Cleats, Helmets and Other Intangible Assets: A Note on Athlete Securitization

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I Introduction

In 2012, San Francisco-based brand acquisition and marketing start-up Fantex Inc. ("Fantex") pioneered a financial solution that allowed professional athletes to sell a percentage of their future earnings in exchange for an upfront lump-sum payment, an arrangement commonly referred to as an income sharing agreement ("ISA") (Oei and Ring 2014, 2015; Medeiros 2017). Fantex re-packaged and marketed the arrangement to investors as an opportunity to participate in the earnings potential – both on and off-field – of these professional athletes. It was a win-win proposition: Athletes would immediately realize a portion of their potential earnings and brand income, investors would gain access to a new speculative asset class that could provide high returns and diversification benefits, while sports fans could invest in the continued success of their favorite players, drawing them even closer into the action. From the athlete`s perspective, the lump-sum payment from the ISA provided for both the financial bandwidth to pursue current opportunities in higher yielding investments and the transfer of part of their financial risk in the event of injury or failure to secure their next contract. However, the devil is in the details as they say. This paper will discuss the key risks and benefits of Fantex's professional athlete tracking shares and how this financial innovation differed from other attempts at securitizing athletes and their earnings potential.

Although the Fantex series of athlete convertible tracking stocks was the first of its kind, this was hardly the first time the sports industry attempted to securitize or monetize athletes as intangible assets. In 1999, English Premier League team Leeds United, a team on the cusp of league dominance, entered into various "sale-and-leaseback" arrangements with their banking partner to finance the acquisition of expensive new talent to take their team to the next level. The scheme allowed the team to "lease" the players by securing the transfer fee loan against the player's contract and to service the debt over the contract period. If the player lost value in the transfer market, the lender (bank) could claim the difference from the football club or in the event of the football club's default, from a credit-enhancing insurance wrapper purchased against the club as part of the "sale-and-leaseback" financing structure (Cathcart, 2004). This approach spread out the strain from interest payments on the club and the newfound financial flexibility spurred club management towards issuing increasing amounts of debt, including securitized loans, to acquire even more talent. This debt-fueled "house of cards" fell

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apart in 2002 when Leeds United started to fall in league rankings and the club's growing financial obligations forced them to release players in a dampened transfer market resulting in sizeable losses. By 2004, still struggling under their debt burden, Leeds United's fall from grace was complete and they were relegated from the Premier League following a bottom-three finish (Brinksworth, 2004; Burns, 2006).

In considering income sharing agreements from a broader perspective to include debt securities backed by an athlete's playing contract, the turn of the century also saw individual athletes begin to explore securitization options in the financial markets as a means to monetize their earnings potential or increase their control over their financial situation. Frank Thomas, a former slugger with the Chicago White Sox, planned a debt issuance in the late-90s, seeking to realize the deferred compensation aspects of his playing contract in Major League Baseball. However, investor concerns over various contractual clauses in his playing contract derailed the negotiations and the deal fell through (Fried, DeSchriver and Mondello, 2013). In 2008, Randy Newsom, a minor league baseball player, tried to raise USD50,000 by selling 2,500 shares in himself at USD20 per share through his website, Real Sports Investments. The intent was to finance Newsom to the major leagues through such income sharing agreements. If he was signed to a major league team, the shareholder would be entitled to 0.002% of his pay. However, he withdrew the securities after a year fearing that he was in violation of the securities laws and the rules of Major League Baseball (Schwartz, 2015). These cases illustrate not only the interest from professional athletes in the possibilities of ISAs but highlights the complex contractual and regulatory hurdles that they face in bringing this idea to fruition. One successful example was NFL Running Back William Andrews of the Atlanta Falcons whose contract included an annuity that paid out a guaranteed USD8 million spread over the 40 years following his retirement in 1986. In 2001, Andrews negotiated a private placement offering with Hanleigh Co. to receive USD2 million upfront in exchange for the remaining stream of cashflows which amounted to USD5 million over 25 years (Brown, Rascher, Nagel, and McEvoy, 2016). This deal was likely successful as the agreement bore significantly less risk and uncertainty given the risk of default on annuity payments lay with the Atlanta Falcons rather than Andrews.

