MLB Player Contract Analysis

An Analysis using

What If Financial Pro 2025 from App Store

by Cassiopeia Technology

Outline – DCF

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- **MLB Luxury Tax Calculation on Ohtani’s Deferred Compensation**
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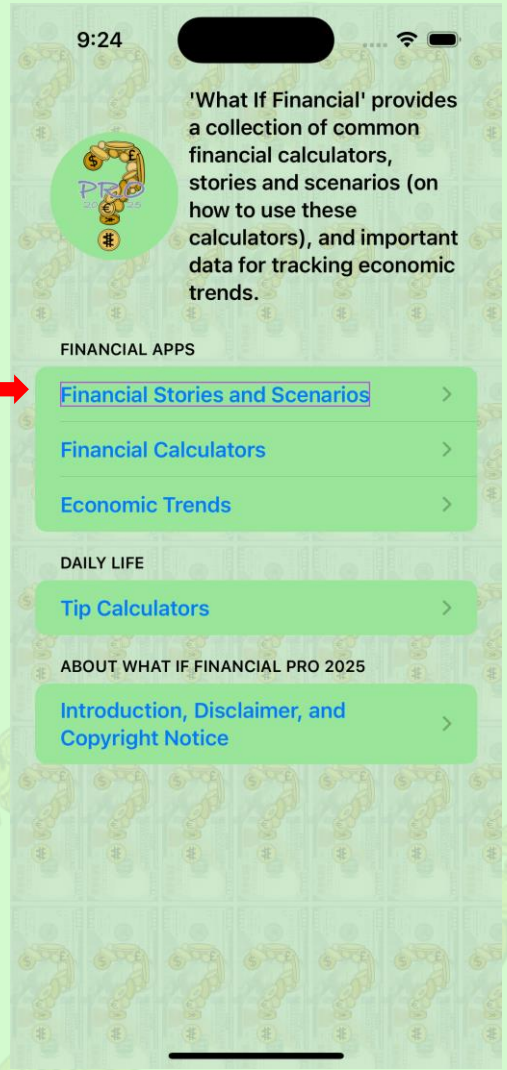
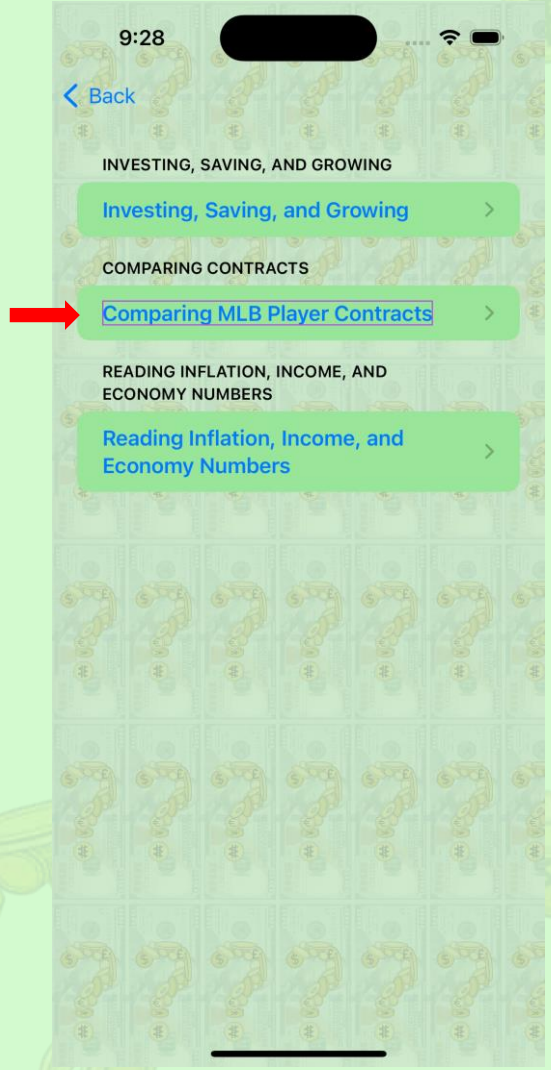
Off-Season Games: Contract Negotiations

- Another Major League Baseball season has started, promising many exciting games, but lot of actions (maybe more important deciding post-season chances) happened during off-season months, when managers, players, and agents play the game of recruitment and contract negotiation.
- **Almost every year there would ne a new historical contract signed by a superstar player, who do you think got the best deal?**
- **‘What if Financial’** app follows standard valuation logic, Discounted Cash Flow Analysis (DCF) and an advanced version, Presence-Adjusted Cash Flow Analysis (PACF)
- Showcase these calculators analyzing several big contracts in recent MLB history.

What if Financial Stories on MLB Contracts

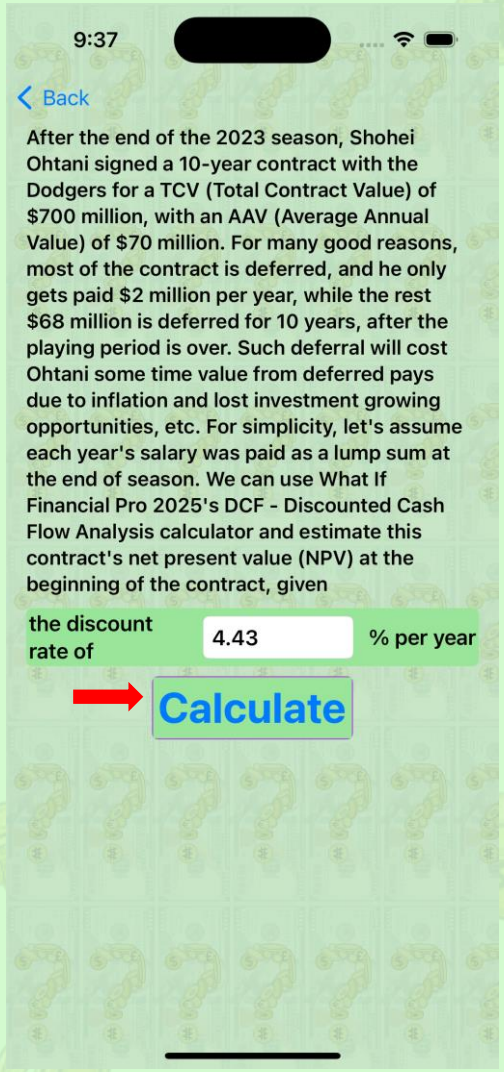


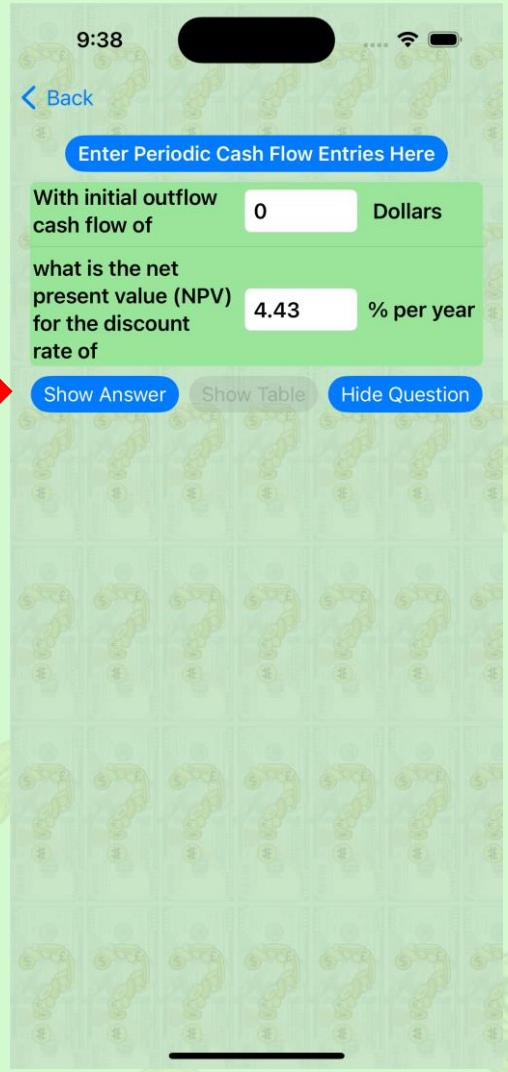


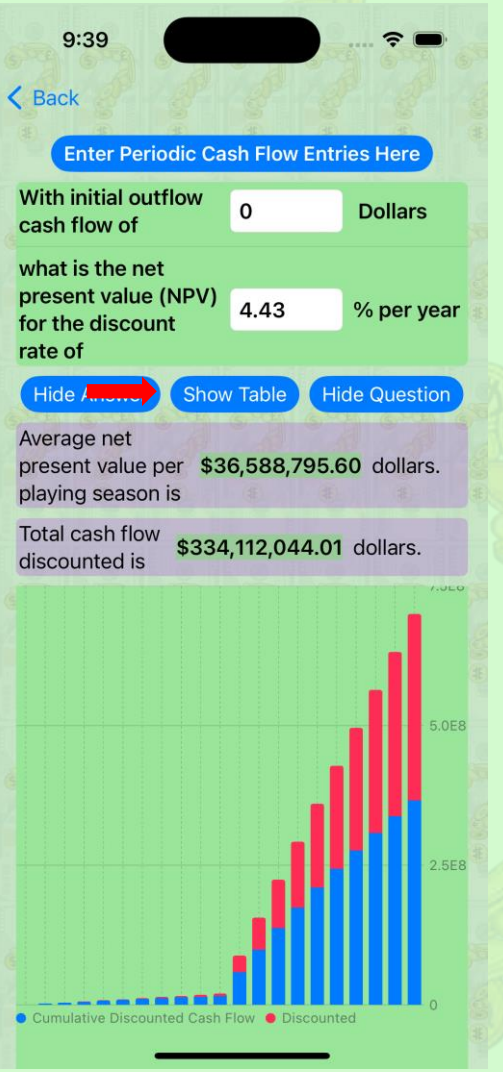
Shohei Ohtani's Contract with the Dodgers

