**Profesor Magar:**

Adjunto a continuación varios papers que hablan sobre la imposibilidad de predecir el éxito de un QB en la NFL a partir de su desempeño en college. Copié párrafos que consideré relevantes y que resumen los hallazgos del autor(es). Para la nota metodológica por favor consulte los links. Espero sea lo que buscaba y sea útil para la talk.

Julio

**THE QUARTERBACK PREDICTION PROBLEM: FORECASTING THE PERFORMANCE OF COLLEGE QUARTERBACKS SELECTED IN THE NFL DRAFT**. By Julian Wolfson, Vittorio Addona and Robert H Schmicker (2010) <http://www.sph.umn.edu/faculty1/wp-content/uploads/2012/11/rr2010-022.pdf>

“Using data on all quarterbacks drafted since 1997, we considered the problem of predicting NFL success as defined by two metrics (games played and Net Points), based on when a quarterback was drafted and his performances in college and at the NFL Combine. Our analyses suggest that college and combine statistics have little value for predicting whether a quarterback will be successful in the NFL. Contrary to previous work, we conclude that NFL teams aggregate pre-draft information – including qualitative observations – quite effectively, and their inability to consistently identify college quarterbacks who will excel in the professional ranks is a consequence of random variability in future performance due to factors which are unlikely to be observable”. (pag 1)

“But in spite of the enormous volume of information available about draft-eligible quarterback prospects and the hundreds of person-hours spent assessing each player’s abilities, it remains common for quarterbacks to perform dramatically better or worse than anticipated. Several current or recent NFL starting quarter- backs (e.g. Tom Brady, Matt Hasselbeck, Marc Bulger, Matt Cassel, Kyle Orton, and David Garrard) were drafted in the fourth round or later, meaning that at least 100 players, including a number of quarterbacks, were selected before them. Others (e.g. Kurt Warner and Tony Romo) went un-drafted entirely. Moreover, several quarterbacks selected with one of the first five picks overall (e.g. JaMarcus Russell, Tim Couch, Akili Smith, Ryan Leaf, and Heath Shuler) have played very poorly in the NFL”. (pag. 2)

“If, as much of this work suggests, NFL teams are poor at identifying college prospects who are likely to succeed as NFL quarterbacks, two possible explanations are:

1. NFL teams may aggregate available information sub-optimally, emphasizing some attributes which do not correlate with NFL performance, and de-emphasizing other attributes which are more predictive of NFL success.
2. The variability in individual performance due to random, unmeasurable factors may make prediction inherently difficult, even if all avail- able information were used optimally“. (pag 3)

“First, we base our analyses on all quarterbacks drafted into the NFL, not only on those who have played in at least one NFL game. Second, we explicitly estimate the predictive ability of our models to assess the inherent difficulty of the quarterback prediction problem”. (pag. 3)

“Once a college quarterback has been drafted onto an NFL team, that team’s coaches can observe his performance in training camp, team practices, and exhibition games before deciding whether or not to allow him to play in a regular season game. While one might assert that coaches and team personnel are beholden to draft status and other auxiliary factors when making these decisions, an alternative explanation for Berri and Simmons’ surprising findings is that they reflect selection bias. That is, quarterback performance is unrelated to draft status conditional on an NFL coach deeming a quarterback sufficiently skilled to play professionally, but quarterbacks drafted in the earlier rounds are far more likely to possess this minimum skill level and reach the 100-play threshold”. (pag 5)

“For our analyses, we considered two cumulative statistics quantifying NFL performance:  
1. Games played. Counts the total number of NFL games in which a quarterback has been involved in at least one play. In our analyses, we treated games played as an integer-valued random variable, and also considered three binary variants (…)   
2. Net Points. Berri and Simmons (2009) used a statistic, Net Points, which quantifies how many points a quarterback contributes to his team based on cumulative statistics (...) (pag 6)

**“Predictors**. We considered the following predictors of NFL perfor- mance in our regression models: Draft position (Pick), year drafted (Year), passing statistics compiled during a quarterback’s college career, and mea- surements from the NFL Scouting Combine (including Height and Weight)”. (pag 6)

**“College and combine statistics for drafted quarterbacks are not reliably associated with, or predictive of, success in the NFL:**

In sports statistics circles, much has been made about a projection sys- tem (Lewin, 2006) for quarterbacks which uses the number of games started in college and college completion percentage to predict future NFL suc- cess. In our analyses, these variables were only associated with an indicator of playing at least 48 NFL games, but they were not related to any of our other outcome measures. Generally, college and combine performance statis- tics provided no additional predictive ability beyond year drafted and draft position. Indeed, in most cases, including college/combine measurements degraded predictive performance, suggesting that the amount of statistical noise in these predictors overwhelms any predictive value they might have.

**The quarterback prediction problem is inherently difficult:**

Though it appears that NFL teams do have some ability to discriminate between quarterbacks who are likely to be successful in the NFL and those who are not, there remains substantial uncertainty in predicting the future perfor- mance of college quarterback prospects. Even the best-performing predictive model for the indicator of playing at least 16 NFL games had a misclassifica- tion rate over 30%. Similarly, the smallest estimated prediction error for the integer-valued games played outcome was nearly 20 games, over one seasons’ worth. The smallest estimated prediction error for Net Points was greater than 125 points, a threshold achieved by fewer than 30% of the quarterbacks in our dataset.