Closer in spirit to Fantex is OneSeason, a virtual sports trading platform, where shares on professional athletes IPO at USD5 per share. The shares would trade on OneSeason's exchange, with price changes reflecting on-field performance and market demand but the securities were not directly linked to the income of the players. OneSeason successfully raised USD3.5 million in Series A funding in 2009 and the site opened to strong early demand. However, "investors" soon realized that without any direct claim on athlete earnings, the shares lacked any real intrinsic value. OneSeason's athlete stock market peaked at USD300,000 and it was eventually forced to close as its business model proved unsustainable (Schwartz, 2015).

Ⅱ Intangible Assets

Do professional athletes qualify as assets to be "owned" and accounted for by their respective sports franchises? This question was the source of much debate in the European soccer leagues. In 1989, the Tottenham Hotspurs adopted an accounting policy to record player registration costs on the balance sheet thus treating a player as an intangible asset as opposed to an expense (Morrow, 1999). The players' transfer fees reflected their value on the balance sheets of publicly traded football clubs (Foster, Greyser, and Walsh, 2006). Traditionally, the earning power of the individual is not tradeable, and this was

said to be the key difference between investment in humans and investment in property. The transfer market is a challenge to this notion of assets (Morrow, 1999).

In December 1997, FRS 10 on Goodwill and Intangible assets was introduced by the Accounting Standards Board (ASB). Under FRS 10, all intangible assets can be amortized over their useful economic lives, including intangibles obtained through arms-length transactions. Conceivably, football players would fall into this category for their respective football clubs. One question that remains to be addressed is whether these assets generate economic benefits. Amir and Livine (2005) show that the transfer of players yields economic benefits for the team in terms of increased sales or profits as evidenced in a regression of profits or sales on transfer fees paid (investment) and fees received. They also find that transfer fees paid are positively related to market values, providing evidence that market participants agree with treatment prescribed by the new accounting requirement. However, there is "little doubt that the far-reaching implications of FRS 10 for football clubs was not a specific intention of the ASB" (Morrow, 1999 p.127). Furthermore, FRS 10 does not recognize the market value of homegrown players as internally developed intangible assets, thereby differentiating the treatment of transferred players and homegrown players on the balance sheet.

As Oei and Ring (2015) point out, the absence of regulation over young players could lead to ethical issues of "exploitation, discontinuation of schooling, provision of performance enhancing drugs, age misrepresentation, and overcrowded and substandard training facilities" (Oei and Ring, 2015 p.701). For example, "local street agents" known as buscones actively develop Caribbean-born baseball players from youth until they are eligible to sign with an MLB team. In return, the buscones demand a substantial percentage of the signing bonus if the player contracts with an MLB team. Such an arrangement would fall under the umbrella of Income Sharing Agreements ("ISA") as it involves the sale of an income generating asset or rights on future income. This raises an important ethical question if such ISAs constitute ownership over human capital resembling servitude. In the context of Fantex, their iteration of an ISA would raise concerns over the sense of "human ownership" if the base for income sharing covered a broad or wide range of income activities and accounted for a substantial fraction of the income base (Oei and Ring, 2015).