- After the end of the 2023 season, Shohei Ohtani signed a 10-year contract with the Dodgers for a TCV (total contract value) of $700 million
- For many good reasons, most of the contract is deferred, and he only gets paid $2 million per year, while the rest $68 million is deferred for 10 years, after the end of playing years
- Such deferral will cost Ohtani time value from deferred pays
- Assuming each year's salary was paid as a lump sum at end of season, what is the contract's NPV (net present value) at the beginning of the contract?
- We can use 'What If Financial' DCF (discounted cash flow analysis) with a discounted rate of 4.43% per year (explained later)

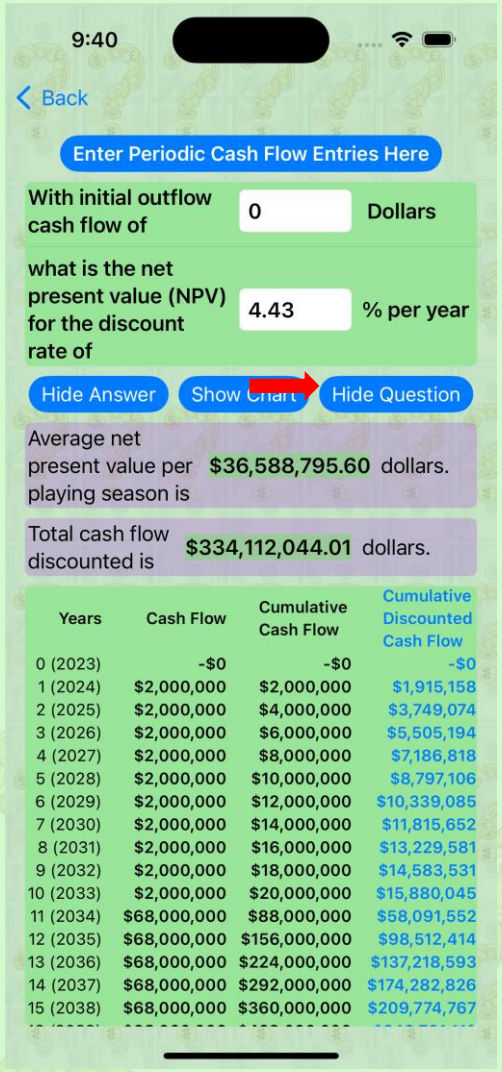
Shohei Ohtani’s Contract with the Dodgers







Shohei Ohtani’s Contract with the Dodgers



Years	Cash Flow	Cumulative Cash Flow	Cumulative Discounted Cash Flow
0 (2023)	-$0	-$0	-$0
1 (2024)	$2,000,000	$2,000,000	$1,915,158
2 (2025)	$2,000,000	$4,000,000	$3,749,074
3 (2026)	$2,000,000	$6,000,000	$5,505,194
4 (2027)	$2,000,000	$8,000,000	$7,186,818
5 (2028)	$2,000,000	$10,000,000	$8,797,106
6 (2029)	$2,000,000	$12,000,000	$10,339,085
7 (2030)	$2,000,000	$14,000,000	$11,815,652
8 (2031)	$2,000,000	$16,000,000	$13,229,581
9 (2032)	$2,000,000	$18,000,000	$14,583,531
10 (2033)	$2,000,000	$20,000,000	$15,880,045
11 (2034)	$68,000,000	$88,000,000	$58,091,552
12 (2035)	$68,000,000	$156,000,000	$98,512,414
13 (2036)	$68,000,000	$224,000,000	$137,218,593
14 (2037)	$68,000,000	$292,000,000	$174,282,826
15 (2038)	$68,000,000	$360,000,000	$209,774,767

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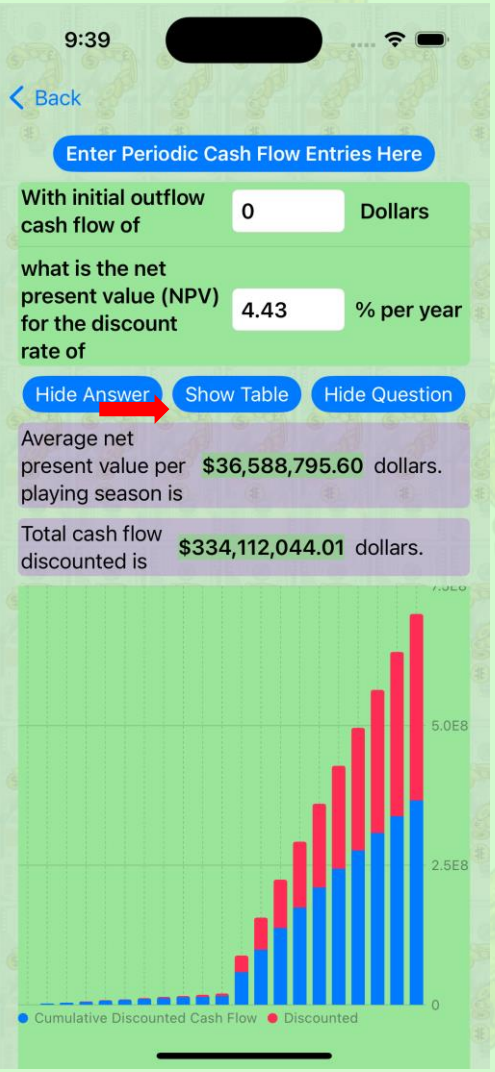
15 (2038)	$68,000,000	$360,000,000	$209,774,767
16 (2039)	$68,000,000	$428,000,000	$243,761,112
17 (2040)	$68,000,000	$496,000,000	$276,305,730
18 (2041)	$68,000,000	$564,000,000	$307,469,782
19 (2042)	$68,000,000	$632,000,000	$337,311,830
20 (2043)	$68,000,000	$700,000,000	$365,887,956



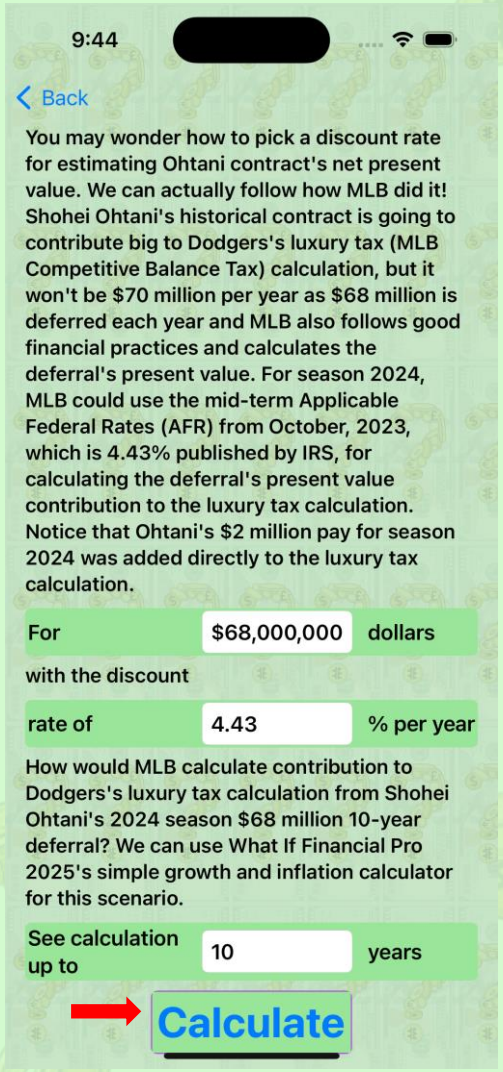
Shohei Ohtani’s Contract with the Dodgers

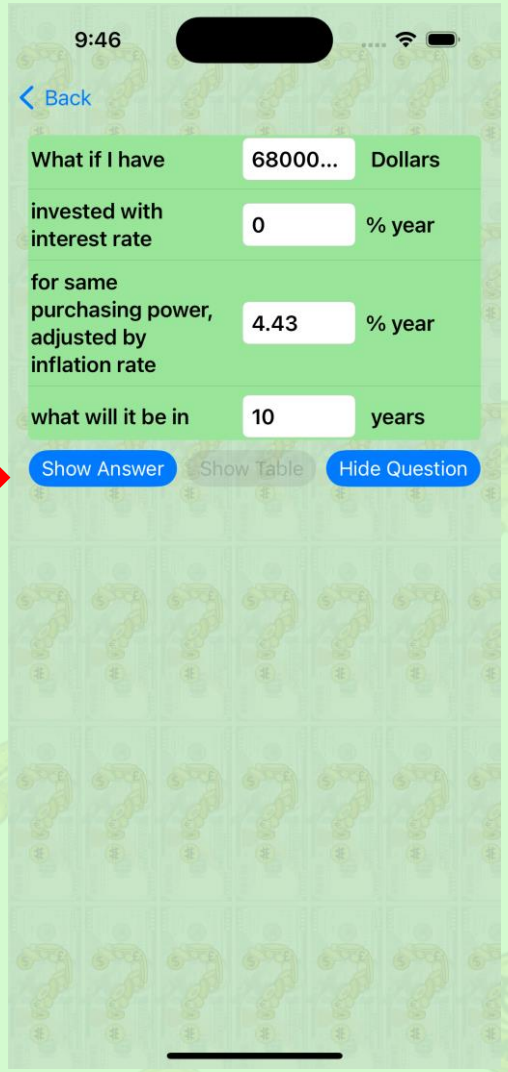
- Ohtani’s contract is worth **$366 million** in present value, $334 million discounted from his $700 million contract
- **$36.6 million** per playing year

