

One and Done: A Data-Driven Analysis

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This study provides a data-driven analysis of the “one-and-done” policy for early entry into the NBA draft. The NBA, NCAA, and NBPA have all expressed some dissatisfaction with the policy, and the potential CBA negotiations in 2017 present the NBA and NBPA with an opportunity to improve it. Our analysis demonstrates that (1) there is a natural downward trend in entry age, which was shifted upward by the one-and-done policy; (2) players who delay entry and play in the NCAA do not make up the foregone earnings; (3) NBA teams are no more accurate in projecting player value when drafting players with more NCAA experience; (4) NBA teams are no more accurate when drafting players since the introduction of one-and-done; and (5) NBA teams are more accurate when drafting players earlier in the draft.

In the context of these findings, we discuss options for improving the policy. These include (a) modifying the rookie scale to compensate players for NCAA participation, and (b) introducing an entry threshold that allows only the best players to enter the NBA, while allowing others to develop in the NCAA. We also discuss options for compensating college athletes, including allowing players to receive revenue from endorsements and licensing.

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1. Introduction

It has been said that “a good compromise is one where both parties are unhappy.” If this is true, the National Basketball Association’s (NBA) current policy regarding early entry into the draft is one of the greatest compromises in modern sports. The policy was implemented as part of the 2005 Collective Bargaining Agreement (CBA) between the NBA and National Basketball Players Association (NBPA). Known as the “one-and-done” policy, it requires all players to be 19 years old and one year removed from high school graduation before entry into the NBA draft.¹

Prior to the 2005 CBA negotiations, ten high school players entered the draft in 2004 and eleven in 2005 – more than ever before. See Figure 1. During the negotiations, the NBA argued for a two year restriction on entry, the NBPA argued for no restriction, and the resulting compromise was the one-and-done policy. Today, none of the parties involved appear satisfied with the current policy, and the debate continues.

The NBA wants to raise the entry age limit. It argues that doing so will (1) allow NBA teams to make more informed draft picks, (2) provide increased opportunities for players to mature in a collegiate environment, and (3) improve the quality of NCAA basketball.²

The NCAA also wants to raise the NBA entry age limit. It argues that the one-and-done policy leads to high player turnover, which (1) lowers the quality of NCAA basketball, (2) reduces player chemistry on college teams, (3) negatively impacts fan perception of players who stay in college for more than one year, and (4) causes compliance issues as some top players stop attending classes before they leave school.³

¹ NBA Collective Bargaining Agreement, Article X, Section 1, at 261.

² For example, NBA Commissioner Adam Silver has stated that “[O]ur draft would be more competitive if our teams had an opportunity to see these players play an additional year...”

See: CBS Sports Website, “NBA Commish Wants to Raise Age Limit, Calls One-and-Done ‘A Disaster,’” 2/14/2014, <http://www.cbssports.com/collegebasketball/eye-on-college-basketball/24443113/nba-commish-adam-silver-one-and-done-a-disaster-favors-raising-age-limit>.

³ Boston Globe Website, “NBA and NCAA Should Rethink One-and-done Eligibility Rule,” 12/26/2013, <http://www.bostonglobe.com/sports/2013/12/26/nba-and-ncaa-should-rethink-one-and-done-eligibility-rule/WMo3qAisAAvhIEh64avARP/story.html>.

Orlando Sentinel Website, “College Hoops Coaches Want One-and-done Rule Changed,” 6/22/2010, http://articles.orlandosentinel.com/2010-06-22/sports/os-nba-draft-one-and-done-0623-20100622_1_college-basketball-draft-nba.

Star-Telegram, “NBA’s one-and-done rule draws mixed reviews,” 6/23/2014, <http://www.star-telegram.com/2014/06/23/5922451/nbas-one-and-done-rule-draws-mixed.html>.

The entering players want to eliminate NBA entry age restrictions altogether. They maintain that top high school players are ready to play and succeed in the NBA,⁴ and that a restricted entry policy unfairly limits the ability of players to earn a living.⁵

The potential round of collective bargaining in 2017, should either party opt out of the current CBA, presents the NBA and NBPA with an opportunity to improve the early entry policy for all parties.

Past discussion and analysis in the media has largely been anecdotal.⁶ Legal research on the one-and-done policy includes Shaffer (2008),⁷ McAleavey (2011),⁸ and Cavezza (2010).⁹ Rodenberg and Kim (2011) analyze the policy by running regressions of player statistics on player characteristics.¹⁰ In related research, Nate Silver combines win share and salary to estimate the average profit of each draft position.¹¹ With this study, we aim to contribute a data-driven analysis of player entry decisions and outcomes.

USA Today Website, "How One-and-done Has Changed College Recruiting," 2/17/2014, <http://www.usatoday.com/story/sports/ncaab/2014/02/17/how-one-and-done-has-changed-college-recruiting/5562865/>.

⁴ For example, Kobe Bryant of the Los Angeles Lakers stated in 2014 that "[p]layers who came out of high school...were more successful on average than players who went to college for a year or two or however long."

See: NBC Sports Website, "Kobe Bryant: College basketball system really isn't teaching players anything." 1/23/2014, <http://probasketballtalk.nbcsports.com/2014/01/23/kobe-bryant-college-basketball-system-really-isnt-teaching-players-anything/>.

⁵ New York Times Website, "Turn One-and-Done Into None," 6/28/2014, http://www.nytimes.com/2014/06/29/sports/basketball/turn-one-and-done-into-none-and-done.html?_r=2.

ESPN Website, "Concessions key to draft age talk," 5/10/2012, http://espn.go.com/nba/draft2012/story/_id/7916278/national-basketball-players-association-needs-player-perks-age-limit-go-up.

ESPN Website, "College Athletes Deserve to Be Paid," 7/18/2011, http://espn.go.com/college-sports/story/_id/6778847/college-athletes-deserve-paid.

⁶ For example, see: USA Today Website, "One and Done, But Never As Simple As It Sounds," 2/18/2014, <http://www.usatoday.com/story/sports/ncaab/2014/02/17/college-basketball-nba-draft-early-entry-one-and-done-rule/5552163/>.

Bleacher Report Website, "Why the NBA's 1-and-Done Rule Is Causing More Harm Than Good," 8/8/2013, <http://bleacherreport.com/articles/1723163-why-the-nbas-one-and-done-rule-is-causing-more-harm-than-good>.

⁷ Shaffer, Brian (2008), "The NBA's Age Requirement Shoots and Misses: How the Non-Statutory Exemption Produces Inequitable Results for High School Basketball," *Santa Clara Law Review* 48(3): 681–707.

⁸ McAleavey, Susan (2011), "Spendthrift Trust: An Alternative to the NBA Age Rule," *St. John's Law Review* 84(1): 279–304.

⁹ Cavezza, Steve E. (2010), "'Can I See Some ID?': An Antitrust Analysis of NBA and NFL Draft Eligibility Rules," *University of Denver Sports and Entertainment Law Journal* 9: 22–53.

¹⁰ Rodenberg, Ryan M. and Jun Woo Kim (2011), "Precocity and labor market outcomes: Evidence from professional basketball," *Economics Bulletin* 31(3): 2186–2190.

¹¹ FiveThirtyEight, "How Much is Winning the (NBA Draft) Lottery Really Worth?" 5/20/2014, <http://fivethirtyeight.com/features/how-much-is-winning-the-nba-draft-lottery-really-worth/>.

2. Data and Methodology

We obtain data on players and entry decisions from RealGM Basketball, draft picks from NBA.com and NBADraft.net, and annual salaries from Basketball-Reference.com.¹² The full sample includes 1,417 players who declared for early entry into the NBA draft between 1998 and 2014, were drafted during these drafts, or received NBA salary after they completed their NCAA eligibility.¹³ Most of our analysis is on players who declared for the draft prior to the one-and-done policy because we are able to observe their salary over several years. The sample of players from before the one-and-done policy includes 479 players: 44 high school entrants, 32 freshman entrants, 77 sophomore entrants, 117 junior entrants, and 209 seniors.

We evaluate player success based on draft pick and NBA salary. We choose these metrics to evaluate players because they represent each player's market value. A player's draft pick represents his perceived market value when entering the NBA, while salary indicates his realized value at each point in his career. Other measures such as in-game statistics, championships, and awards are not included in our analysis because they may be biased by the player's teammates, coaches, short-term injuries, and other factors.

We adjust all salaries from before 2013 to NBA 2013 dollars to account for the rise in NBA salaries from 1998 through 2013. For each year, we compute adjusted salary to be actual salary \times salary cap in 2013 \div salary cap that year. All reported figures are adjusted salaries.