Ⅲ Fantex Income Sharing Agreement and Tracking Stocks

The first of the Fantex series of athlete tracking stocks dates back to February 2014 when Fantex held IPO roadshows across eleven destinations around the United States to market their Vernon Davis Fantex series stock. According to the prospectus filed with the Securities and Exchange Commission ("SEC"), Fantex entered into a Brand Contract Agreement ("Brand Contract") with the athlete, agreeing to provide a lump-sum payment upfront for a fixed percentage of the athlete's future brand income in perpetuity. This referred to all income related to or derived from his professional skill and brand, including his contract salary and performance incentives, any endorsement deals or paid appearances, and revenues from a post-playing career if related to his field of expertise such as sports broadcasting or coaching. In effect, the Brand Contract is an income sharing agreement between Fantex and the athlete. Fantex would also own co-investment rights if the athlete were presented an investment opportunity that leveraged his brand. To finance the lump-sum payment of the Brand Contract, Fantex raises an equity offering of convertible tracking stocks linked to the performance of the

Brand Contract. However, the tracking stock represents no claim or ownership interest in the Brand Contract and only represents a share in the platform common stock of the management company, Fantex Inc. (SEC S-1, 2013).

A closer look at the attribution of income derived from the Brand Contract to Fantex tracking stock shareholders reveals that 95% of Brand Contract Income and a share of the general liabilities and expenses of Fantex forms the value attributable to the tracking stock. Investors are therefore taking a position not only on the earnings potential of the athlete but on the aggregate performance of Fantex as a company and its ability to manage its expenses. Additionally, several structural features of the tracking stocks imply that investors should maintain a high degree of trust in the "good faith" efforts of management in conducting their business. One example is the convertible feature which permits Fantex to convert any Fantex Series Tracking Stock to common platform stock at their sole discretion. This could occur during a corporate restructuring or if a Brand Contract is presumed to no longer be generating any brand income due to a career ending injury or an athlete not fulfilling his potential and getting cut from the team but is in no way limited to these situations.

The dividend payout policy is the primary mechanism for investors to earn a return on their investment given the likelihood of low trading volumes and a lack of liquidity for such shares, and states that periodic dividends declared will be in excess of 20% of the "available dividend amount," which refers to attributable income less expenses. However, management reserves the right not only to adjust dividend payments but to retain available funds for general operations and development of Fantex (SEC S-1, 2013). The lack of separation between the income and expenses of the securitized asset and the general operations of the firm could mean that early investors bear a proportionally greater share of the financial burden of Fantex's operations compared to later series of shares and without any clear form of compensation for the additional risk. Dividends for the Vernon Davis series are summarized in Table 1.

Beyond a fixed percentage claim on the Brand Income of the athlete, the Brand Contract gives Fantex the right of direct co-investment in certain investment opportunities presented to the athlete up to the percentage of Brand Income acquired. In the case of Vernon Davis, this allowed Fantex to take a direct equity stake (10%) in three Jamba Juice Franchise licenses acquired by Vernon Davis in 2015 as part of an expanded endorsement deal (Fantex, 2015b) and was financed using attributable income to the Vernon Davis series. Co-investment enables Fantex to build up a portfolio of assets based on the investment opportunities afforded to its athletes that may reliably generate cash flow during a player's post-career phase. However, drawing down from available dividend amounts to finance such investments exposes the investors to potential loss or increased volatility and investors are fully reliant on Fantex management to possess the relevant expertise in assessing potential opportunities.

Fantex athlete equity were not limited to tracking the brand income of individual athletes. In 2016 Fantex launched a private placement for Fantex Sports Portfolio Unit 1 (code FXSP I) which bundled the 20 Brand Contracts listed in Table 2 and shuttered their brokerage service platform. Fantex sold 5,933,765 units at USD10 each and has consistently paid dividends to its investors.

To estimate the fair value for each Brand

Table 1 Dividend per unit for Vernon Davis Series Stock

Year	2016	2017	2018	2019
Dividend Amount	$1.5	$1.27	$0.89	$0.85

Source: Fantex Inc. website and SEC 10-K Reports.