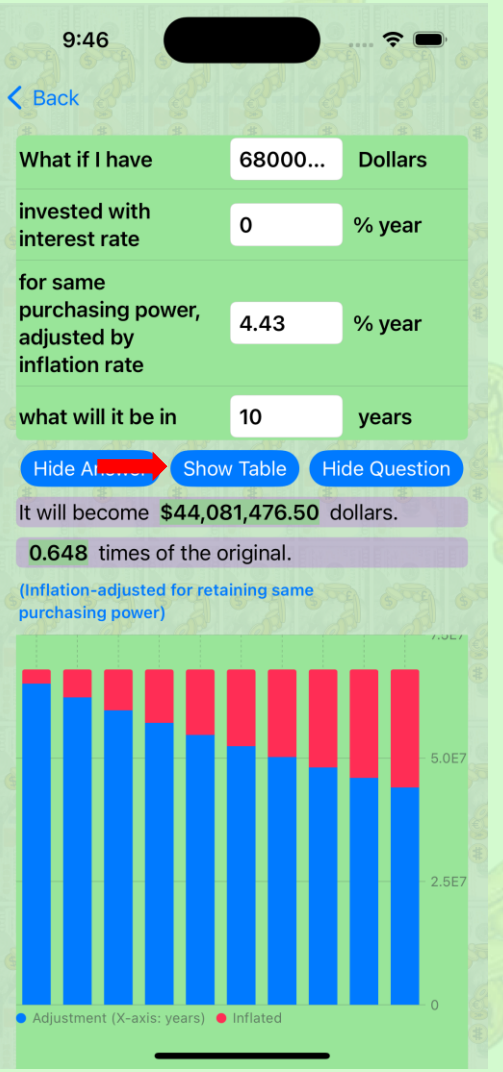
MLB Luxury Tax Calculation on Ohtani's Deferred Compensation

- You may wonder how to pick a discount rate for estimating Ohtani's net present value
- We can follow how MLB did it!
- As Ohtani's contract is heavily deferred, MLB also calculated deferral's present value to estimate its contribution to Dodgers' luxury tax
- For season 2024, MLB could use the **mid-term Applicable Federal Rates (AFR)** from October 2023, which is **4.43%**
- Note that you can adjust the discounted rate in the What If Financial app to suit your need

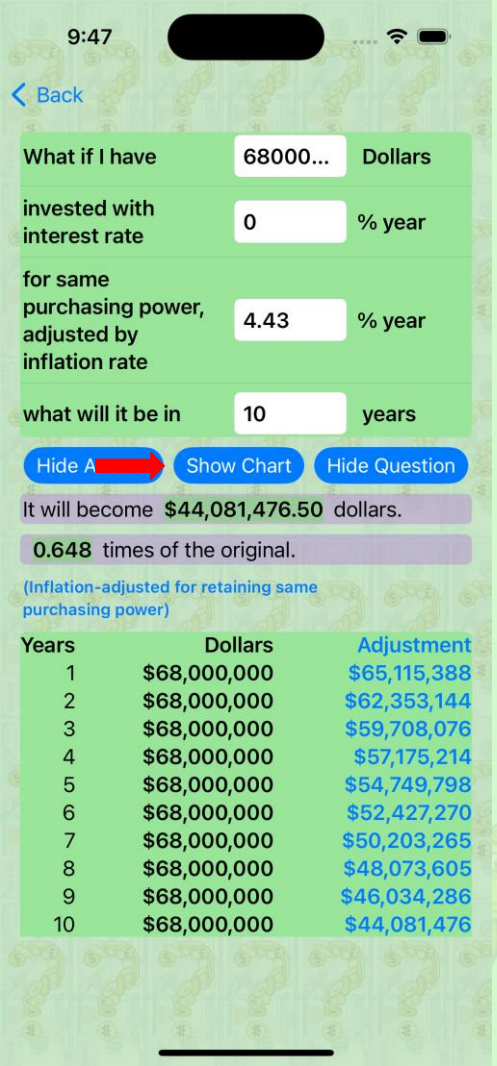
MLB Luxury Tax Calculation on Ohtani's Deferred Compensation

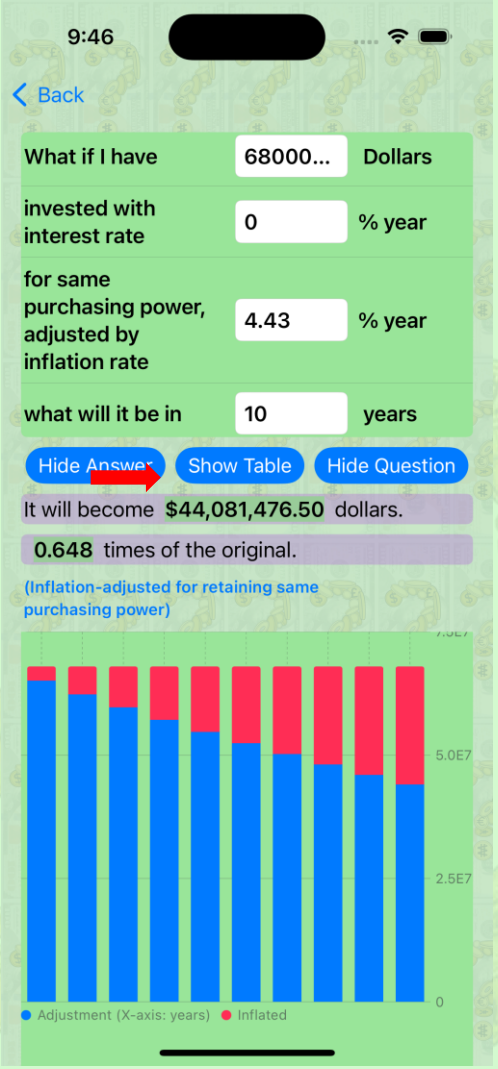






MLB Luxury Tax Calculation on Ohtani's Deferred Compensation





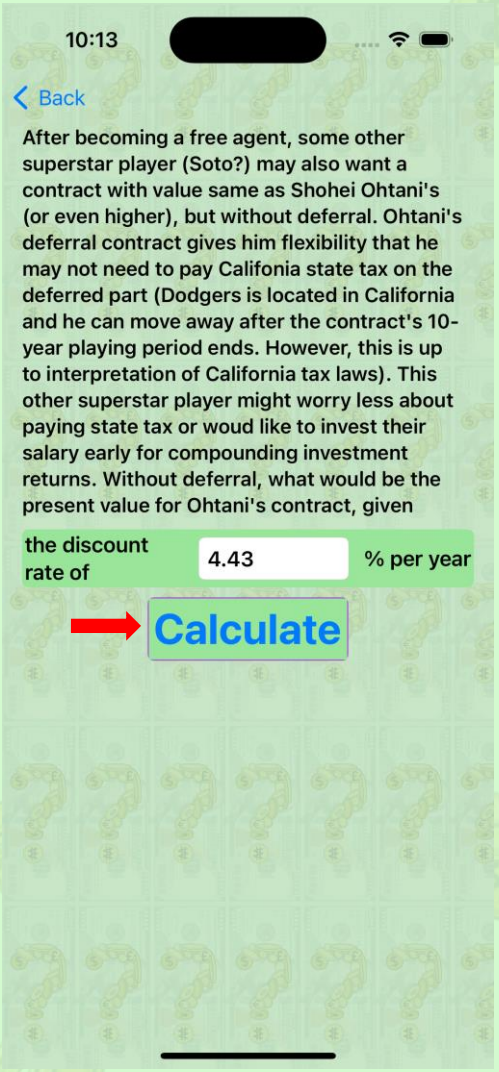
MLB Luxury Tax Calculation on Ohtani's Deferred Compensation

