. And so there's a big spike in demand for chicken wings. Now, people don't stop eating breast meat at the same time. And so, we could talk about this in more detail, but in short, when there are a lot of chicken wings demanded ... The chicken producers anticipate this, Super Bowl is a fairly predictable thing, and they produce more chickens. And as economic theory says, the price of wings is going to go up due to the increased demand for wings. But there's no increase in demand for chicken breasts at the same time. And so you get more wings produced, which means more chickens, which means more breast portions, which means that people out there not caring about the Super Bowl find that there are a whole lot more chicken breast portions on the market. Grocery stores need to cut their prices to clear the market so they don't end up accumulating inventories of breast meat. And so the price of breast meat goes down at the same time that the chicken wing price goes up. That's the economic logic.

**Jeremy:** So does that mean that that people who eat chicken wings during the Super Bowl are subsidising people who eat chicken breasts in the weeks after the Super Bowl or possibly even the weeks before the Super Bowl?

**Wally:** Yes, exactly. You might you might quibble with the use of the term subsidised, depending on what you mean. But it is certainly true that a consumer who is not a wing consumer, but is a breast meat or drumstick consumer, benefits from this increase in demand for chicken wings. So yeah, they're subsidised in a sense, which is not the usual situation. If the demand for bread goes up and you and I both are consumers of the same loaf of bread, well, we have to pay a higher price. So that's not a good thing. But this is a complementary output. Not the same output whose demand is increased.

**Jeremy:** And what happens the rest of the year? I mean, what happens to the relationship between wing prices and, I don't know, thighs or breasts in, say, July?

**Wally:** It would revert to the pre-Super Bowl normal. And you can see this in the data now, a peak in the ratio of wing price to breast meat price leading up to the Super Bowl. And then that ratio goes down afterwards. Wings become more affordable compared to breasts the rest of the year. So it's a constant tug, if you will, among demands for the different portions. It all stems from the fact chickens are produced in fixed proportions. Producers of chickens don't particularly care what the relative prices of parts are. They care about what the sum total of their chickens produced are worth. And different consumers consume different parts.

**Jeremy:** Are people freezing, are producers freezing, chicken wings through the year to ensure they have stocks? Or is this all kind of happening on a more or less real time basis that producers, you know, seven eight weeks ago were producing a load of chickens because they knew they'd need wings.

**Wally:** That's a really good question and I don't know the answer to it. My impression is that the poultry producers themselves are not freezing large quantities of wings or any parts to hold an inventory. There is some freezing going on for transportation and there might be anticipatory stockholding and freezing going on by food brokers after the level of the chicken producers. But the short answer is, I don't know. That would be a rational economic response to how to get more wings. Really, it's a problem of shifting wings from a non high demand period into a higher demand period.

**Jeremy:** And so I guess a rational Super Bowl party giver would actually get chicken breasts and prepare them themselves.

**Wally:** Yes, that's correct. And in fact, there's even an innovation in the industry when wings are very expensive. They create wing-like things out of other parts, out of legs. So.

**Jeremy:** Wing shaped chicken nuggets?

**Wally:** Yeah, yeah. And it's interesting because from a historical perspective, wings have always been low value, almost byproducts of the chicken. And so the chickens over time have been bred to produce higher proportions of breast meat, which has typically been the premium cut. And so now it's a bit of a reversal with the, you know, in recent years the resurgence of interest in chicken wings.

**Jeremy:** Yeah. There's another bit of the chicken that I think is really interesting and that I don't think that'll ever become a high value item in America. And that's chicken feet. But I've eaten chicken feet in China. They're kind of considered a delicacy. Do the chicken feet from America end up in, I don't know, pet food? Or do they end up in China?

**Wally:** A lot of them end up in China. I can't give you the exact breakdown, but in the trade, chicken feet are known as paws, and the United States exports a lot of paws to China. You used the term subsidise earlier. And I think the same applies here.

So it is not part of culinary culture in America to eat chicken feet, put into soups. They are used in pet food. Some of the so-called byproducts, the lower valued parts of the chicken, are sold for pet food in the States. But if there's an export opportunity for paws in China, which there is, that adds to the aggregate demand for a bird. The poultry producer can sell its wings and breast meat et cetera in the United States and then add on to that the value of the paws now being exported to China. Of course, there's transportation costs involved, and those are important, but nonetheless, it adds to the value of the chicken. If you imagine opening up this trade opportunity of the United States selling chicken paws to China, the Super Bowl logic applies here. An increased demand for birds through the increased demand for paws induces US producers to produce more chickens. The paws get sent to China, but there still are more birds and more breast portions and more of everything else in the United States. And that drives down the price as people have to move down their demand curves to clear the market. So Chinese consumers are subsidising US consumers.

**Jeremy:** I think I read somewhere that before this market opened up, US chicken producers had to pay somebody to take the feet away. And now people are willing to pay them for the feet. So that must make quite a change.

**Wally:** Yes, there are various parts of the chicken that are left over, if you will, once the standard grocery store cuts are portioned out. And sometimes there's a good market for this offal. And processors pay chicken producers for those parts. But when the market is not so good for that, demand for pet food is low, say, producers actually have to pay the processors, the offal processors to take it. So it's a

situation where sometimes it commands a positive price and sometimes you have to pay people to take it away.

