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Flipping Awful

Why the NFL should replace the overtime coin toss with an auction system.

By Tim Harford

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If the Super Bowl goes into overtime for the first time ever, it's fairly certain who will be victorious: the team that wins the coin toss. In the first round of the playoffs, the [Chargers beat the Colts 23-17 in OT](#), marching down the field for a touchdown after

winning the toss. In the 14 overtime games that produced a winner this season, the coin-toss victor won 10 of the games, more than 70 percent. Since 2002, the team that's gotten the toss has won more than 60 percent of overtime games.

Chess faces a similar problem—it's generally regarded as an advantage to play white. But the chess world has long had a solution: Take it in turns and play a lot of games. That's easy for the chess guys—they have all the time in the world, and more forgiving TV schedules. College football has a similar philosophy, giving each team the ball at the opponents' 25-yard line and alternating possessions until someone breaks the tie. But the NFL's competition committee, which pondered the overtime problem in depth in 2003, decided to stick with the status quo of "sudden death."

With a little ingenuity, there is a way for overtime to be both fair and fast. One solution is usually associated with cake-cutting: one person divides, the other chooses which half to take. In a football overtime, the divide-and-choose rule would dispense with the kickoff and just give the ball to one side. The coin-toss loser would decide how far forward the offense would start—say, the 30-yard line. The coin-toss winner would then decide whether to take possession or let the coin-toss loser have the ball at the 30. The nice thing about these rules is that they would naturally adapt to the game's changing dynamics. The current system, by contrast, seems to have been fair when introduced in 1974, but as field-goal kickers became more accurate, possession has become more valuable.

"Divide and choose" isn't perfect. The coach who divides is at a small disadvantage, because what he does gives a hint about his thinking and his concerns—all sorts of imponderables from his kicker's form in training to the morale of his defensive lineup. The other coach, however, can keep his cards to his chest until the last moment.

An even more elegant solution to the overtime problem was proposed in 2002 by Chris Quanbeck, an electrical engineer (and Green Bay Packers fan). Quanbeck's idea was to [auction off possession of the ball](#) in the natural currency of the game: field position. The team that was willing to begin closest to its own goal line would receive the privilege of possession.

Football's [number crunchers](#) reckon that this "privilege" turns dubious [about 15 to 20 yards](#) away from your own goal line. That is, the expected value of having the ball so far back is negative—it's more likely that your opponent will score before you do. But it's not clear that the same would be true in overtime, when teams would be attempting to get within field-goal range rather than trying for touchdowns. If this



system were implemented, it might take a couple of seasons for a consensus to develop about how far back is too far back. Still, everyone would be trying to work that out from a position of equal ignorance.

The auction idea puts the emphasis on the skill and judgment of the head coaches and their backroom staff—exactly where it should be. And it has some subtlety. For instance, having a powerful defense has an unexpected advantage in an auction: Because the other coach will fear your defense, he's more likely to drop out of the auction and concede possession to your offense in a favorable field position.

After Quanbeck and his brother Andrew worked out the details of their overtime proposal, they wrote letters to various NFL owners and coaches in 2003. They won some attention—including an expression of interest from the NFL's head of officiating, Mike Pereira—but no changes in the rules of the game.

One person who did notice the Quanbeck proposal was Columbia University economist [Yeon-Koo Che](#), a leading light in the theory and practice of auction design. Che wrote not to the NFL but to the economics journals and proved that "divide and choose" was much fairer to the loser of the toss than the current system. But what interested Che and co-author Terrence Hendershott was whether an auction might be even fairer than "divide and choose." [They concluded that it would be](#), because the auction is completely symmetric—unlike with the "divide and choose" method, neither coach is forced to make the first move, so nobody has a built-in advantage. For Che and Hendershott, then, "divide and choose" partly solves the coin-toss problem; the auction fixes it completely.

While it's easy to see why the game's authorities don't want to mess with a successful formula, I'm guessing that the overtime auction would prove intuitive and popular. Just imagine the possibilities for stagecraft. The Quanbecks suggested that the referee could act as an auctioneer, calling out the field position in 1-yard increments. The first coach to throw his red challenge flag wins the ball at whatever yard line the ref last spat out. Or perhaps the two head coaches could come to midfield with sealed bids, with the envelopes to be opened by a cheerleader representing each team—a gridiron version of *Deal or No Deal*. Now doesn't that sound way better than calling out heads or tails?

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