Table 2 Summary of Fantex Athlete Brand Contracts

Contract Party	Primary Career	ABI Effective Date	Brand Income Payable to Fantex	Brand Contract (USD millions)	Shares Outstanding
Vernon Davis	NFL Tight End	Oct. 30, 2013	10%	$4.00	421,000
EJ Manuel	NFL Quarterback	Feb. 14, 2014	10%	$4.98	523,700
Mohamed Sanu	NFL W. Receiver	May 14 2014	10%	$1.56	164,300
Alshon Jeffery	NFL W. Receiver	Sept. 7, 2014	13%	$7.94	835,800
Michael Brockers	NFL Def, Tackle	Oct. 15, 2014	10%	$3.44	362,200
Jack Mewhort	NFL Off. Tackle	Feb. 15, 2015	10%	$2.52	268,100
Kendall Wright	NFL W. Receiver	Dec. 1, 2014	10%	$3.13	
Andrew Heaney	MLB Pitcher	Jan. 1, 2015	10%	$3.34	
Terrance Williams	NFL W. Receiver	Feb. 1, 2015	10%	$3.06	
Ryan Shazier	NFL Linebacker	Sept. 1, 2015	10%	$3.11	
Scott Langley	PGA	Oct. 25, 2015	15%	$3.06	
Collin McHugh	MLB Pitcher	Apr. 1, 2016	10%	$3.96	
Tyler Duffey	MLB Pitcher	Feb. 1, 2016	10%	$2,23	
Jonathan Schoop	MLB Second	Jan. 1, 2016	10%	$4.91	
Yangervis Solarte	MLB Third	Apr. 1, 2016	11%	$3.15	
Maikel Franco	MLB Third	Apr. 1, 2016	10%	$4.35	
Allen Robinson	NFL W. Receiver	Feb. 15, 2016	12%	$4.60	
Kelly Kraft	PGA	Mar. 1, 2016	15%	$2.28	
Jack Maguire	PGA	Mar. 1, 2016	11%	$2.07	

Source: Data compiled from SEC 10-K and 10-Q Reports.

Contract, Fantex undertakes extensive statistical analysis using historical performance data for comparable athletes. In assessing the value of a player, a wide array of data on on-field statistics such as strike outs per inning are collated, analyzed and correlated to future brand income (SEC 10-K, 2015). Assuming a 14-year career, Fantex estimated a present value of Vernon Davis' lifetime brand income at approximately USD40 million, of which Fantex is entitled to 10% under the Brand Contract (SEC S-1, 2013). Fantex varies the use of discount rates depending on the assessed risk and uncertainty of the future cash flows. This illustrates how the application of Sabermetrics in baseball or more generally sports analytics can go beyond that of building a winning roster and developing on-field tactics (Maxcy and Drayer, 2014).

The Fantex Series of Athlete Convertible Tracking Stocks are highly speculative and shifts a portion of the financial risk from the athlete to the investor. The athlete is paid upfront for a fraction of his unrealized future earnings, thereby transferring the risk of failing to realize his potential earnings to the investor. The investors take on that risk with no recourse to any assets or control over the athlete's actions. The upside potential of these securities is limited to the athlete outperforming the Brand Contract valuation, whereas the downside is a complete loss of principal less any distributed dividends.

Ⅳ Asymmetric Information and Fantex

Tennis star Lleyton Hewitt was quoted as saying he was always one injury away from hanging up his racket. No athlete is immune from injury and they should have a strong incentive to maintain a form of insurance to mitigate the financial impact of such an event. Given that Fantex pays its athletes an upfront, lump-sum payment under the terms of the Brand Contract, it may be comparable to an economic contract that is fully paid out upfront, with the percentage of income to be paid to Fantex acting as the premium. Moreover, as a perpetual contract, Fantex does not require principal repayment from the contracted athlete and the arrangement could be understood in the context of an economic contract which resembles insurance (Medeiros, 2017). Consequently, as with insurance contracts, the issues of information asymmetry and moral hazard are unavoidable. A recent study by Madonia and Smith (2016) provides empirical evidence that poker players under a short-term income sharing agreement perform substantially worse than players not participating in an ISA. This suggests that a disincentive to perform due to income sharing type agreements is an ever-present risk that should be mitigated in the structure of the (Brand) Contract.