**Jeremy:** And one of the other things that interests me about the whole chicken breast thing is that you can buy skinless chicken breasts. You can get skinless chicken thighs as well. But leaving aside the fact that, as a cook, I like the fact that the skin is on there, what happens to the skin? The skin of a skinless chicken breast. Does that end up anywhere that you're aware of?

**Wally:** It definitely goes somewhere. And yeah, I too am a fan of chicken parts with skin on them, or whole chickens too. There are a lot of products in the grocery store aisle that depend on byproducts of poultry. And if you look at the United States, Swanson's chicken stock, pre-made broth or stock, that's ... I don't know precisely, but that has to be where a lot of that skin goes because so much of the flavour and fat is contained in the skin layer. But that's a guess. Some of it may just go into this rather heterogeneous category of offal that might get turned into pet food.

**Jeremy:** And when it comes to larger animals with longer lifespans, do the same considerations apply? I mean, I wonder whether, for example, the mania for bacon means that the price of other bits of pork is relatively lower than it would be if people weren't so crazy keen on bacon.

**Wally:** Yeah, I think the same logic applies. I don't think there's any difference. We're still talking about fixed proportion production. It probably holds to less an extent to the longer lived meat animals because there's more variability in the beef cow, purely grass fed and a lower fat content of its meat. Or is it grain fed? And there's less regularity to the production recipe, if you will, for some of these other animals. That being said, the pork bellies from which bacon comes, it's going to, by the same Super Bowl logic, is going to reduce the price of pork loins and the hocks and other things.

I mean, I will note just a historical interest. Futures markets, the Chicago Mercantile Exchange in the United States, a venerable market in which commodities were traded. It never ... It didn't trade other parts of the meat, but it would trade pork bellies. Reason for that, I think, being twofold. One is they were a very valuable part of the animal, and also they were cured. And so it could be more easily stored and transported.

**Jeremy:** From the point of view of restaurants, suppliers, manufacturers. How important is it for them to keep an eye on sort of the relative prices of different bits of meat? And how important is it for them to simply assure themselves that they're going to have enough in total?

**Wally:** I don't have a good feel for that. I think one principle is that a fairly small cost share of retail food items is accounted for by the commodity underlying it. You know, famously a box of Wheaties cereal, the cost share of wheat in Wheaties is 3%, 5%. The rest is other ingredients, manufacturing, marketing. That's true in spades for a restaurant. So I'd be surprised if changes in commodity prices had a lot to do with the offerings.

**Jeremy:** Well, I mean, the very fact that there are these reconstituted meats like chicken nuggets, they can make those out of any old bit of chicken, I suspect, and presumably do.

**Wally:** Uh, yeah, I think the recipes for chicken nuggets are a little more specialised than you might think. They're not a catch-all category, especially the name branded ones. The offal does not go into chicken nuggets, of that I'm confident.

**Jeremy:** Oh no, I agree. But if thighs were cheaper than breasts, then you might use more thighs one day and more breasts the next day.

**Wally:** There would certainly be a strong incentive to do that. Although the machinery, the machinery that produces these items is surprisingly high tech. If you have an image of a chicken processing plant as being a lot of people in white smocks with cleavers, you're off by about a century. Modern processing plants are amazingly efficient and populated with artificial intelligence machinery that sizes up carcasses coming down the line. So in some sense that that makes things a little less flexible, if you have a recipe that is based on a specialised machine that is making nuggets out of certain cuts of meat. That's going to make it a little more difficult to respond to day to day, month to month changes in prices.

**Jeremy:** Does that same sophistication apply to the actual portioning of a carcass?

**Wally:** Yeah, the short answer is yes. Machine readers that can detect the variable shapes coming down the assembly line and cutting off just

the right breast portion so that it is uniform itself. That application is one of the prime applications of this sort of technology. And it's everywhere too. If you go outside of food production, it's the way the lumber mills process logs and decide how much of it is going to go into plywood and how much of it into planks and how much of it into sawdust.

**Jeremy:** So the kind of prejudice that I start off with, which is: why do people buy portions of chicken when they could buy a whole chicken and get a lot more for their money? I guess it's the sophistication of the portioning and the ease, the ease with which it enables you to eat a chicken, and you're paying for that instead of putting your own input in.

**Wally:** Yeah, I think you've nailed it on the head. I think it is certainly true, obvious to anybody of a certain age, that it's almost difficult to find a whole chicken. Now the norm is to buy it in parts. And really you're buying not just the chicken, you're buying the embodied labour in the way I think about it. You could take a whole chicken home and, in however long it takes you and whatever skill level it requires to do so, you can cut it into the parts that you want. Or you can implicitly pay Tyson, a large poultry integrator, to do that portioning for you.

And a lot of this has to do with participation in the labour force. I know a standard story over the last half of the 20th century, in every Western country anyway, was increased female participation in the labour force. And there was no longer a housewife in many homes who specialised in home production, including home production of meals. And so what do you do? Well, we could talk about all the reasons for that increase in female labour force participation, but it's a fact. The opportunity costs of having a housewife at home, cutting a chicken, got to be too great. They had market opportunities. They could go out in the market, make more money, and then, as a substitute at home, you buy more expensive food that embodies the labour that was formerly expended by the cook.

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