Players from outside the United States who did not play in the NCAA ("international players") are excluded from the main analysis and results because they are not subject to any early entry policy. These players comprise 14% of the overall sample. Their exclusion should not impact our estimates of draft likelihood when comparing pre one-and-done and post one-and-done players, because the share of international players in the sample is relatively flat over time. Their average draft pick has been increasing over time by 0.6 per year (i.e., selected later in the draft), which means draft picks for United States players may be biased slightly

¹² RealGM, "NBA Draft Early Entrant & Withdrawal List," http://basketball.realgm.com/nba/draft/early_entry/by_year/ (accessed 11/18/2014).

NBA Website, "NBA Draft History," <http://www.nba.com/history/draft/index/index.html> (11/18/2014).

NBADraft.net, "2014 NBA Draft," http://www.nbadraft.net/nba_draft_history/index.html (accessed 11/18/2014).

Salaries for each player acquired from respective player profile page. For example, see: Basketball-Reference.com, "Andrew Wiggins," <http://www.basketball-reference.com/players/w/wiggian01.html> (accessed 12/8/2014).

¹³ All players are eligible for the draft after they have completed NCAA eligibility. For example, seniors who have completed four years of eligibility do not have to declare for the draft.

downward after the one-and-done policy. We expect this bias to be independent of entrant age; thus, it does not affect the main results of our analysis.

3. Analysis

3.1 There is a natural downward trend in entry age, which was shifted upward by the one-and-done policy

Players have been entering the NBA at younger ages, indicating that the economic forces incentivizing players to enter the NBA early are increasing. The one-and-done policy caused a one-time upward shift in average entry age, yet it did not impact the overall trend. See Figure 2.

There are at least three economic forces that reasonably explain the downward trend in entry age. First, players develop more quickly today due to more efficient training and coaching technologies. Young players are relatively more skilled and NBA-ready than their counterparts from earlier generations. Second, coaches and scouts are more aware of top prospects as a result of increased information availability. Third, the opportunity cost of playing in the NCAA has increased substantially—i.e., NBA salaries have skyrocketed while NCAA benefits have remained relatively unchanged.

These explanations, if true, will likely continue to drive the downward trend in entry age. If players are indeed developing faster, they will be more prepared for the NBA at increasingly younger ages, and the risk NBA teams take when drafting young players will diminish. As NBA salaries rise with the new television deal,¹⁴ the opportunity cost for players to delay entry into the NBA will substantially increase.

3.2 Players who delay entry do not make up the foregone earnings

Players generally wish to enter the NBA as early as possible for several reasons. First, high NBA salaries create a substantial financial incentive. For example, Andrew Wiggins, the

¹⁴ The NBA signed a new television deal in October, 2014. The salary cap is expected to increase substantially beginning in 2016-17. See: SBNation.com, "3 Consequences of the NBA's enormous new TV deal, 10/6/2014, <http://www.sbnation.com/nba/2014/10/6/6917877/nba-tv-deal-24-billion-player-salaries>.

number 1 draft pick in 2014, is earning \$5.5 million this year.¹⁵ The alternative is to forego NBA salary and play in the NCAA for limited compensation. Some proponents of a higher age restriction have argued that playing in the NCAA allows players to “grow and develop as people and basketball players.”¹⁶ In theory, the additional development would improve their draft picks and the players would eventually recoup their forgone earnings. However, data demonstrate that players who delay entry do not make up foregone earnings.

Figure 3 visually shows cumulative salary each year after high school for all pre one-and-done draft entrants who earned NBA salary.¹⁷ High school entrants get off to a head start, and the rest of the classes do not make up the difference through nine years.¹⁸ Figure 4 shows the raw differences in cumulative salary through nine years after high school. Cumulative salary through nine years decreases substantially with each entry class.

Raw salary differences alone do not tell the whole story. There is likely a selection bias in the data, causing a decrease in player ability with each entry class. For example, it is likely that the best players enter after high school, the best remaining players enter after freshman year, and so on, thinning the talent pool each year. To adjust for this selection bias, we compute average salary through nine years in the NBA for each entry class. These serve as proxies for the salary due to natural ability because they capture salary over the same amount of time.¹⁹ We attribute the differences in nine year NBA salary, shown in red in Figure 5, to differences in natural ability. The remaining difference in salary, shown in orange in Figure 5, is due to lost time. We estimate that the average high school entrant who is drafted would lose \$8.18 million by delaying one year, \$12.42 million by delaying two years, and \$14.20 million by delaying three years.

¹⁵ Basketball-Reference.com, “Andrew Wiggins,” <http://www.basketball-reference.com/players/w/wiggian01.html> (accessed 12/8/2014).

¹⁶ USA Today Website, “NBA Commissioner reiterates desire to raise age limit,” 4/24/2014, <http://www.usatoday.com/story/sports/nba/2014/04/24/nba-commissioner-adam-silver-wants-to-change-one-and-done-rule/8099083/>.

¹⁷ High school entrants were also more likely to earn NBA salary. Only 20% of high school entrants never earned an NBA salary, compared to 25% of freshmen, 43% of sophomores, and 39% of juniors.

¹⁸ We also ran this analysis for cumulative salary through thirteen years for entrants from 2002 or earlier. Through thirteen years, the average cumulative salary was \$63.25 million for high school entrants, \$43.87 million for freshmen, and \$49.85 million for sophomores. Again, freshmen and sophomore entrants do not catch up to high school entrants.

¹⁹ While this proxy is a step in the right direction, it is still imperfect. Seniors start later, so they have shorter careers, even holding ability constant. Further, players endogenously choose when to enter, and in theory they take into account how much they will develop in both the NBA and NCAA. Our approach in this paper assumes that the rates of development are similar in the NBA and NCAA.

The NBA rookie scale constrains salaries in a way that exaggerates the impact of lost time. Salaries for first round draft picks are constrained by a rookie scale for the first four seasons. To justify playing a year in the NCAA, one would have to argue a very optimistic improvement in draft pick to make up the lost salary. Figure 6 illustrates the level to which a player's draft pick must improve to make up the difference in salary during his first four years after high school. For example, a high school entrant drafted 20th pick earns approximately \$6 million in four years on the rookie scale (depicted by the red point). To justify one year in the NCAA, he would need to move up to 11th pick to earn a comparable \$6 million in three years (orange point), and he would need to move up to 5th pick to justify two years in the NCAA (grey point). The table to the right of the figure shows additional examples of pick improvements required to justify additional years in the NCAA.

Entering the NBA earlier means an earlier opportunity to exit the rookie scale and enter free agency. Successful players see major salary increases upon entering free agency. For example, Paul George's salary increased 385% from \$3.28 million to \$15.93 million during 2014-15, his fifth season in the league.²⁰ This change can be observed at the aggregate level by observing the change in slope after four years in Figure 3.

Second, in addition to salary, there are other benefits to entering the NBA as early as possible. Playing in the NBA offers substantial endorsement opportunities for top players, while current NCAA rules restrict college players from entering endorsement deals. For example, Wiggins is earning \$2 million in Adidas endorsements during his rookie season in 2014-15.²¹ The average NBA career is 4.8 years, so one year of lost endorsement earnings is substantial.²²

Third, while some players may develop faster in the NCAA, others may develop faster in the NBA. On one hand, playing in the NCAA offers the best young players more opportunities to play in high-pressure situations, develop leadership skills, and build a personal brand. On the other hand, NBA players enjoy professional coaching, training, and facilities. They have the opportunity to interact with professional teammates and play against better competition. These factors help facilitate players' professional development, and thus contribute to their wage-earning potential in the NBA. To the extent that players are required to attend university

²⁰ Basketball-Reference.com, "Paul George," <http://www.basketball-reference.com/players/g/georgpa01.html> (accessed 12/11/2014).

²¹ Bleacher Report, "Andrew Wiggins Signs Endorsement Deal with Adidas," 7/9/2014, <http://bleacherreport.com/articles/2123684-andrew-wiggins-reportedly-signs-endorsement-deal-with-adidas>.

²² ESPN Website, "Lockout: What Will the Players Do Next?" 12/3/2011, http://espn.go.com/nba/story/_/page/nextforplayers-111114/nba-players-do-next.

classes and complete course assignments, the NCAA may create distractions that are unrelated to the career and life skills required for professional basketball players.

Fourth, there is an ever-present risk that an injury in the NCAA will harm a player's draft pick, and thus prospects of playing in the NBA and earning an NBA salary. For example, Nerlens Noel²³ and Joel Embiid²⁴ both experienced major injuries prior to the draft that likely resulted in lower draft selections. Meanwhile, NBA base salaries are protected against injury once players are drafted and under contract.²⁵

There is a wide dispersion of ability and outcomes within each entry class. While this may be a somewhat obvious result, it is significant because it supports the argument that some players may be ready for the NBA at young ages, while others may benefit from additional NCAA development. Figure 7 illustrates the dispersion of cumulative salary through nine years after high school for each of the 44 high school draft entrants.²⁶ Figure 8 demonstrates that the vast majority of first round draft picks are successful, with approximately 90% of high school and freshmen entrants earning more than \$10 million during their first nine years out of high school. An argument can be made that these early draft picks are ready for NBA competition and would actually develop faster in the NBA. On the other hand, the vast majority of players not drafted in the first round have relatively unsuccessful careers. These players may benefit from additional development in the NCAA.