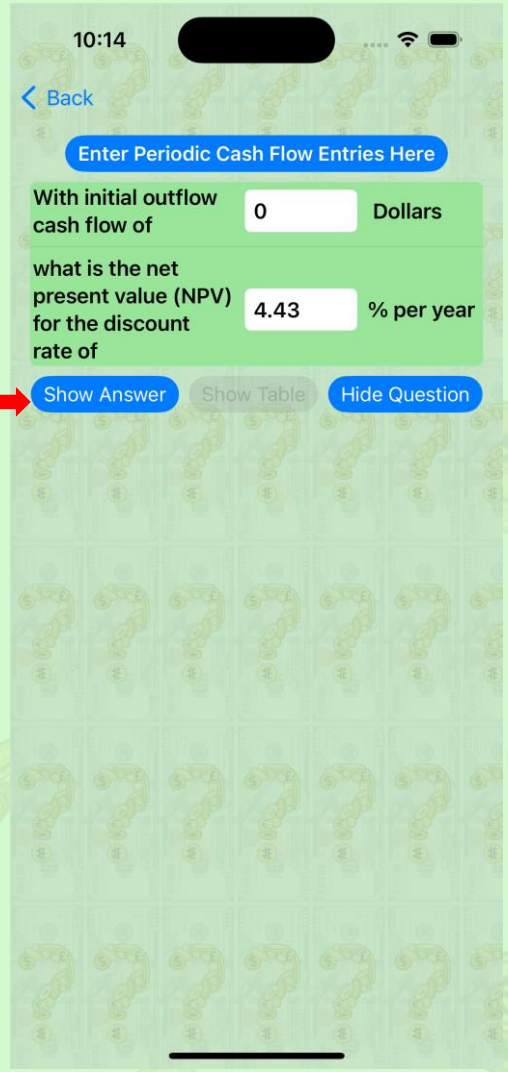
- For calculating contribution to Dodgers' luxury tax base, Ohtani's deferral is not $68 million a year, but instead **$44 million**
- Notice that adding the non-deferred $2 million, Ohtani contract's contribution to Dodgers' luxury tax calculation is **$46 million** for season 2024

Shohei Ohtani’s Contract without Deferral

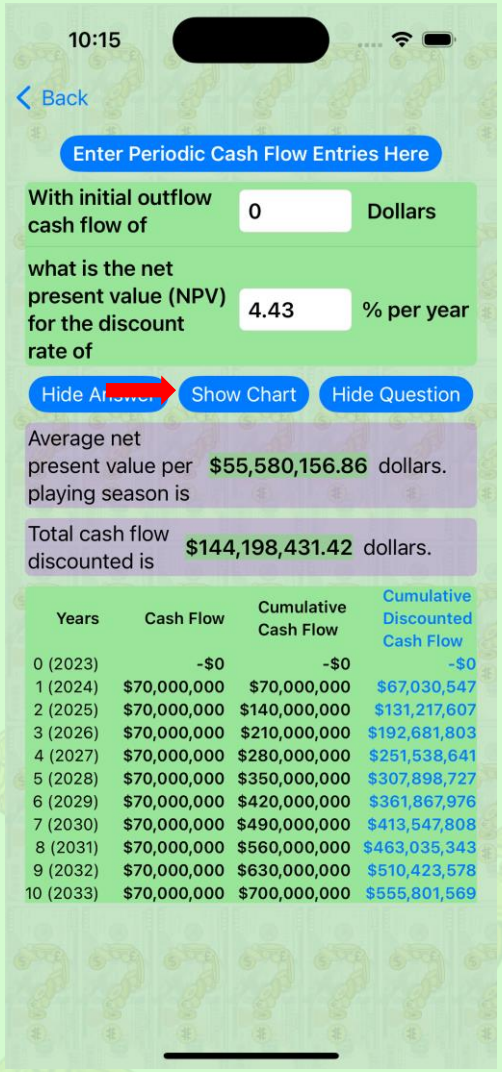
- After becoming a free agent, some other superstar player, like Soto, may also want a contract like Ohtani’s, or even higher
- **But without deferral**
- Ohtani’s deferral contracts have many benefits, but what is the present value of the contract without deferred payments?

Shohei Ohtani's Contract without Deferral





Shohei Ohtani’s Contract without Deferral



Years	Cash Flow	Cumulative Cash Flow	Cumulative Discounted Cash Flow
0 (2023)	-$0	-$0	-$0
1 (2024)	$70,000,000	$70,000,000	$67,030,547
2 (2025)	$70,000,000	$140,000,000	$131,217,607
3 (2026)	$70,000,000	$210,000,000	$192,681,803
4 (2027)	$70,000,000	$280,000,000	$251,538,641
5 (2028)	$70,000,000	$350,000,000	$307,898,727
6 (2029)	$70,000,000	$420,000,000	$361,867,976
7 (2030)	$70,000,000	$490,000,000	$413,547,808
8 (2031)	$70,000,000	$560,000,000	$463,035,343
9 (2032)	$70,000,000	$630,000,000	$510,423,578
10 (2033)	$70,000,000	$700,000,000	$555,801,569

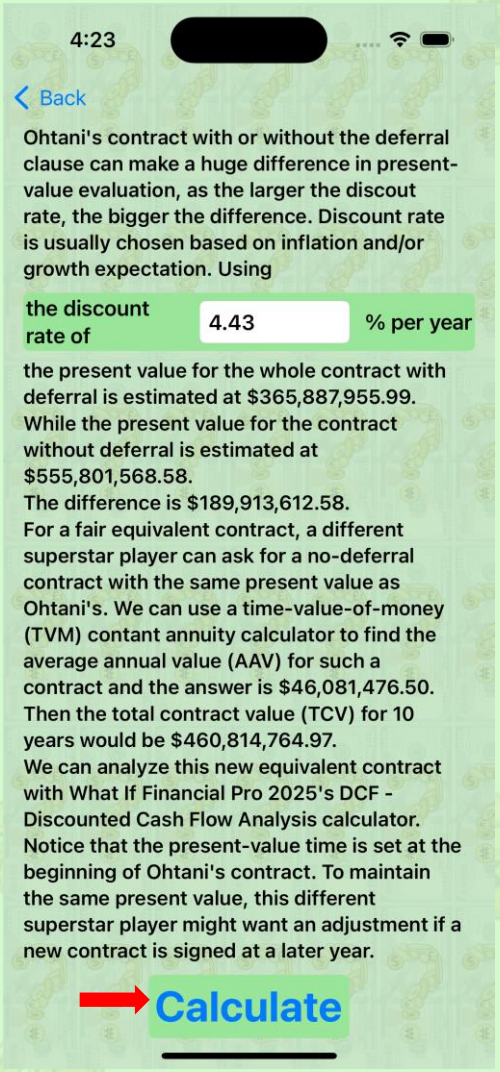
Shohei Ohtani’s Contract without Deferral

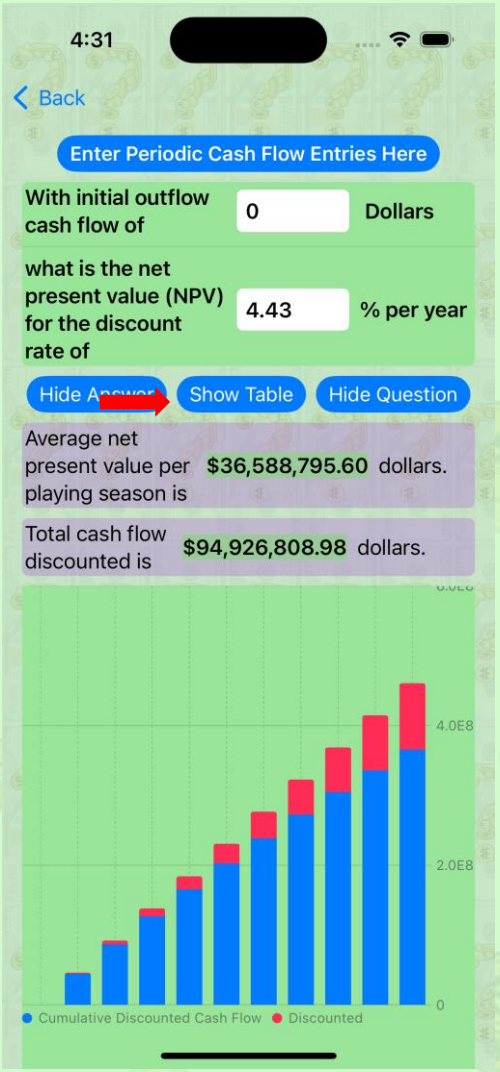
- Ohtani’s contract would be worth **$556 million** in present value, $144 million discounted from his $700 million contract
- **$55.6 million** per playing year

Shohei Ohtani's Contract No-Deferral Present-Value Equivalent

- Ohtani contract's present value evaluation is hugely different with or without the deferral clause
- A different player could ask for an equivalent contract in terms of present value, but without deferral
- Then, **what's the nominal value of this equivalent contract?**

Shohei Ohtani's Contract No-Deferral Present-Value Equivalent





Years	Cash Flow	Cumulative Cash Flow	Cumulative Discounted Cash Flow
0 (2023)	-$0	-$0	-$0
1 (2024)	$46,081,476	$46,081,476	$44,126,665
2 (2025)	$46,081,476	$92,162,953	$86,381,444
3 (2026)	$46,081,476	$138,244,429	$126,843,742
4 (2027)	$46,081,476	$184,325,906	$165,589,600
5 (2028)	$46,081,476	$230,407,382	$202,691,828
6 (2029)	$46,081,476	$276,488,859	$238,220,152
7 (2030)	$46,081,476	$322,570,335	$272,241,337
8 (2031)	$46,081,476	$368,651,812	$304,819,318
9 (2032)	$46,081,476	$414,733,288	$336,015,316
10 (2033)	$46,081,476	$460,814,765	$365,887,956