Information asymmetry occurs when sellers (athletes) have information that buyers (Fantex or investors) do not have about some aspect of product quality (potential playing ability). In NFL Running Back Arian Foster's Brand Contract, Fantex proposed to pay USD10 million for 20% of his future earnings. In comparison, NFL Tight End Vernon Davis was only willing to part with 10% of his potential brand income for USD4 million. In Arian Foster's case, while his injury history is disclosed in the prospectus, we may not understand the full extent that it has on his playing ability, both physical and psychological. Arian Foster would be in the best position to know his physical condition and the toll the game takes on his body and his mind. If he considered the Fantex valuation of his income to be higher than or equal to his own projections, then he would likely be more willing to part with a higher percentage. This is the case of hidden information or what is often referred to as adverse selection.

On the other hand, athletes could change their behavior after contracting with Fantex leading to another asymmetric information problem known as moral hazard. The moral hazard aspect that could affect the economic contract (brand contract) is when the insured (the signed athlete) takes more risks as the insurance provides downside protection and they have less incentive to avoid such behavior (Oei and Ring, 2015). Assuming athletes want to perform better and increase their future salaries, the brand contract aligns the athlete with Fantex and the investors. However, upon receiving the payment upfront, the athlete "may train less dutifully, leading to declining performance and less future compensation for himself and his investors" (Schwartz, 2015 p.1143). According to the 2014 Annual Report for Fantex, Vernon Davis did not attend off-season conditioning training sessions (forgoing USD200,000 in workout bonuses) and staged a holdout for higher pay which ultimately came to naught and incurred a further USD70,000 in fines for missing a mandatory minicamp. This translates to USD27,000 less in attributable income under the Brand Contract. Following their agreement with Fantex, athletes may not pursue the highest or even higher paying contracts due to lifestyle preferences giving rise to another form of moral hazard. Medeiros (2017) notes the case of Alan LaRoche of the White Sox who retired early and forfeited the remainder of his contract payment since management failed to accommodate his request to have his son be present on a

regular basis in the clubhouse. While this cannot be construed as a change in behavior it does illustrate the wide array of choices that athletes have when pursuing their career in sport, not all of which are consistent with maximizing the return for the investor. Although there is a claw-back clause within the first two years if an athlete chooses to retire for reasons other than major injury, considering projections tend to be in the high-single to double digit range in years with respect to career longevity, valuations would be heavily impacted by the shortening of an athlete's career.

There are inherent risks in expecting the contracting parties to operate in good faith especially considering the unsecured nature of the obligations. Another form of moral hazard could arise when an athlete may willfully neglect to disclose a new brand income opportunity or simply refuse to pay and default on their contractual obligations. NFL wide receiver Kendall Wright signed a Brand Contract with Fantex for 10% of his future brand income on 26 March 2015 in exchange for an upfront payment of USD3.125 million. After making initial payments in 2017, Kendall Wright failed to make good on subsequent payment obligations despite repeated reminders and communication between Fantex and his representatives. Fantex pursued legal action in 2018 in San Francisco, California and a district judge ordered Kendall Wright to pay USD386,000 (including legal fees) to fulfill the terms of the contract (Fantex, Inc. v. Kendall Wright, 2018). Although this was resolved in Fantex's favor, this case served to highlight the operational challenges in such agreements but also raises questions on the absence of an early termination or buyout clause for a contract that extends into perpetuity.

Nicole Medeiros (2017) proposes an earnout provision allowing athletes to earn a portion of the Brand Contract payment based on achieving various performance goals or earning levels to address the issue of asymmetric information. This reduces the risk to investors from moral hazard risks as payments are broken up into earned installments. Another option could be a buyout clause which allows the athlete to repurchase his brand contract at a specified price or return to investors, which may give the athletes who outperform their brand contract the opportunity to repurchase their brand contract from Fantex, while providing investors with an adequate return.