3.3 NBA teams are no more accurate when drafting players with more NCAA experience

One argument for a delayed entry policy is that NBA teams have limited information about high school entrants, so it is difficult for teams to project the value of these players and make accurate picks. To test this argument, we assess how accurately NBA teams project player value by regressing cumulative salary on log(draft pick). Draft pick indicates the NBA's projected value of a player, and cumulative salary indicates his realized value. The R-squared

²³ NBC Sports Website, "Nerlens Noel's knee injury and the unfairness of the 'one-and-done' rule," 2/13/2013, <http://collegebasketballtalk.nbcsports.com/2013/02/13/nerlens-noels-knee-injury-and-the-unfairness-of-the-one-and-done-rule/>.

²⁴ ESPN Website, "Joel Embiid has fractured foot," 6/20/2014, http://espn.go.com/nba/draft2014/story/_id/11107087/joel-embiid-suffers-foot-injury-prior-nba-draft.

²⁵ NBA Collective Bargaining Agreement, Article II, Section 4, at 24–26.

²⁶ Between 1998 and 2005, 84% of high school entrants were drafted, compared to 75% of freshman and only 57% of each sophomores and juniors.

values from these regressions measure how well draft pick relates to future salary. Therefore, a higher R-squared suggests that NBA teams are more accurate in projecting the future value of players.

Prior to the one-and-done policy, NBA teams were statistically neither better nor worse at drafting players when comparing across entry classes. See Figure 9. The R-squared statistics generated by regressing cumulative salary through seven years on log(draft pick) are 0.51 for high school entrants, 0.48 for freshmen entrants, and 0.60 for sophomore entrants. For junior and senior entrants, NBA teams actually performed worse – the R-squared values are 0.38 and 0.42, respectively.²⁷

These results contradict the argument that allowing players to develop in college will enable NBA teams to make more accurate draft picks.

3.4 NBA teams are no more accurate when drafting players since the introduction of one-and-done

One of the intended results of the one-and-done policy is to allow NBA teams to observe all players for at least one year in the NCAA, which in theory would lead to improved accuracy in drafting players. The left panel of Figure 10 shows regressions of cumulative seven year salary on log(draft pick) for players before the one-and-done policy, and the right panel shows the same regressions for players who entered between 2006 and 2008, after the one-and-done policy was introduced.

We do not find evidence that the one-and-done policy improved the accuracy of NBA draft picks. In fact, the data suggest that teams' accuracy in projecting player value declined after the introduction of one-and-done, as the R-squared value decreased from 0.53 to 0.40.

3.5 NBA teams are more accurate when drafting players early in the draft

A related question is whether NBA teams are more accurate when drafting early draft picks. To answer this question, we separate players into three groups: (1) lottery picks (1-14), the top

²⁷ We also run regressions of cumulative seven year salary on log(draft pick) for players drafted subsequent to the introduction of the one-and-done policy. The R-squared values are 0.44 for freshmen, 0.45 for sophomores, 0.48 for juniors, and 0.41 for seniors.

prospects that are generally considered “can’t miss” players, (2) low first round picks (15-30), and (3) round 2 picks. Our results indicate that NBA teams are most accurate in drafting for lottery picks (R-squared 0.42), followed by remaining first round picks (R-squared 0.14), and least accurate for second round picks (R-squared 0.08).²⁸ See Figure 11.

4. Discussion

Our analysis demonstrates that players who delay entry do not make up the foregone earnings and thus have strong financial incentives to enter the NBA as early as possible. However, there are notable social benefits to having star players in the NCAA, as college basketball has a large fan base that wants to see star players. An improved NBA entry policy and NCAA compensation system would be one that better aligns player incentives with these social benefits.

In this section, we describe three considerations for modifying the NBA’s entry policy and a consideration for compensating NCAA players. These considerations are not mutually exclusive; rather, they are independent options to consider during open and constructive discussion.

First, the NBA could modify the rookie scale to financially incentivize players to play in the NCAA. Possible mechanisms include:

1. A higher rookie scale for players with more NCAA experience. For example, the next CBA could include one rookie scale for high school entrants, and a different rookie scale for each entry class that is adjusted upward to compensate players for years played in the NCAA.
2. A shorter rookie scale for players with more NCAA experience. For example, the next CBA could include a four-year rookie scale for high school entrants, a three-year rookie scale for freshman entrants, and so on.

Second, the NBA could introduce a draft threshold for each entry class. This threshold would be a designated maximum draft pick, and entrants would only be allowed to be picked before the threshold for their class. Those who are not drafted by the threshold would retain their

²⁸ The regressions in Figure 10 include high school, freshman, and sophomore entrants who were drafted. We exclude juniors and seniors, because we are interested in how one-and-done affected players entering during early college years.

NCAA eligibility. For example, the threshold could be set as lottery picks (1-14) for high school entrants, and first round picks for freshman entrants. This would allow only the best players in each entry class to enter the NBA, and concurrently allow the rest to play in the NCAA. This approach is sensible because (a) NBA teams are more accurate when drafting players early in the draft, and (b) players drafted early have higher success rates, while players drafted later are more risky and may benefit from playing in the NCAA.

Third, the NBA entry system could be made less rigid. Under the current system, entering the draft is a risky decision for players because they lose their NCAA eligibility when they enter the draft. Possible changes include:

1. Allowing undrafted players to retain their NCAA eligibility. As mentioned above, this feature would work well in conjunction with a threshold system.
2. Adopting a split entry system similar to the one used in Major League Baseball. Such a system would allow players drafted after high school to either sign with a team or enter the NCAA, then reenter the draft after playing in the NCAA.²⁹

Finally, the NCAA could consider options to compensate college athletes. The O'Bannon and Kessler lawsuits have opened the discussion, yet it is still controversial for universities to directly pay student-athletes market-based salaries.³⁰ Options to consider include:

1. Allowing NCAA players to earn money through endorsements, memorabilia, and other sources related to their personal brands.
2. Distributing NCAA licensing revenue to the players. One approach is to retroactively compensate players with licensing revenue based on years in the NCAA and/or draft pick. For example, someone who played two years in the NCAA could receive twice the licensing revenue as someone who played one year, conditional on being drafted.

²⁹ Major League Baseball Website, "First Year Player Draft: Official Rules," <http://mlb.mlb.com/mlb/draftday/rules.jsp> (accessed 12/12/2014).

³⁰ USA Today Website, "Judge releases ruling on O'Bannon case: NCAA loses," 8/8/2014, <http://www.usatoday.com/story/sports/college/2014/08/08/ed-obannon-antitrust-lawsuit-vs-ncaa/13801277/>.

Edward O'Bannon, et al. v. National Collegiate Athletic Association, et al., No. C-09-3329, 2014 U.S. District LEXIS 110036 (N.D. Cal. Aug. 8, 2014).

New York Times Website, "How Kessler's Lawsuit Could Change College Sports," 8/27/2014, <http://www.nytimes.com/2014/08/28/sports/how-jeffrey-kesslers-lawsuit-could-change-college-sports.html>.