Shohei Ohtani’s Contract No-Deferral Present-Value Equivalent

- An equivalent contract with same present value as Ohtani’s would be **$461 million** in nominal compared to Ohtani’s $700 million
- **$46.1 million** per playing year

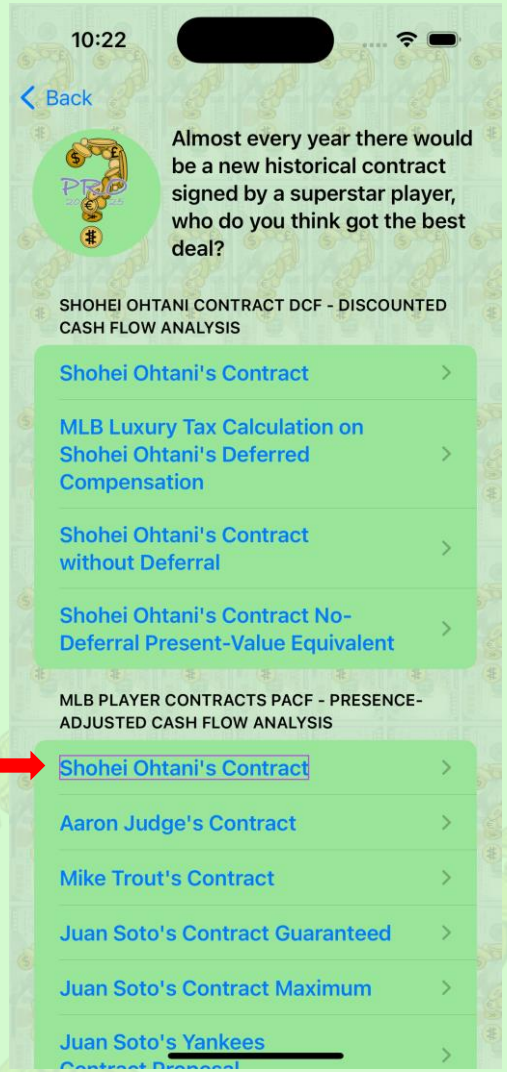
Discounted Cash Flow Analysis (DCF) vs. Presence-Adjusted Cash Flow Analysis (PACF)

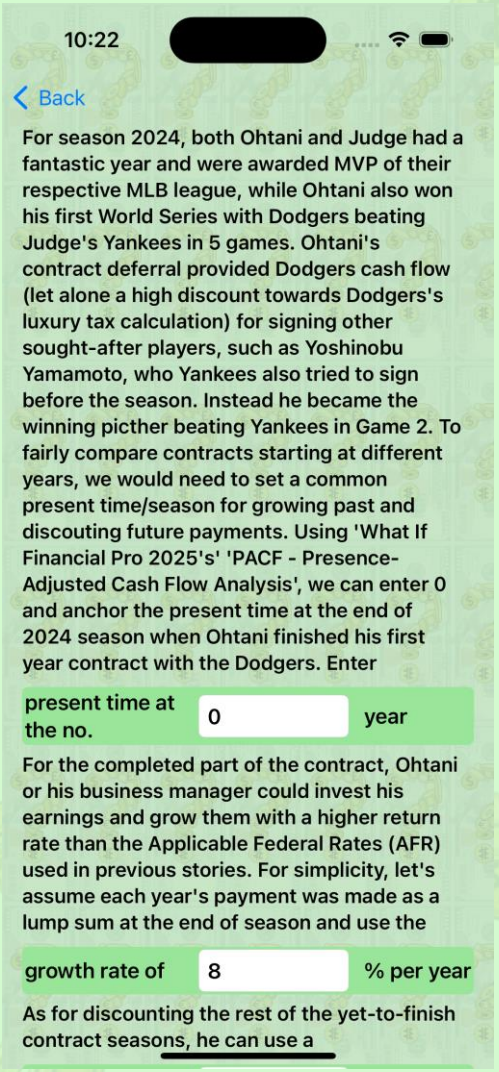
- **DCF** is a common method analyzing and comparing investment proposals or contracts over discounted cash flow returns
- It usually has an initial outgoing lump-sum (at present value) and a sequence of incoming net cash flows discounted by time of value, thus discounted
- **However not all investment proposals start at the same (present) time!**
- MLB player contracts are good examples
- **Presence-Adjusted Cash Flow Analysis (PACF)** improved DCF and discount/inflate cash flow anchored at a common present time

Shohei Ohtani's Contract PACF Analysis

- Set present time at the **0^{th}** year, which is at the end of season **2024** , while Ohtani's contract started in season **2024**
- His first year $2 million pay is at present value
- The rest of the contract is discounted yearly (for simplicity)
- **Use a growth and discounted rate of 8% as many business manager should be able to achieve this ROI goal if not higher year over year**
- Note that you can adjust the growth and discount rates in the What If Financial app to suit your need

Shohei Ohtani’s Contract PACF Analysis





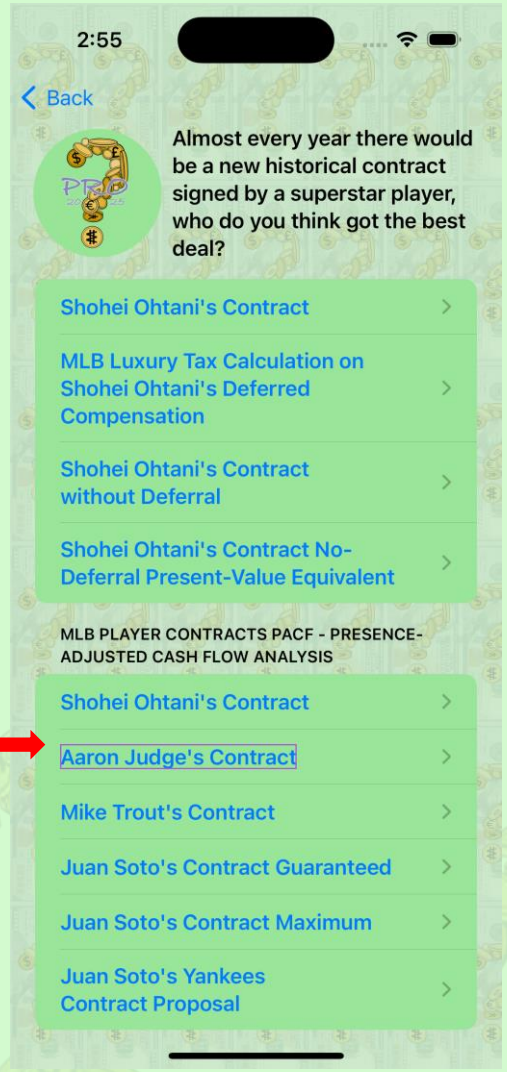
Shohei Ohtani’s Contract PACF Analysis

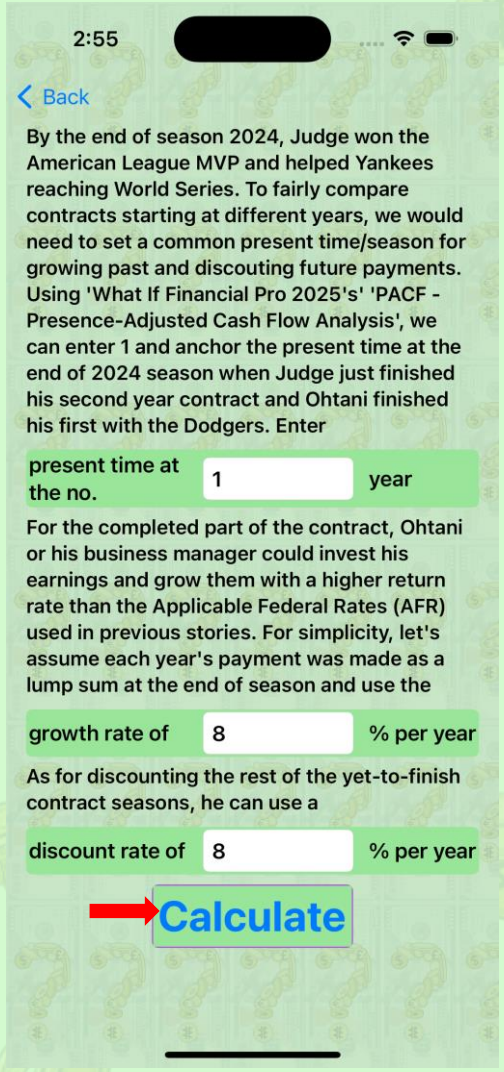
- Ohtani’s contract would be worth **$243 million** in present value, **$457 million** discounted from his **$700 million**, **10**-years contract with payments over **20** years
- **$24.3 million** per playing year

Aaron Judge’s Contract PACF Analysis

- Set present time at the **1st** year, which is at the end of season **2024**, while Judge’s contract started in season **2023**
- The contract is discounted yearly (for simplicity)
- **Use a growth and discounted rate of 8% as many business manager should be able to achieve this ROI goal if not higher year over year**
- Note that you can adjust the growth and discount rates in the What If Financial app to suit your need

