Age of Entry into the Labor Market and Career Success: The Case of National Football League

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The National Football League (NFL) has had several complications since its inception in June 1966. One major recurring issue is that of the age eligibility rule in collegiate and professional football (Anderson, 2008). According to Bianchi (2006), age requirements in professional football do not benefit young athletes, nor do they improve the sport itself. The current age requirement for the NFL benefits the National Collegiate Athletic Association (NCAA), the player’s school, and the NFL more than the individual athlete. While their interests rest in the higher education and care of the student-athletes, the NCAA is the sole beneficiary of all profits athletes bring in, contradicting a purpose of the NCAA, which was established to protect individual athletes. Prior to the 1990, college football players were only allowed to enter the NFL draft after the completion of their senior season. When Paul Tagliabue, the new commissioner of the NFL, took over in 1989 he was praised as a player’s commissioner, as no strikes or lockouts occurred under his tenure. One of the first major changes Tagliabue made as commissioner was the age eligibility rule of collegiate athletes and their ability to enter the NFL draft. Commissioner Tagliabue made the rule change to allow any college football player, three years removed from high school, or after three college football seasons, the ability to enter the 1990 draft (McCann & Rosen, 2006).

Since the implementation of this rule change there have been many athletes who still have tried to challenge the NCAA over this issue and gain earlier entrance than the legislated three year time period. A few examples of athletes who have sought permission to enter the NFL draft earlier are Eric Swann, Larry Fitzgerald, and Maurice Clarett (Edelman & Wacker 2011). Currently the NFL age eligibility rule is premised on four main beliefs that deny a player the right to enter the NFL draft early: (a) they cannot meet the mental and physical demands of the NFL, (b) the risk of injury has significantly increased, (c) they would tarnish the image of the NFL and turn fans away, and (d) younger players may be more likely to engage in illegal acts such as steroid use in order to keep up with the demands of the sport (McCann & Rosen, 2006).

With ample ethical and legal controversy swirling, this study aims to analyze the relationship between age of entry into the labor pool and career success. Specifically, we examine the role of precocity on labor market outcomes of elite-level NFL players and, indirectly, test the on-field efficacy of the NFL’s age rule. Our use of the phrase “on-field” is deliberate and specific, as the aim here is to emphasize the “during game” football performance, not off-field issues such as “the value of higher education, purported socially irresponsible behavior or criminal activity, and the pecuniary aspects of being a professional athlete” (Rodenberg & Kim, 2012, p.1). This study relates to the previous research on using sports industry data to test economic hypotheses (e.g., Kahn, 2000). Sowell and Mounts (2005) examined the interaction between age and ability, postulating that “ability or talent, particularly physical ability, is inherent to the individual largely beyond choice…the relationship between age, ability, and performance is one of the most basic in all of economics” (p. 79). Therefore, this study sheds light on whether the age of entry into the labor market impacts career success.

Data were collected from publicly available sources, including Pro-Football-Reference.com and the official website of NFL.com. Our data set comprises all NFL first round draft picks from 1975-2005 with 896 observations. While the NFL’s annual draft is comprised of seven rounds in reverse-order based on overall record, apart from any trades, our focus on the first round is for practical reasons. Career and biographical data for obscure players drafted in later rounds were not available. We bifurcated our sample in two distinct ways to account for censored data (69 out of the 896 players in our full sample were active during the 2013-2014 NFL season) and highlight year effects in the spirit of a regression discontinuity design. The 31-year period with 1990 as a mid-point was important to our study design given that in 1990, for the first time in league history, the NFL reduced its age requirement by one year.
Our estimating equations include the following player-level independent variables: age of NFL entry (AGE), weight (WT), and ordinal data pertaining to draft pick slot (DRFT), which indicates a relative ranking and reasonable proxy for talent. The following time-constant dummy variables were also included in our estimation: playing position (PSTN), and race (RACE). Our variable of interest was AGE. To test our hypothesis that age of entry has effect on NFL career, we adopted multiple dependent variables, as there is no consensus measure of NFL career success: weighted career approximate value (CARAV), NFL career year (CRYR), years as primary starter (YRPS), pro bowl selection (PRBS), and all-pro selection (APS). Our dependent variables were modeled using a censored normal regression estimator because some of the players are still active players so their NFL careers have yet to end (Wooldridge, 2009). To replicate the natural experiment approach (see Rodenberg & Kim, 2012), we included a dummy variable that halves our full sample: 1975-1989 (sub-sample #1- before the rule change) and 1990-2005 (sub-sample #2- after the rule change). Using 1990 as an equalizing fulcrum for our 31 year sample is intuitive and practical.

Across each of the five dependent variables (CARAV, CRYR, YRPS, PRBS, and APS), we found that players who enter the NFL at a relatively younger age have more successful on-field careers. The importance of such precocity is consistent across all the five dependent variables. Likewise, players who entered the league after the rule change, have relatively longer years as primary starters than those who entered the league before the rule change. Our estimates similarly revealed that players who entered the league after 1989 were likely to earn a CARAV that is 4.6 higher over the course of their NFL career. Unsurprisingly, a player’s draft position was a good proxy for talent, as DRFT was significant at the 1% level across all specifications (see Staw & Hoang, 1995, for a review). Weight was the only statistically significant predictor of YRPS. There was weak and conflicting evidence pertaining to the predictive value of a player’s position. We also found that there is no evidence that race predicts NFL career success.

Our results show that the younger a player is when he first enters the NFL labor market; the more successful he is likely to be. Our results also point to NFL teams making prudent draft-day decisions. Although the NFL age eligibility rule is premised on four main beliefs that deny a player the right to enter the NFL draft early (e.g., mental and physical level, the risk of injury, image of the NFL, illegal acts; McCann & Rosen, 2006), our findings cast doubt on the long-term on-field efficacy of the NFL’s age rule.