5. Conclusion

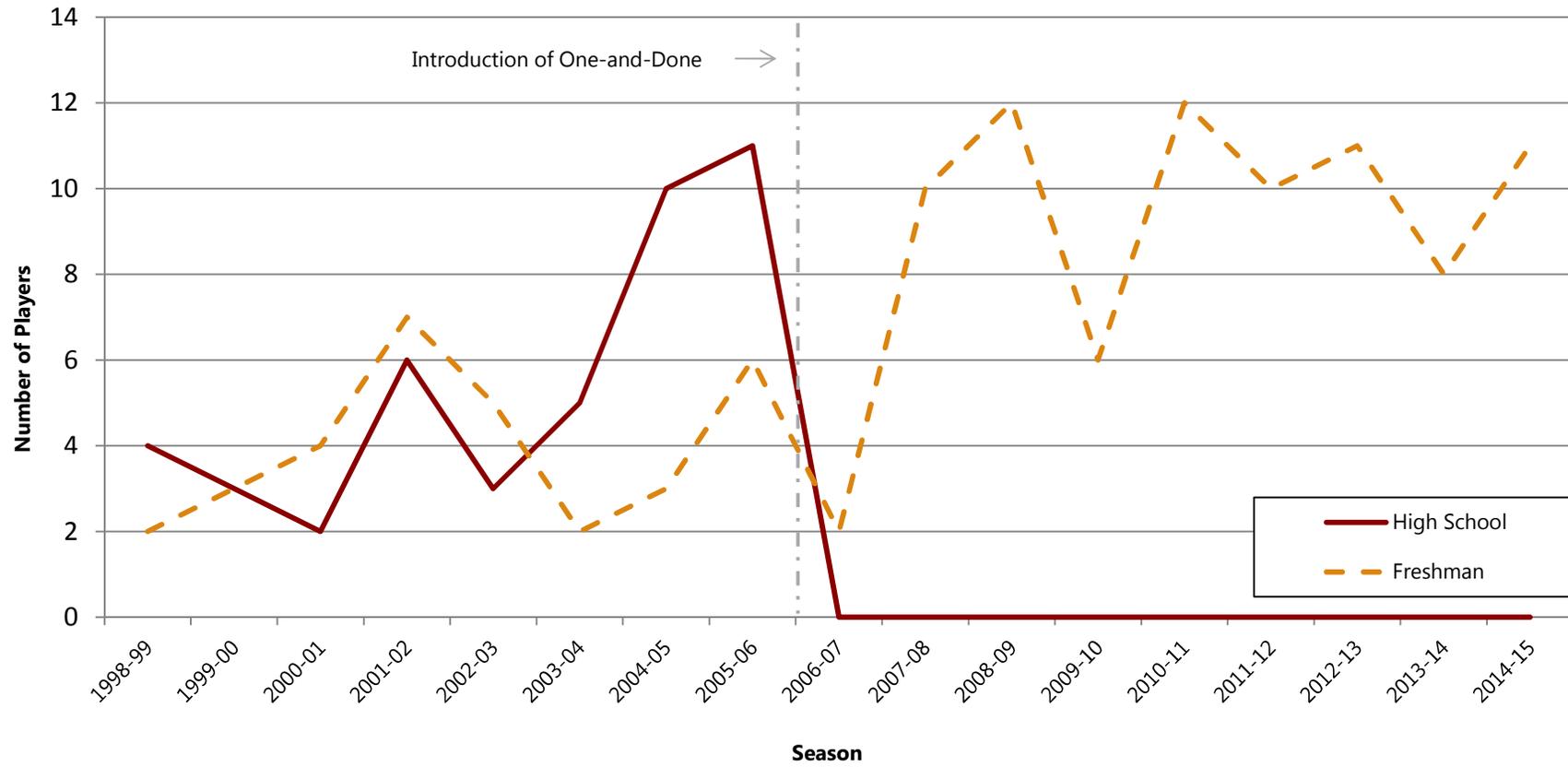
The study provides a data-driven analysis of the one-and-done policy and describes considerations for improving draft entry and player compensation policies. Notably, our analysis demonstrates the financial incentives that drive players to enter the NBA and the natural downward trend in entry age. As discussed, we expect the forces driving players to enter the NBA at younger ages will continue into the future, as NBA salaries rise and players develop at younger ages. An improved NBA entry policy and NCAA compensation system would better incentivize each player to play at his appropriate level.

Furthermore, our analysis demonstrates that while NBA teams are no more accurate when drafting players with NCAA experience, they are indeed more accurate on early draft picks. We also demonstrate that the vast majority of first round picks have successful careers, while most second round picks and undrafted players do not. An improved policy would allow only the best players to enter after high school, while concurrently allowing the remaining players to develop in the NCAA.

We are hopeful that our analysis and insights will contribute to the discussion as the NBA, NCAA, and NBPA consider improvements to the NBA entry policy and NCAA compensation system.

Figure 1

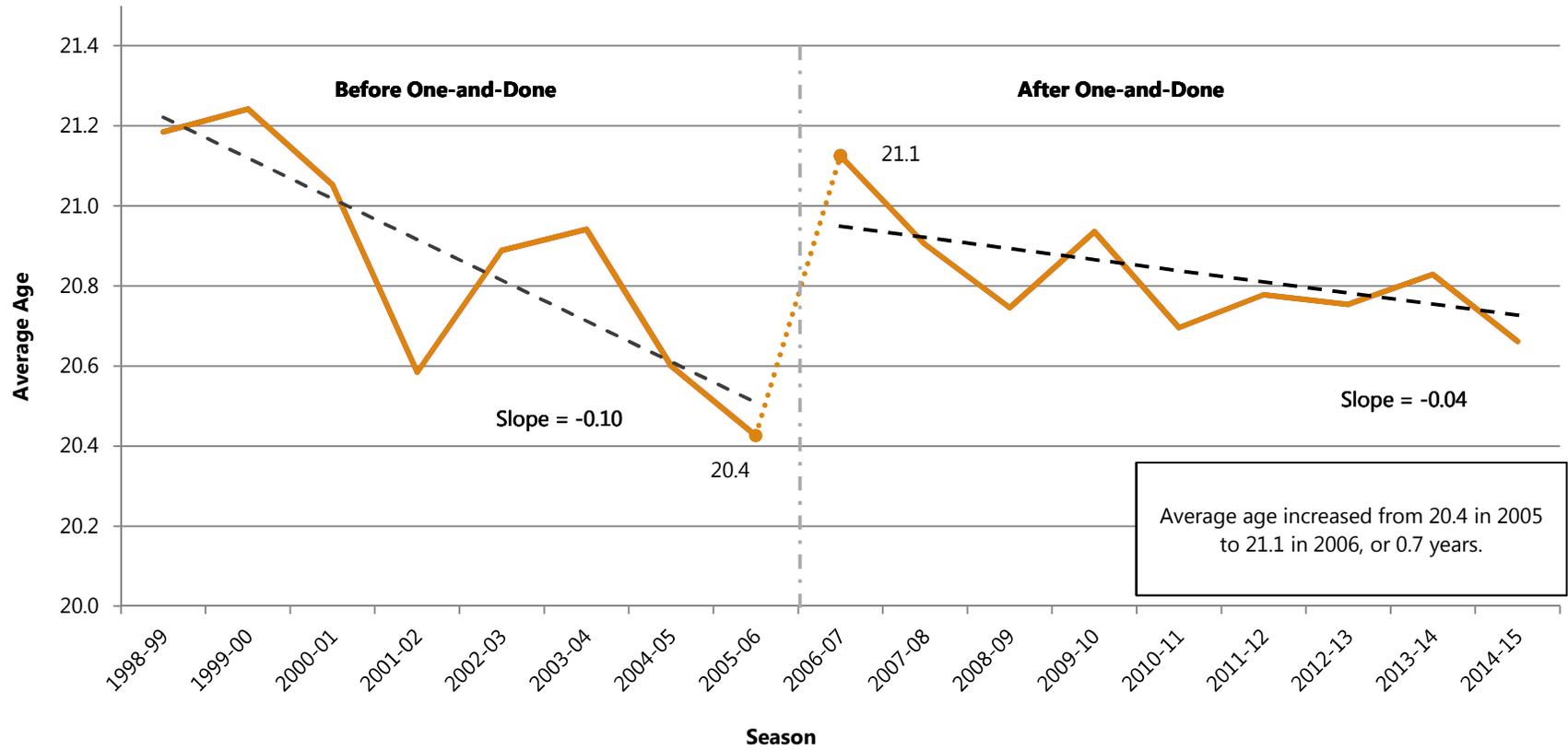
Number of High School and Freshman Entrants



Notes and sources:

Sample includes all players who declared for early entry into the draft during their high school or freshmen years between 1998 and 2014.