Aaron Judge's Contract PACF Analysis





Years	Cash Flow	Adjusted Net Cash Flow	Cumulative Adjusted Cash Flow
0 (2023)	$40,000,000	$43,200,000	$43,200,000
1 (2024)	$40,000,000	$40,000,000	$83,200,000
2 (2025)	$40,000,000	$37,037,037	$120,237,037
3 (2026)	$40,000,000	$34,293,553	$154,530,590
4 (2027)	$40,000,000	$31,753,290	$186,283,879
5 (2028)	$40,000,000	$29,401,194	$215,685,074
6 (2029)	$40,000,000	$27,223,328	$242,908,401
7 (2030)	$40,000,000	$25,206,785	$268,115,187
8 (2031)	$40,000,000	$23,339,616	$291,454,802

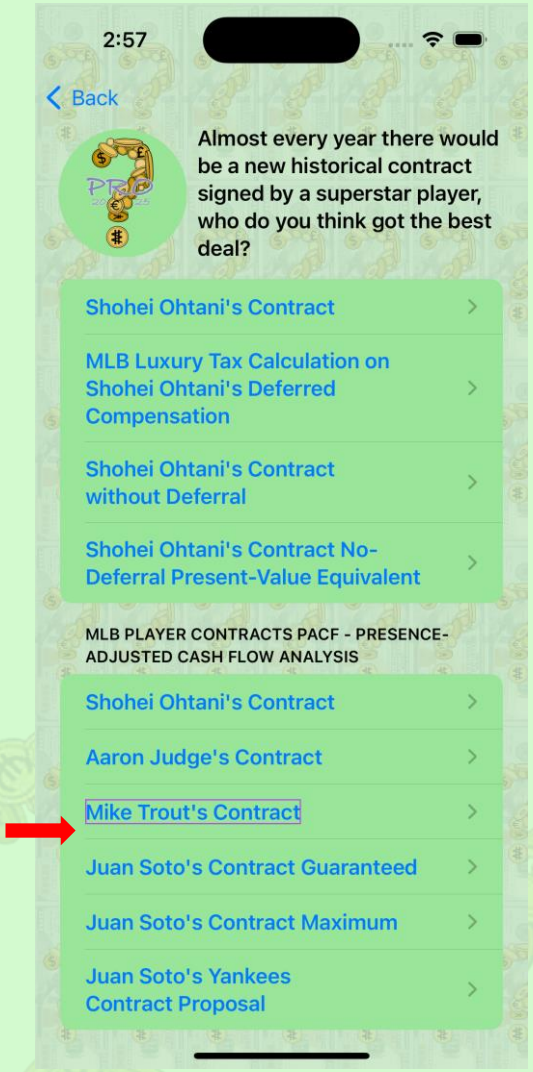
Aaron Judge’s Contract PACF Analysis

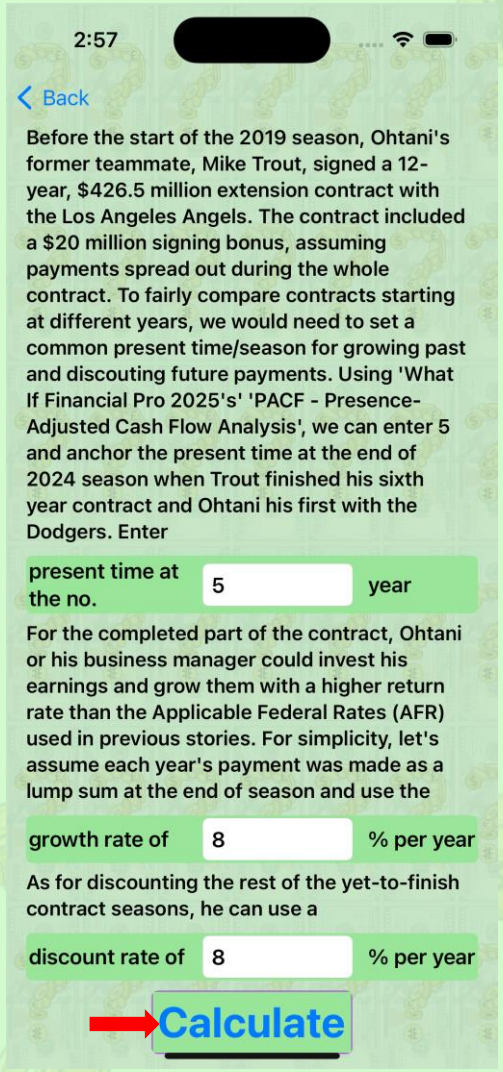
- Judge’s contract would be worth **$291.5 million** in present value, **$68.5 million** discounted from his **$360 million** contract, **9**-years contract
- **$32.4 million** per playing year

Mike Trout's Contract PACF Analysis

- Set present time at the **5th** year, which is at the end of season **2024**, while Trout's contract started in season **2019**
- The contract is discounted yearly (for simplicity)
- **Use a growth and discounted rate of 8% as many business manager should be able to achieve this ROI goal if not higher year over year**
- Note that you can adjust the growth and discount rates in the What If Financial app to suit your need

Mike Trout’s Contract PACF Analysis





Years	Cash Flow	Adjusted Net Cash Flow	Cumulative Adjusted Cash Flow
0 (2019)	$17,666,667	$25,958,129	$25,958,129
1 (2020)	$37,666,667	$51,245,084	$77,203,214
2 (2021)	$37,116,667	$46,756,310	$123,959,524
3 (2022)	$37,116,667	$43,292,880	$167,252,404
4 (2023)	$37,116,667	$40,086,000	$207,338,404
5 (2024)	$37,116,667	$37,116,667	$244,455,071
6 (2025)	$37,116,667	$34,367,284	$278,822,355
7 (2026)	$37,116,667	$31,821,559	$310,643,914
8 (2027)	$37,116,667	$29,464,407	$340,108,320
9 (2028)	$37,116,667	$27,281,858	$367,390,178
10 (2029)	$37,116,667	$25,260,980	$392,651,158
11 (2030)	$37,116,667	$23,389,796	$416,040,954

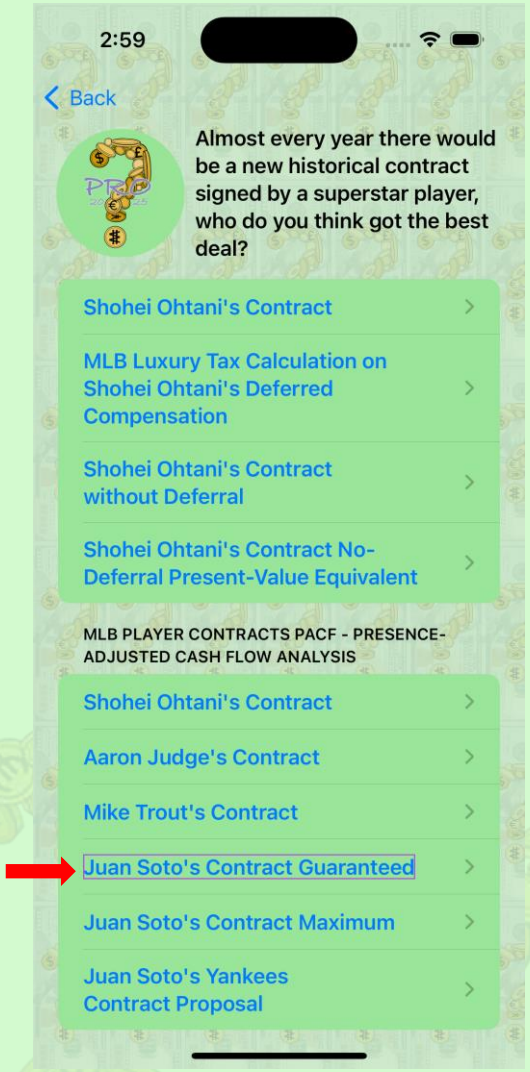
Mike Trout’s Contract PACF Analysis

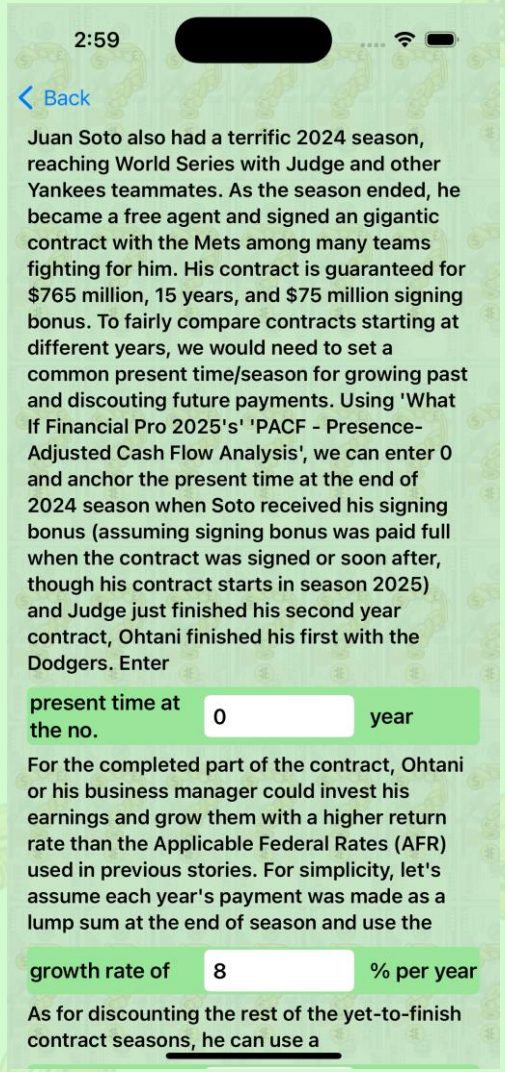
- Trout’s contract would be worth **$416 million** in present value, **$10.5 million** discounted from his **$426.5 million**, **12**-years contract
- **$34.7 million** per playing year