Given the poor predictive performance of models incorporating a variety of quantitative measures, it seems unlikely that collecting more statistics on the performance of college quarterbacks will yield a clearer picture about their likelihood of success in the NFL”. (pag 16)

**How do we hire when we can’t tell who’s right for the job? Malcolm Gladwell.** [**http://www.newyorker.com/reporting/2008/12/15/081215fa\_fact\_gladwell?currentPage=2**](http://www.newyorker.com/reporting/2008/12/15/081215fa_fact_gladwell?currentPage=2)

\*El paper que cita Gladwell es *Catching a draft: on the process of selecting quarterbacks in the National Football League amateur draft* de Berri y Simmons. Su paper no se puede consultar ($$$). Sus resultados, según el abstract, es que existe una débil correlación entre las evaluaciones de los equipos en el día del draft y su participación subsecuente en la NFL. Encuentran que las variables para elegir la posición de los jugadores durante el draf (primera selección, segunda, iésima) no tienen relación con desempeño como profesionales.

A college quarterback joining the N.F.L, by contrast, has to learn to play an entirely new game. Shonka began to talk about Tim Couch, the quarterback taken first in that legendary draft of 1999. Couch set every record imaginable in his years at the University of Kentucky. “They used to put five garbage cans on the field,” Shonka recalled, shaking his head, “and Couch would stand there and throw and just drop the ball into every one.” But Couch was a flop in the pros. It wasn’t that professional quarterbacks didn’t need to be accurate. It was that the kind of accuracy required to do the job well could be measured only in a real N.F.L. game”.

“Similarly, all quarterbacks drafted into the pros are required to take an I.Q. test—the Wonderlic Personnel Test. The theory behind the test is that the pro game is so much more cognitively demanding than the college game that high intelligence should be a good predictor of success. But when the economists David Berri and Rob Simmons analyzed the scores—which are routinely leaked to the press—they found that Wonderlic scores are all but useless as predictors. Of the five quarterbacks taken in round one of the 1999 draft, Donovan McNabb, the only one of the five with a shot at the Hall of Fame, had the lowest Wonderlic score. And who else had I.Q. scores in the same range as McNabb? Dan Marino and Terry Bradshaw, two of the greatest quarterbacks ever to play the game”.

“The problem with picking quarterbacks is that Chase Daniel’s performance can’t be predicted. The job he’s being groomed for is so particular and specialized that there is no way to know who will succeed at it and who won’t. In fact, Berri and Simmons found no connection between where a quarterback was taken in the draft—that is, how highly he was rated on the basis of his college performance—and how well he played in the pros”.

**Passing on Success? Productivity Outcomes for Quarterbacks Chosen in the 1999-2004**. **National Football League Player Entry Drafts. Quinn, Geier, Berkovitz.**

<http://college.holycross.edu/RePEc/spe/Quinn_NFLQBDraft.pdf>

Seventy quarterbacks were selected during six NFL drafts held 1999-2004. This paper analyzes information available prior to the draft (college, college passing statistics, NFL Combine data) and draft outcomes (overall number picked and signing bonus). Also analyzed for these players are measures of NFL playing opportunity (games played, games started, pass attempts) and measures of productivity (Pro Bowls made, passer rating, DVOA, and DPAR) for up to the first seven years of each drafted player’s NFL career. We find that more highly-drafted QBs get significantly more opportunity to play in the NFL. However, we find no evidence that more highly-drafted QBs become more productive passers than lower-drafted QBs that see substantial playing time. Furthermore, QBs with more pass attempts in their final year of more highly-ranked college programs exhibit lower NFL passing productivity.

**The NFL Combine and Draft: Correlation and implications for NFL success by Lyndon Plothow** <http://news.byu.edu/releases/archive10/Apr/Paper.pdf>

“When predicting draft position for quarterbacks earlier I discovered that few variables were significant likely because the quarterback is a highly demanding position with varied responsibilities which defy numerical assignations. It would hold then that NFL scouts would do much better at predicting success in the NFL than empirical analysis because they have access to these data. To test this hypothesis I ran several regressions with different independent and dependent variables. I use the adjusted r-squared of these regressions to measure how well each model can predict success because this controls for number and quality of variables used.

When it comes to productivity scouts are very good; just draft position can explain almost half the variation in average passing yards. College data is able to explain about .9% of variation and including the combine adds another 16% of predictive power. The draft is also much better at predicting longevity better, explaining up to 6.4% of variation; although, this is still a very low number.

This speaks well for the non-empirical aspects of the combine. NFL executives acquire much information about quarterbacks that accurately predict future success. As seen before empirical analysis is unhelpful in measuring quality of quarterback”.

**Regression analysis: predicting profesional success in quarterbacks. Jared Hottle** <http://news.central.edu.s3.amazonaws.com/wp-content/uploads/2013/01/Jared-Hottle-Senior-Thesis.pdf>

“Using both collegiate and professional statistics regressed against winning percentage and wage, this study attempted to find a predictive model for quarterback success. The first model, The Present Indicators of Success Model, attempts to predict success using a quarterback’s current professional statistics. This model performs moderately well at predicting quarterback success and compensation, and is correct in predicting undervalued and overvalued quarterbacks. The second model, The Past Indicators of Success Model, uses a quarterback’s collegiate statistics to attempt to predict professional success. The Past Indicators of Success Model is ineffective in predicting success, but is useful in refuting some conventional wisdom of past indicators of success. These models reinforce the idea that success in the NFL Draft is still more a result of luck than science. One thing this model does suggest is that there are inconsistencies in what statistics are relevant to quarterback success and which ones are relevant to compensation. This study offers a baseline for future research as it is one of the first to use regression analysis to predict success and compensation in NFL quarterbacks”. (17-18)

Otro:

**Uncertainty, Hiring, and Subsequent Performance: The NFL Draft by Hendricks, DeBrock, Roger Koenker** <http://law.psu.edu/_file/Sports%20Law%20Policy%20and%20Research%20Institute/hendricks%20uncertainty%20and%20nfl%20draft.pdf>