Figure 2
Average Age of Draft Entrants

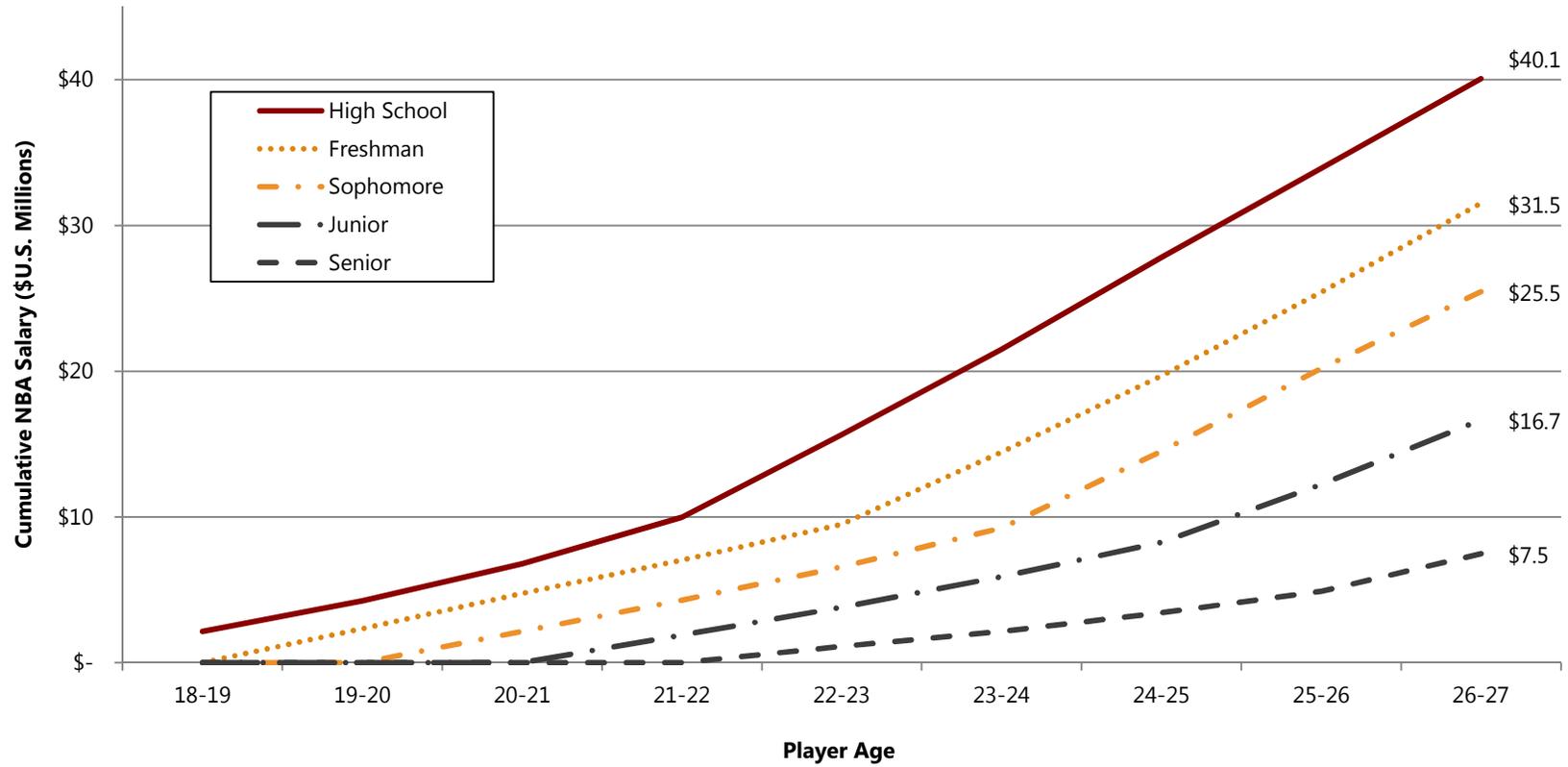


Notes and sources:

Sample includes all players who declared for early entry into the draft, seniors who were drafted, and seniors who received NBA salary. Age is determined based on entry class. For example, high school draft entrants are assumed 18 years old.

Figure 3

Average Cumulative Salary by Age



Notes and sources:

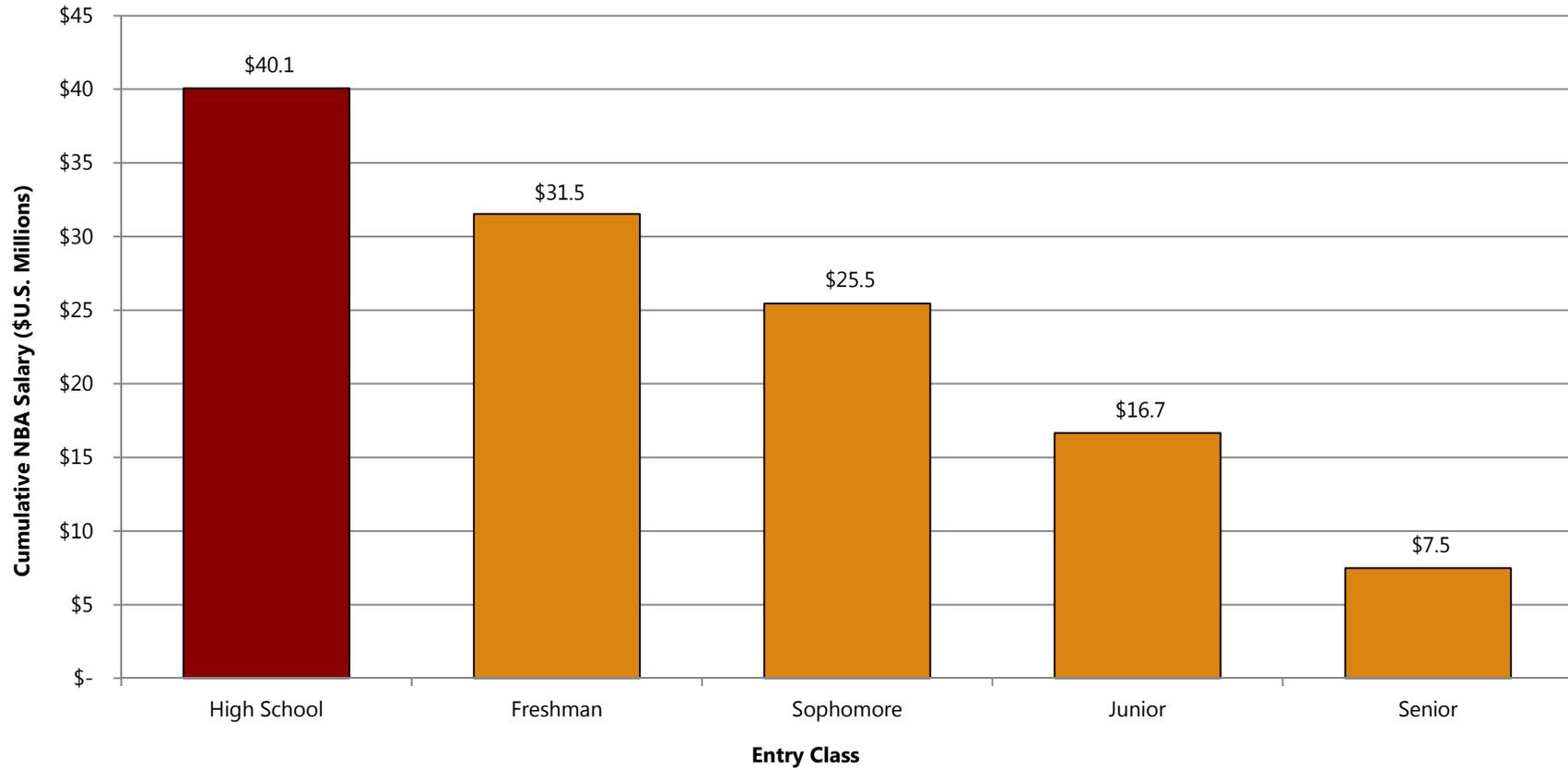
All salary figures are in \$U.S. millions, and are adjusted for NBA salary inflation to 2013 NBA dollars.

Age is based on class at time of declaration. High school students are assumed to be 18-19 years old.

Sample includes all players who entered the draft between 1998 and 2005 and earned an NBA salary: of 35 high schoolers, 24 freshmen, 44 sophomores, 71 juniors, and 174 seniors.

Figure 4

Average Cumulative Salary Nine Years after High School



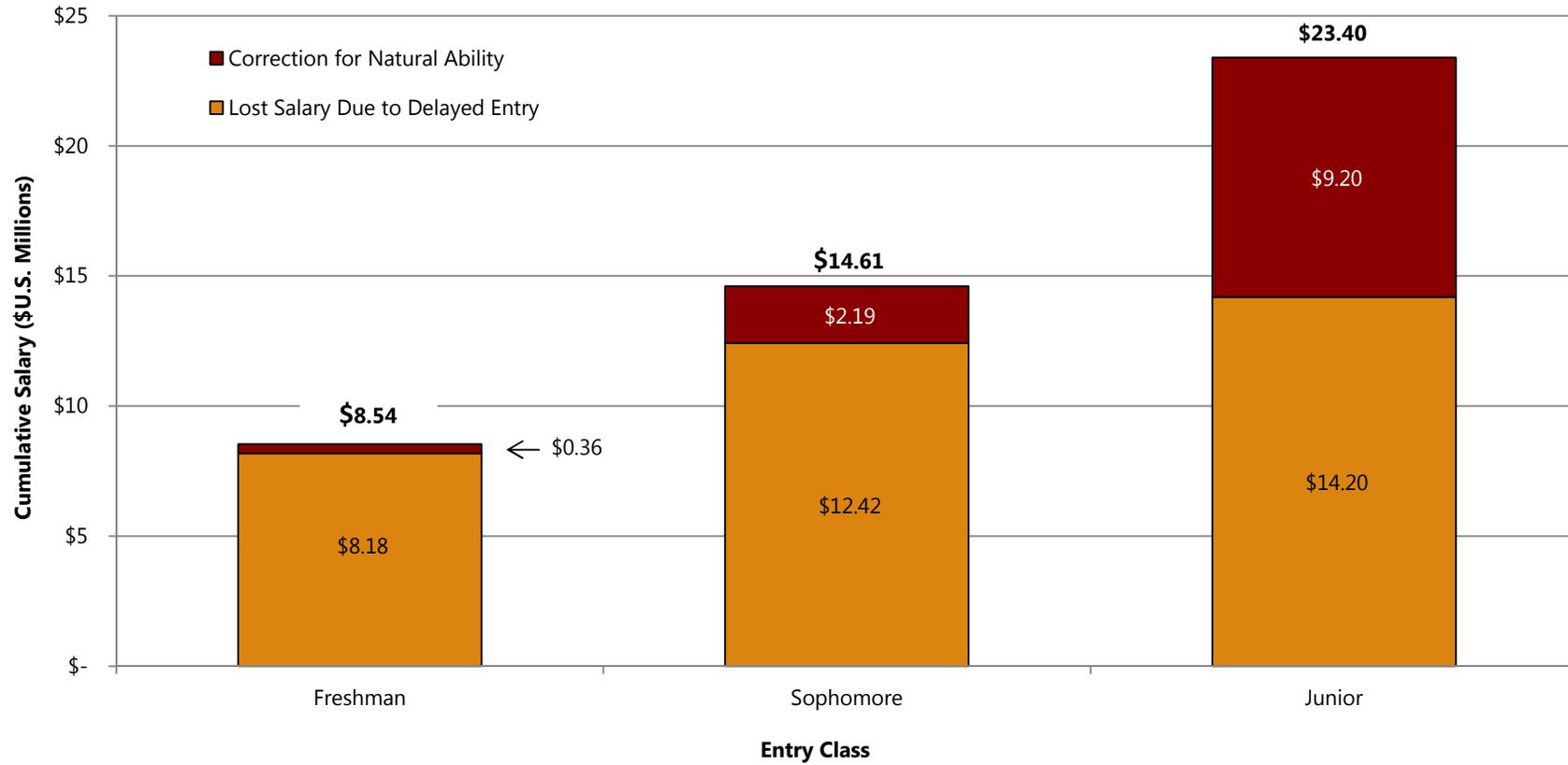
Notes and sources:

All salary figures are in \$U.S. millions, and are adjusted for NBA salary inflation to 2013 NBA dollars.

Sample includes all players who entered the draft between 1998 and 2005 and earned an NBA salary: 35 high schoolers, 24 freshmen, 59 sophomores, 44 juniors, and 71 seniors.

Figure 5

Estimated Lost Salary Due to Delayed Entry



Notes and sources:

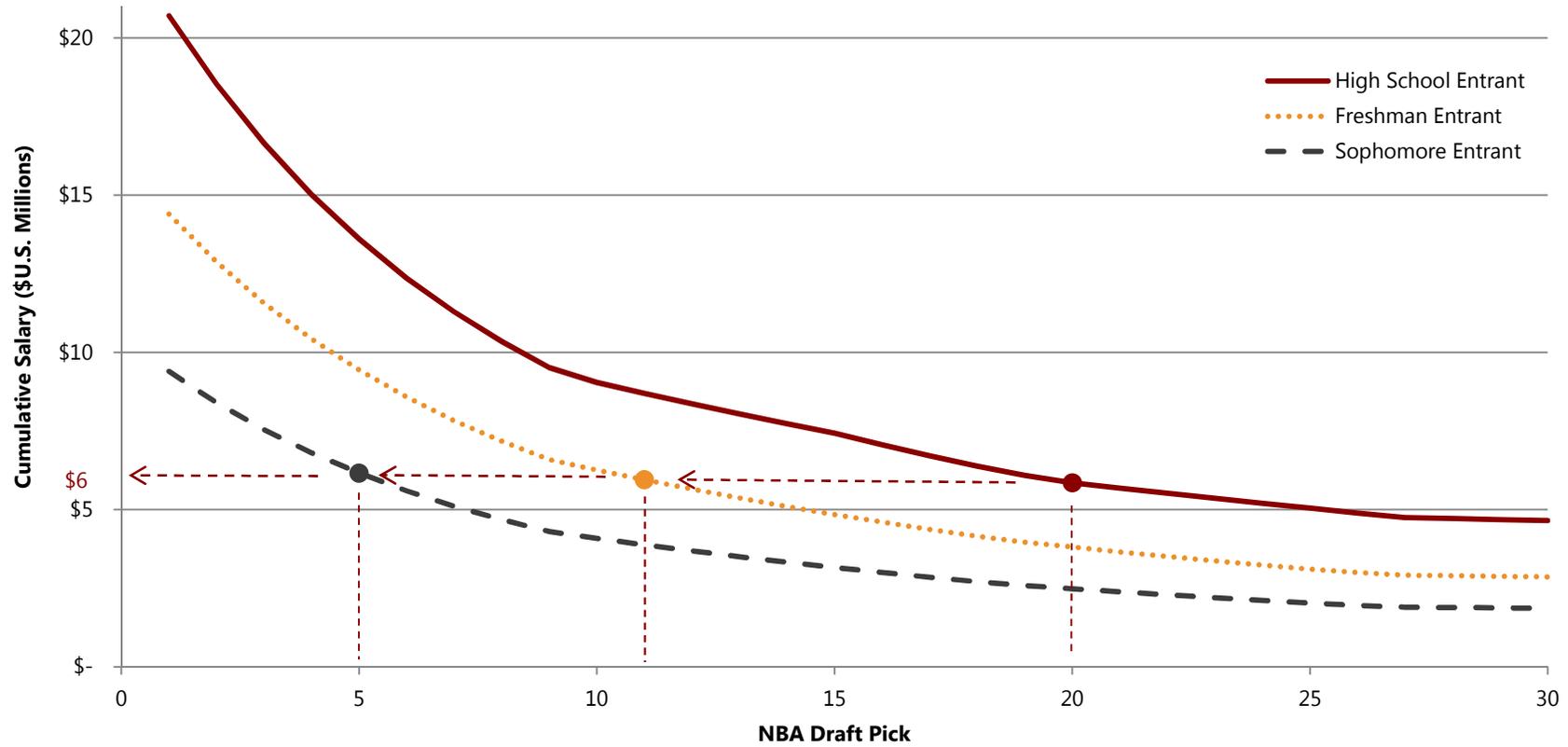
All salary figures are in \$U.S. millions, and are adjusted for NBA salary inflation to 2013 NBA dollars.

Sample includes all players who entered the draft between 1999 and 2005, and who earned a salary in the NBA.

To estimate the lost salary due to delayed entry, we start with the cumulative salary nine years after high school shown in Figure 4. Then, we compute average salary through nine years in the NBA for each entry class. These serve as proxies for the salary due to natural ability because they capture salary over the same amount of time.

Figure 6

Cumulative Salary Four Years after High School based on Rookie Scale

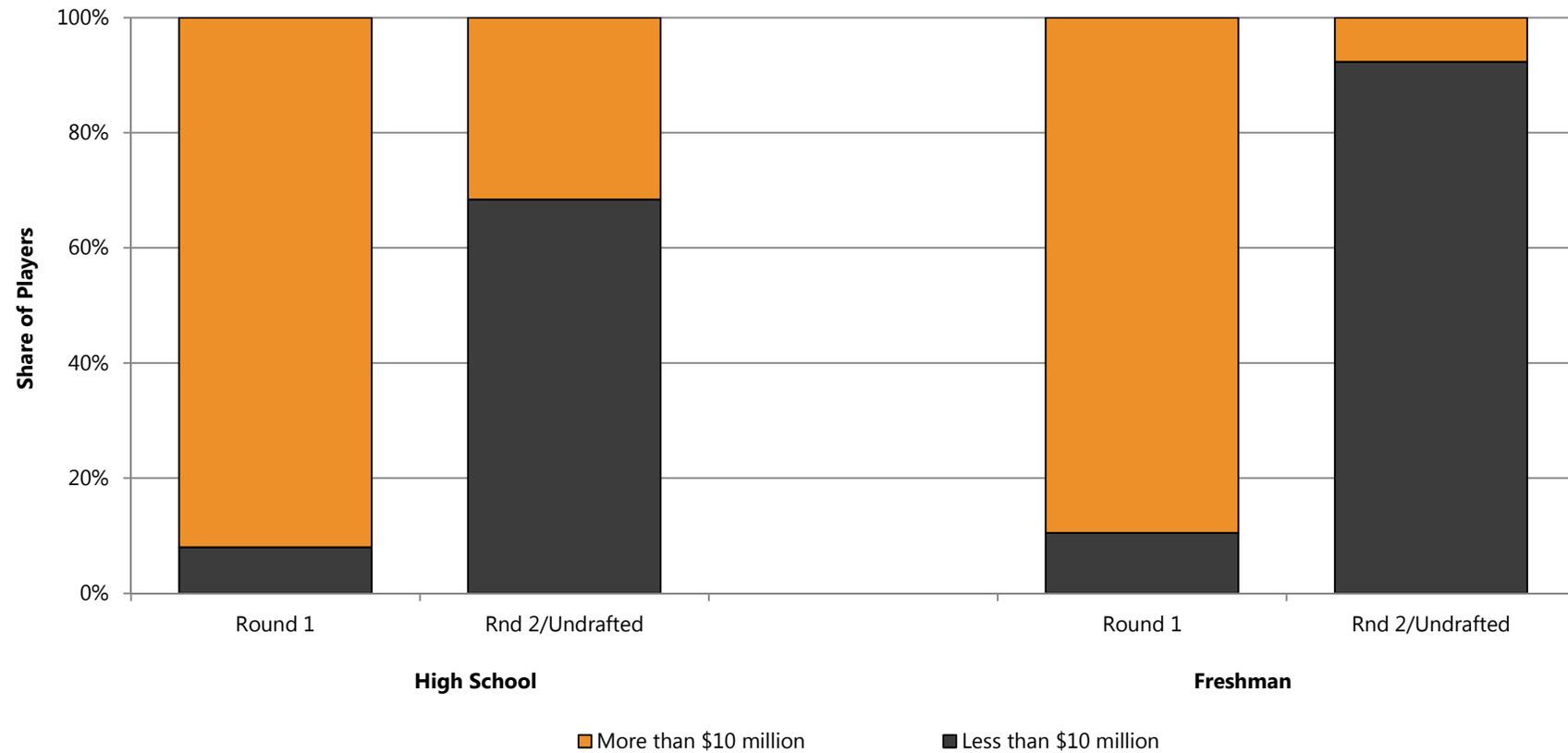


Notes and sources:

All salary figures are in \$U.S. millions, and are based on the 2014-15 Rookie Scale.

Figure 7

Percentage of Draft Entrants Who Earned More Than \$10 Million in Nine Years

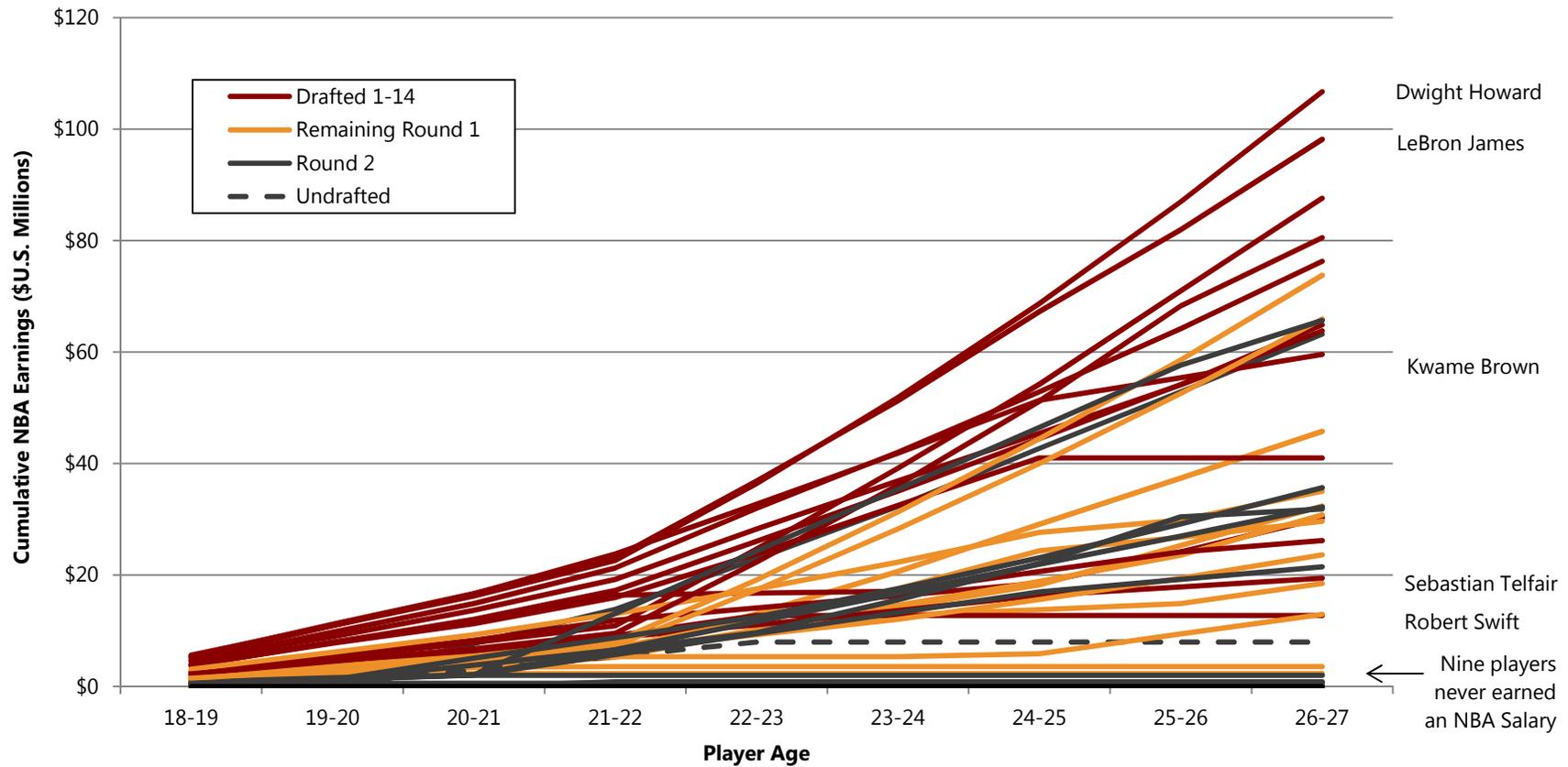


Notes and sources:

All salary figures are in \$U.S. millions, and are adjusted for NBA salary inflation to 2013 NBA dollars. Sample includes all players who declared for the NBA draft straight out of high school between 1998 through 2005.

Figure 8

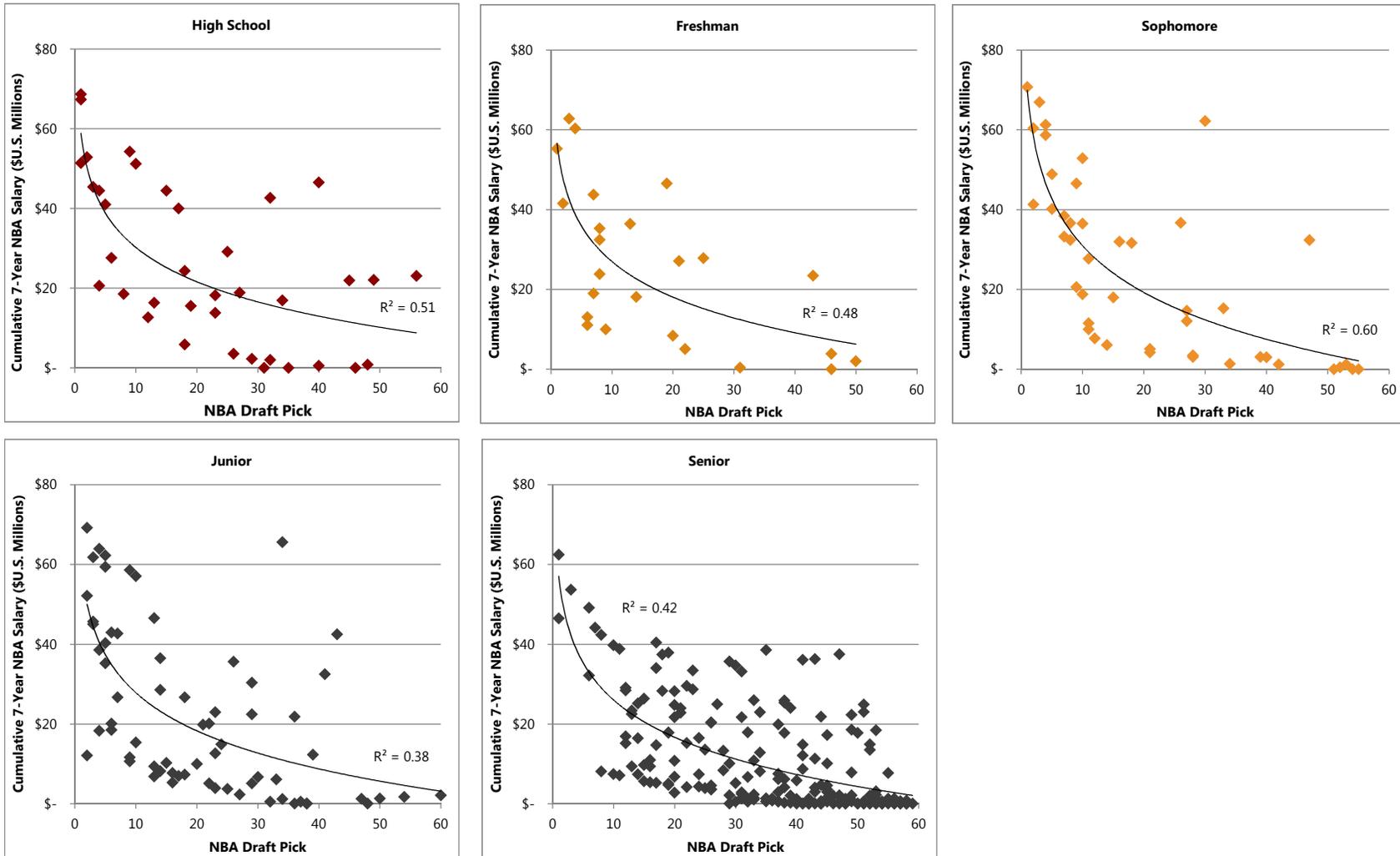
Salary through Nine Years: High School Draft Entrants



Notes and sources:

All salary figures are in \$U.S. millions, and are adjusted for NBA salary inflation to 2013 NBA dollars. Sample includes all players who declared for the NBA draft straight out of high school between 1998 through 2005. Age is based on class at time of declaration. High school students are assumed to be 18-19 years old.