Juan Soto's Guaranteed Contract PACF Analysis

- Set present time at the **0^{th}** year, which is at the end of season **2024**, while Soto's contract started in season **2025**
- The contract included $75 million signing bonus, assumed paid at the end of season 2024
- The contract is discounted yearly (for simplicity)
- **Use a growth and discounted rate of 8% as many business manager should be able to achieve this ROI goal if not higher year over year**
- Note that you can adjust the growth and discount rates in the What If Financial app to suit your need

Juan Soto's Guaranteed Contract PACF Analysis





Years	Cash Flow	Adjusted Net Cash Flow	Cumulative Adjusted Cash Flow
0 (2024)	$75,000,000	$75,000,000	$75,000,000
1 (2025)	$51,000,000	$47,222,222	$122,222,222
2 (2026)	$51,000,000	$43,724,280	$165,946,502
3 (2027)	$51,000,000	$40,485,444	$206,431,946
4 (2028)	$51,000,000	$37,486,522	$243,918,469
5 (2029)	$51,000,000	$34,709,743	$278,628,212
6 (2030)	$51,000,000	$32,138,651	$310,766,863
7 (2031)	$51,000,000	$29,758,010	$340,524,873
8 (2032)	$51,000,000	$27,553,713	$368,078,586
9 (2033)	$51,000,000	$25,512,697	$393,591,283
10 (2034)	$51,000,000	$23,622,868	$417,214,151
11 (2035)	$51,000,000	$21,873,026	$439,087,177
12 (2036)	$51,000,000	$20,252,802	$459,339,979
13 (2037)	$51,000,000	$18,752,594	$478,092,573
14 (2038)	$51,000,000	$17,363,513	$495,456,086
15 (2039)	$51,000,000	$16,077,327	$511,533,413

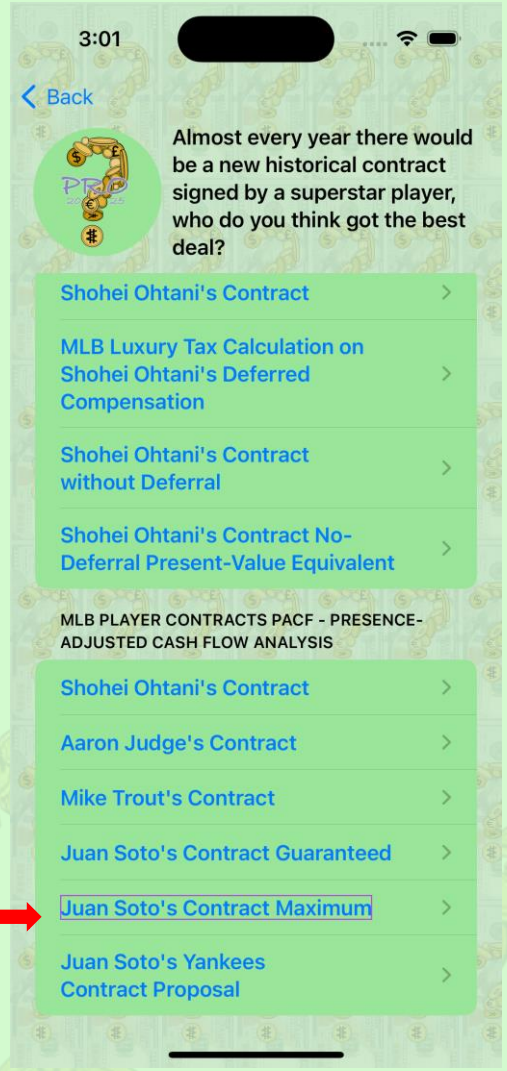
Juan Soto’s Guaranteed Contract PACF Analysis

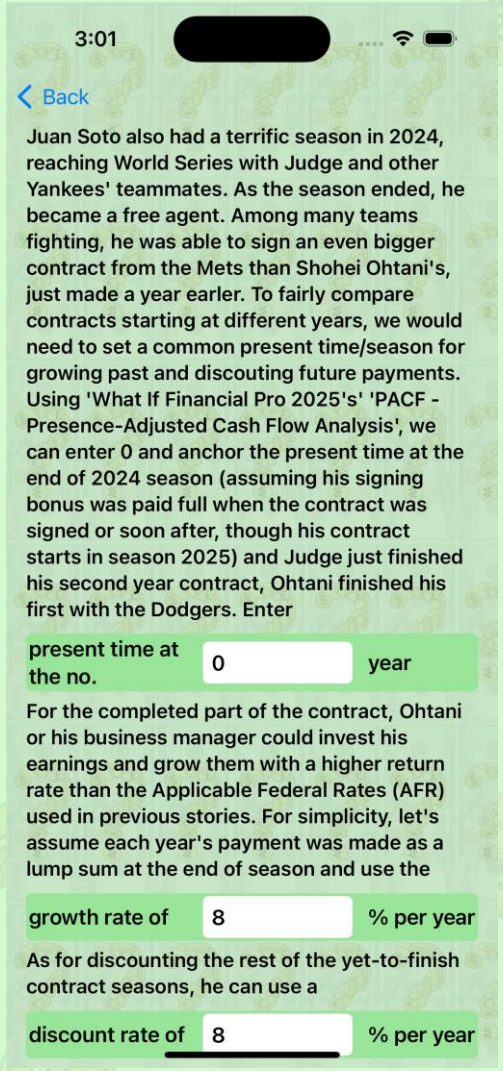
- Trout’s contract would be worth **$511.5 million** in present value, **$328.5 million** discounted from his **$765 million**, **15**-years contract and **$75 million** signing bonus
- **$32 million** per playing year

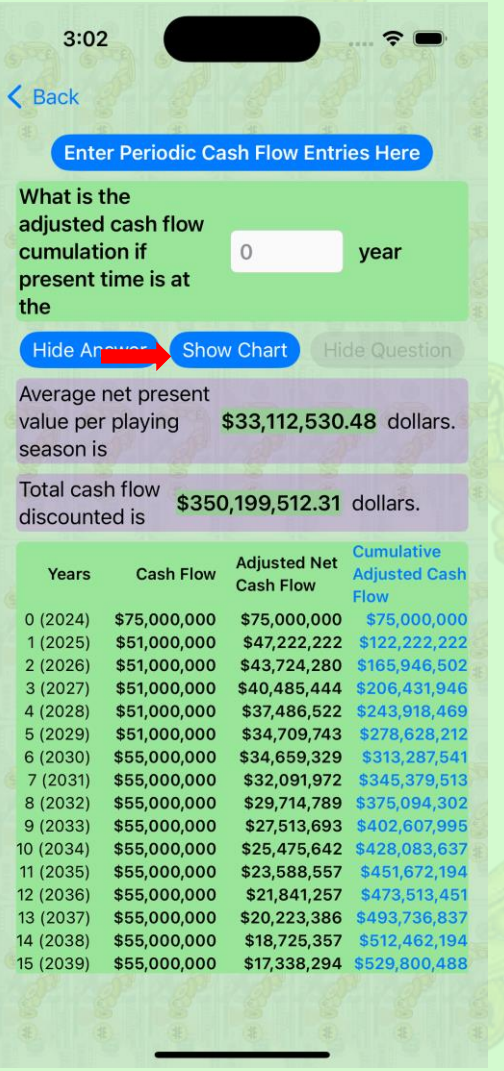
Juan Soto's Maximum Contract PACF Analysis

- Set present time at the **0^{th}** year, which is at the end of season **2024**, while Soto's contract started in season **2025**
- The contract included $75 million signing bonus, assumed paid at the end of season 2024 – included in the 0^{th} year cash flow
- The contract is discounted yearly (for simplicity)
- **Use a growth and discounted rate of 8% as many business manager should be able to achieve this ROI goal if not higher year over year**
- Note that you can adjust the growth and discount rates in the What If Financial app to suit your need

Juan Soto's Maximum Contract PACF Analysis







Years	Cash Flow	Adjusted Net Cash Flow	Cumulative Adjusted Cash Flow
0 (2024)	$75,000,000	$75,000,000	$75,000,000
1 (2025)	$51,000,000	$47,222,222	$122,222,222
2 (2026)	$51,000,000	$43,724,280	$165,946,502
3 (2027)	$51,000,000	$40,485,444	$206,431,946
4 (2028)	$51,000,000	$37,486,522	$243,918,469
5 (2029)	$51,000,000	$34,709,743	$278,628,212
6 (2030)	$55,000,000	$34,659,329	$313,287,541
7 (2031)	$55,000,000	$32,091,972	$345,379,513
8 (2032)	$55,000,000	$29,714,789	$375,094,302
9 (2033)	$55,000,000	$27,513,693	$402,607,995
10 (2034)	$55,000,000	$25,475,642	$428,083,637
11 (2035)	$55,000,000	$23,588,557	$451,672,194
12 (2036)	$55,000,000	$21,841,257	$473,513,451
13 (2037)	$55,000,000	$20,223,386	$493,736,837
14 (2038)	$55,000,000	$18,725,357	$512,462,194
15 (2039)	$55,000,000	$17,338,294	$529,800,488