V DREAM Fan Shares, SD26 LLC & Tokenization

In the most recent attempt to securitize and market the earnings potential of professional athletes, current NBA player Spencer Dinwiddie is resurrecting the concept of an investment and trading platform for securities originated and backed by athletes and entertainers, starting with himself. In 2019, Dinwiddie established DREAM Fan Shares ("DFS") – an Ethereum-based investment platform – to launch the first tokenized hybrid debt security backed by the cashflows from Dinwiddie's NBA playing contract, named "$SD8". The original $SD8 structure was a 3-year debt instrument which paid fixed interest over the first 2 years and repaid principal in addition to a "revenue-sharing" bonus in year 3 equivalent to 40% of Dinwiddie's 2021-22 post-tax basketball related income ("BRI") (Arnovitz, 2019). Dinwiddie owned a player option for USD12.3 million in 2021-22, and if his on-court success led to a more lucrative contract, investors would share in the upside. Barring a default and assuming post-tax BRI is around 50% of declared salary, investors would stand to earn an expected annual return between 7.4% (player option exercised) and 15.1% (max contract awarded) over the life of the note.

The total issuance was planned for up to USD13.5 million (90 Digital Tokens at

USD150,000 each) and made available only to accredited investors under Regulation D of the SEC. The maximum issue size represented only 40% of Dinwiddie's NBA Contract Salary (USD34 million) over the same period ensuring adequate cash flow, in addition to credit-enhancement features including placing USD3 million of reserves in Cash, Gold and Bitcoin on a public blockchain ledger until the maturity of the note (Charania, 2019). While default risk could be mitigated with reserves, moral hazard could be an issue since Dinwiddie may opt to contract with another team for a lower contract price due to personal or other reasons.

Ultimately, the NBA League Office rejected Dinwiddie's proposal after several discussions, considering the structure a violation of Article II Section 13 (d) of the 2017 NBA Collective Bargaining Agreement ("CBA") which states "…No player shall assign or otherwise transfer to any third party his right to receive Compensation from the Team under his Uniform Player Contract…" and were concerned the participating bonus optionality contravened anti-gambling regulations (NBA-NBPA CBA, 2017 p59-60). Dinwiddie is presently working with the NBA to modify his offering (renamed "$SD26" following the change in his jersey number) and will likely be issued as a straight 3-year bond with 4.95% interest and principal repayment at maturity (Sprung, 2020), although details on the finalized structure are undisclosed at this moment.

With a security backed by an athlete's playing contract, there are risks that extend beyond those of traditional debt or equity investments. Liquidity will be scarce given the small issue size and a viable secondary market may fail to materialize, forcing investors to hold the security to maturity. Moral hazard in the extreme case involving behavioral risk of the player which leads to early termination of the playing contract, might include substance abuse, illegal activities leading to dismissal from the team, etc. Another aspect that is rarely invoked but has become of special relevance now involves reduction of player salaries under a Force Majeure Event, such as the COVID-19 pandemic. Under the NBA's CBA Article XXXIX, Section 5, Players could lose 1/92.6th of their salary for every game missed as a result of a Force Majeure Event, which includes war and terrorism, natural disasters and epidemics (NBA-NBPA CBA, 2017 p.468). On 11 March 2020, the NBA suspended the remainder of the 2019-20 NBA Season due to the escalating spread of the COVID-19 pandemic. While the NBA has confirmed that full salaries will be paid up to 1 April 2020, the League Office may invoke the Force Majeure clause and cut salaries starting 15 April 2020 to recover lost income from the cancelled games (Cancian, 2020). Depending on how long the social distancing measures remain in place, players and the league stand to lose significant amounts of basketball related income.