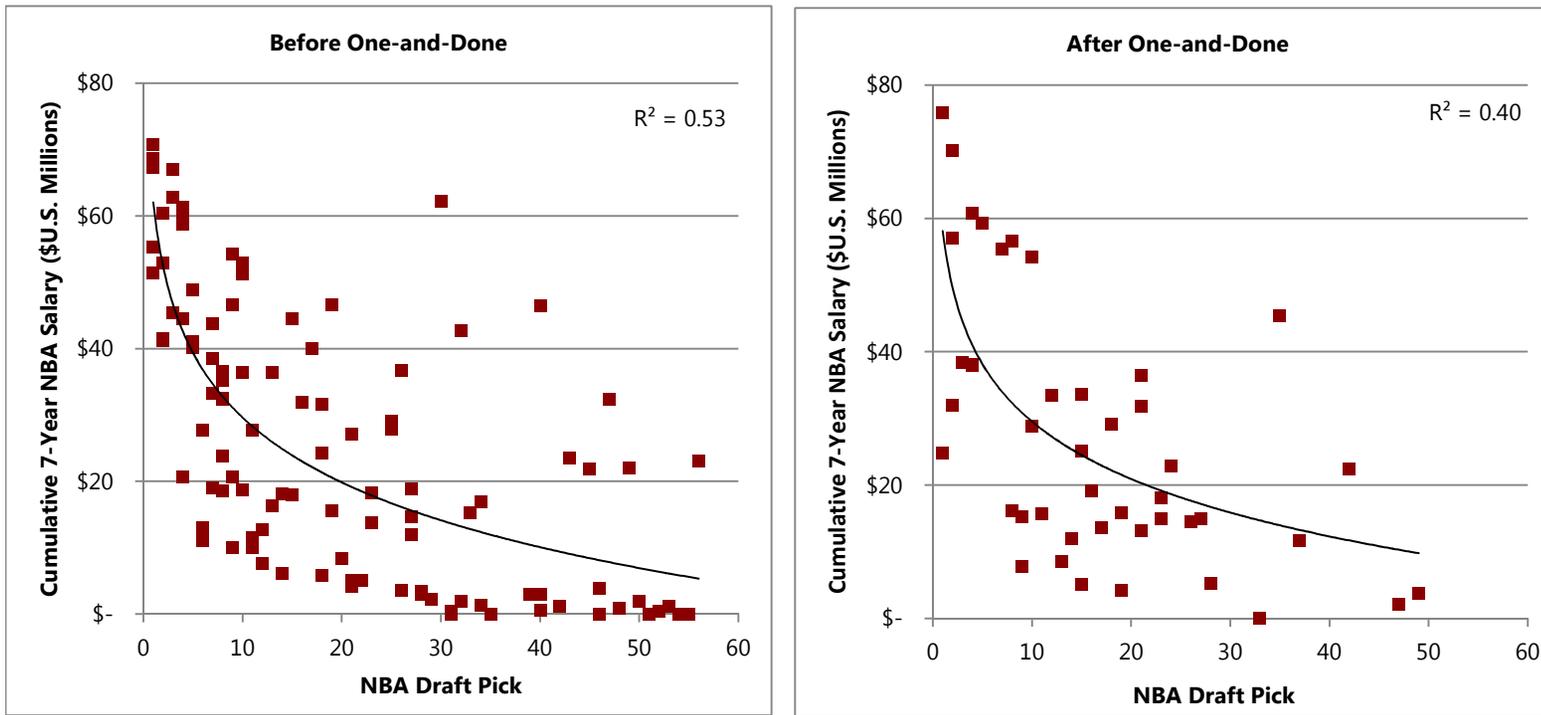
Figure 9
Correlation between Draft Pick and Earnings through Seven Years in the NBA: Pre One-and-Done Players



Notes and sources:
All salary figures are in \$U.S. millions, and are adjusted for NBA salary inflation to 2013 NBA dollars.
R-squared figures are from regressions of seven year earnings on log(draft pick) for all players who were drafted between 1998 and 2005.

Figure 10

Correlation between Draft Pick and Earnings through Seven Years by Time Period



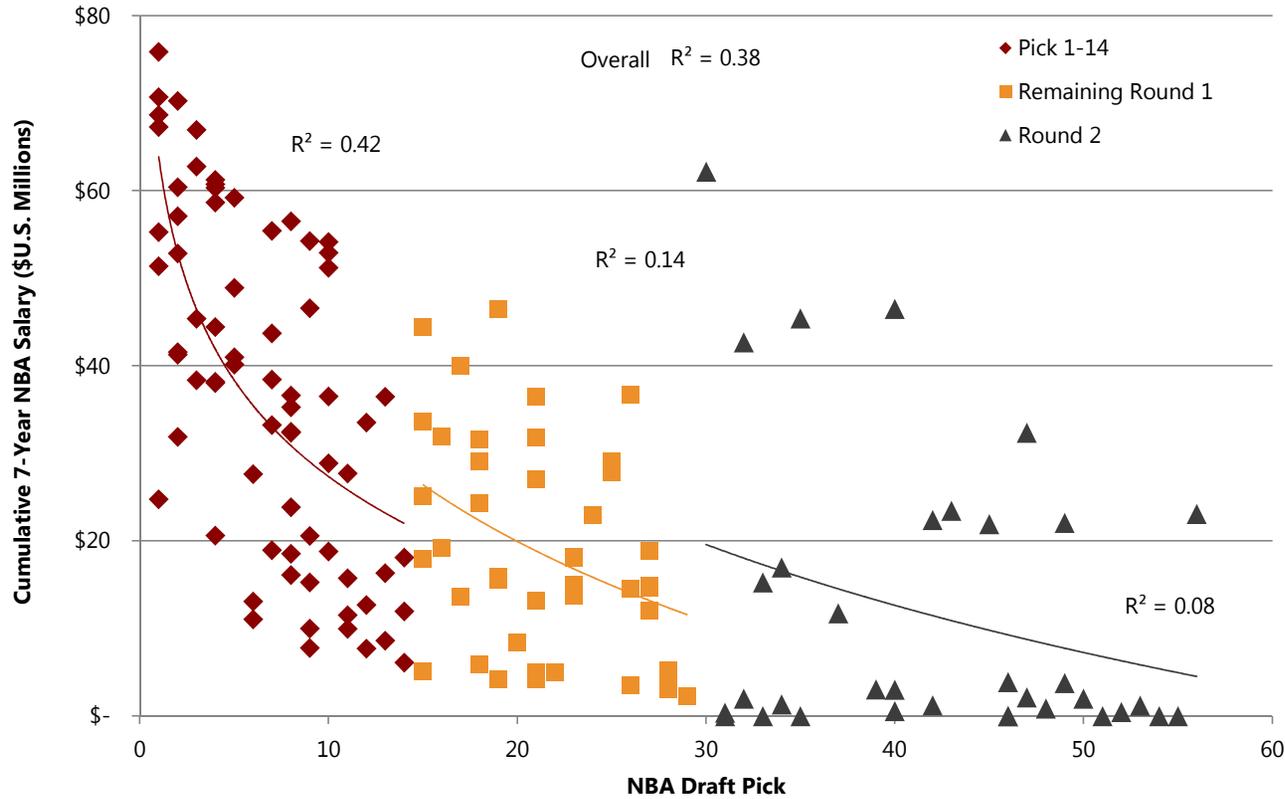
Notes and sources:

All salary figures are in \$U.S. millions, and are adjusted for NBA salary inflation to 2013 NBA dollars.

R-squared figures are from regressions of seven year earnings on log(draft pick) for high school, freshman, and sophomore draft entrants between 1998 and 2008.

Figure 11

Correlation between Draft Pick and Earnings through Seven Years by Draft Pick



Notes and sources:

All salary figures are in \$U.S. millions, and are adjusted for NBA salary inflation to 2013 NBA dollars.

R-squared figures are from regressions of seven year earnings on log(draft pick) for high school, freshman, and sophomore draft entrants between 1998 and 2008.