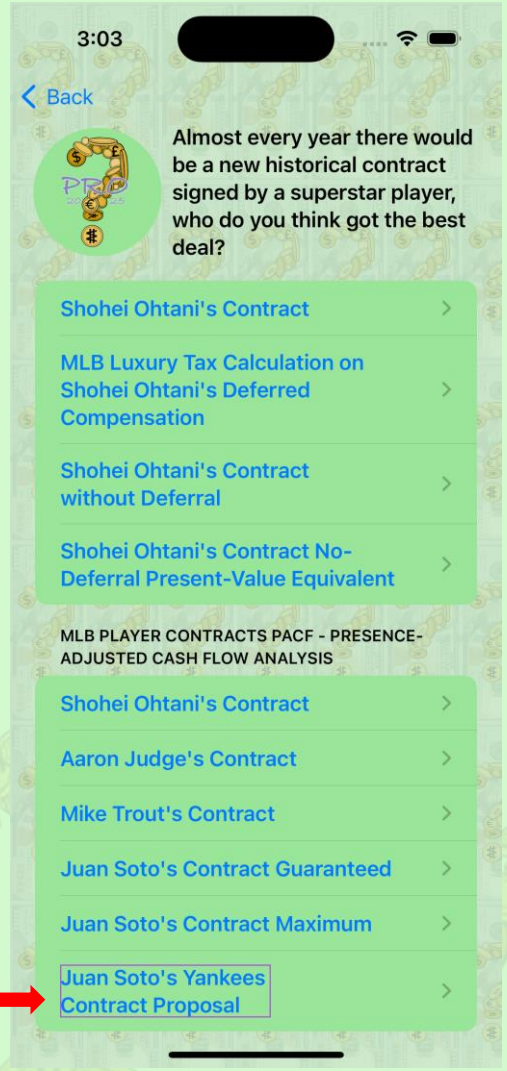
Juan Soto’s Maximum Contract PACF Analysis

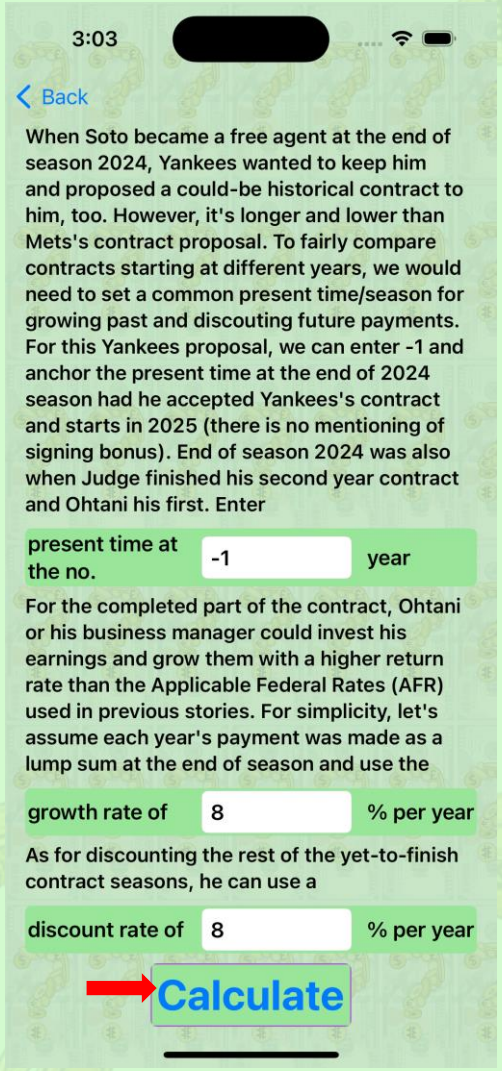
- Trout’s contract would be worth **$530 million** in present value, **$350 million** discounted from his maximum **$805 million**, **15**-years contract and **$75 million** signing bonus
- **$33 million** per playing year

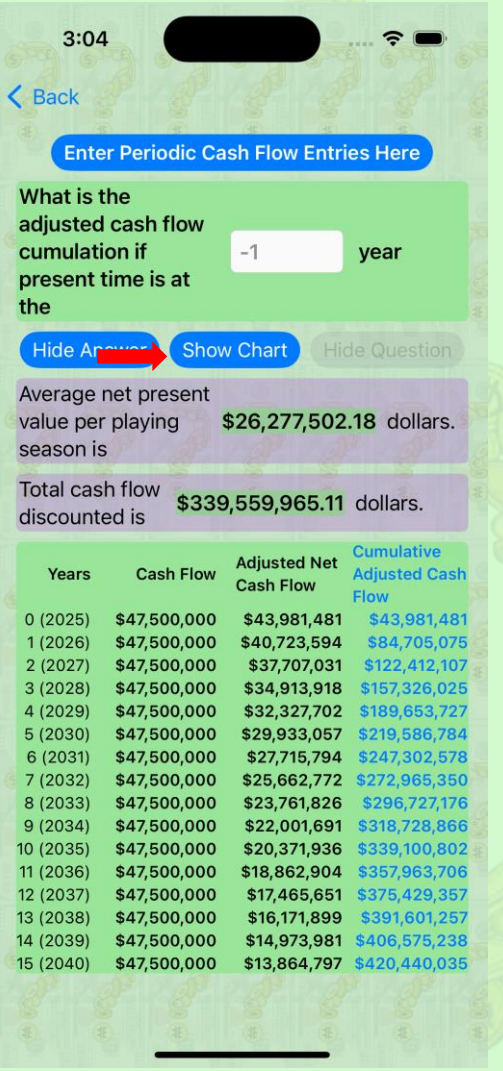
Juan Soto's Yankees Contract Proposal PACF Analysis

- Set present time at the **-1st** year, which is at the end of season **2024**, while Soto's contract started in season **2025**
- The contract is discounted yearly (for simplicity)
- **Use a growth and discounted rate of 8% as many business manager should be able to achieve this ROI goal if not higher year over year**
- Note that you can adjust the growth and discount rates in the What If Financial app to suit your need

Juan Soto's Yankees Contract Proposal PACF Analysis







Years	Cash Flow	Adjusted Net Cash Flow	Cumulative Adjusted Cash Flow
0 (2025)	$47,500,000	$43,981,481	$43,981,481
1 (2026)	$47,500,000	$40,723,594	$84,705,075
2 (2027)	$47,500,000	$37,707,031	$122,412,107
3 (2028)	$47,500,000	$34,913,918	$157,326,025
4 (2029)	$47,500,000	$32,327,702	$189,653,727
5 (2030)	$47,500,000	$29,933,057	$219,586,784
6 (2031)	$47,500,000	$27,715,794	$247,302,578
7 (2032)	$47,500,000	$25,662,772	$272,965,350
8 (2033)	$47,500,000	$23,761,826	$296,727,176
9 (2034)	$47,500,000	$22,001,691	$318,728,866
10 (2035)	$47,500,000	$20,371,936	$339,100,802
11 (2036)	$47,500,000	$18,862,904	$357,963,706
12 (2037)	$47,500,000	$17,465,651	$375,429,357
13 (2038)	$47,500,000	$16,171,899	$391,601,257
14 (2039)	$47,500,000	$14,973,981	$406,575,238
15 (2040)	$47,500,000	$13,864,797	$420,440,035

Juan Soto's Yankees Contract Proposal PACF Analysis

- Trout's contract would be worth **$420.4 million** in present value, **$339.6 million** discounted from his **$760 million**, **16**-years contract
- **$26.3 million** per playing year

Observations

- **DCF** and its improvement, **PACF**, can fairly compare contract or investment proposals
- **8%** discount rate corresponds to a reasonable, long-term ROI rate, while MLB (or IRS) uses mid-term Applicable Federal Rates (AFR), which is based on Fed's rates

Observations – based on 8% rate for growth and discount

	#playing years	Contract nominal value	Contract present value at end of season 2024	Average present value per playing year
Shohei Ohtani	10	$700 million	$243 million	$24.3 million
Aaron Judge	9	$360 million	$291.5 million	$32.4 million
Mike Trout	12	$426.5 million	$416 million	**$34.7 million**
Juan Soto Guaranteed	15	$840 million	$511.5 million	$32 million
Juan Soto Maximum	15	**$880 million**	**$530 million**	$33 million
Juan Soto Yankees Proposal	16	$760 million	$420.4 million	$26.3 million

Observations

- For many good reasons (won the World Series in the contract's first year!), Shohei Ohtani chose a heavily deferred contract, diminishing much of the contract's present value
- Among all these superstar contracts, Ohtani's 2024 present value is the lowest overall (**$243 million**) and per-playing-year average (**$24.3 million**)
- Juan Soto's Mets contract is the biggest, worth **$511.5 million** to **$530 million** in 2024 present value, average **$32 million** to **$33 million**
- Mike Trout **$34.7 million** average is the biggest as his contract started much earlier than others and had time to grow

Observations

- Yankees' proposal to Juan Soto is only worth $26.3 million in average, much smaller than the Mets contract Soto accepted, $32 million to $33 million
- ***No wonder Yankees cannot retain Soto***
- ***Notice that these analyses highly depend on the chosen rates, try some other rates and see how their valuation changes!***

The End

- **What If Financial Pro 2025 from App Store**
- **A financial and economic tool for professionals and common folks!**