Ⅵ Conclusion

The sports motif can bring excitement to the classroom and help stir student interest in financial and economic theory (Mahar and Paul, 2010; Butler, Butler, and Considine, 2016). This research note should provide instructors of sports business, intermediate finance, and intermediate microeconomics with information to provide a real-life example in class involving issues related to asymmetric information and income sharing type agreements. The Fantex Series Tracking Stocks on professional athletes may not have gained widespread investor acceptance and the financial structure of the agreement could be strengthened to favor the investor and protect against the issues of moral hazard and information asymmetry. However, securities based on income sharing agreements represent an opportunity for professional athletes to capitalize on their current performance and popularity to monetize their future income and protect

themselves against downside risks. The issues of trading liquidity, credible management and the performance tracking error of the securities will likely need to be addressed to further expand investor appeal. On the other hand, these income sharing agreements mark another milestone in the financial innovations created for the entertainment and sports industry to continue pushing the boundaries of finance.

Appendix

The appendix summarizes examples of financial modeling that can easily be introduced and incorporated into a lecture as "real world" applications: Vernon Davis series stock price volatility, Fantex stock options, and valuation of the securities proposed by Dinwiddie.

Example 1: Volatility

Fantex athlete stocks were traded on the FBS alternative trading system (ATS) through 2015. The observed stock prices could provide us with information on the investors perception of the riskiness of the cash flows (brand income) generated by the athlete including the impact of a potential injury. We apply the high-low volatility estimates, developed in Parkinson (1980) and discussed in Garman and Klass (1980) where q denotes the intervals on an annual basis and N refers to the number of quarters in the data series. H and L are the high and low stock price for each observed quarter.

$$\sigma_P = \sqrt{\frac{q}{N}\sum_{t=1}^{N}\frac{1}{4(ln2)}(lnH_t - lnL_t)}$$

Thin and non-synchronous trading of the Fantex stock pose a problem in estimation as the true high price higher than the observed high price and true low price lower than the observed low price, so the current estimate is a lower bound within this context. The SEC files provide us with seven high and low quarterly prices for the Fantex Vernon Davis series stock in 2014 and 2015. This gives us q=4 (quarterly) and N=7 and a Vernon Davis price volatility estimate of approximately 124% (annual basis).

Example 2: Executive Stock Option

In practice, the Black Scholes model is often used to value the executive stock for accounting purposes. Data for executive stock options for the Chief Legal Officer is outlined in detail in the SEC 10-K documents. The underlying volatility is given as 0.655, the risk-free rate is 0.0175, and the strike price at 1.61 for options maturing July 2023. Assuming a vesting period of 1.5 years, we will set the time to maturity to 6 years. One can confirm the reported value of 0.967 reported in the 10-K by a straightforward application of the Black Scholes formula.

Example 3: Proposed $SD8 / $SD26 Structure (Spencer Dinwiddie)

Given the information provided in the popular press, the original Dinwiddie security proposed in 2019 could be valued as

$$Value_{Original\ Proposal} = \left[\sum_{t=1}^{T}\frac{\left(\frac{0.025}{12}\right)Principal_{Original}}{\left(1+y_{Original}\right)^{t}}\right] + \frac{Principal_{Original} + 0.4(V)}{(1+y_{Original})^{T}}$$

where V= max (USD12.3 *million*, *New salary*) is the value of the bonus earned in three years based on his player option which provides for an effective floor of USD12.3 million. y is the yield (monthly basis) for the bond with a maturity in T months. The proposed maturity of the contract is 3 years or T=36 months and the proposed coupon rate was 2.5% p.a. We assume Dinwiddie will not opt out of his player option to sign a contract of lower value than USD12.3 million (e.g. to allow team to sign other free agents with the excess salary cap space). The above is on a pre-tax basis.

The bond price as outlined in the revised proposal in early 2020 would be the equivalent of a straight bond paying 4.95% p.a. monthly with a 3 year maturity.

$$Value_{Revised\ Proposal} = \left[\sum_{t=1}^{T} \frac{\left(\frac{0.0495}{12}\right) Principal_{Revised}}{(1+y_{Revised})^{t}}\right] + \frac{Principal_{Revised}}{(1+y_{Revised})^{T}}$$

Acknowledgments

The authors thank Naoya Takezawa, Carolin Schlueter, and Akihiko Ozawa for comments. Takezawa would like to thank the College of Business Collaborative Project Research Fund for support.

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