Is Framing Bias Affecting FDNY Pension Decisions

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Definitions:

- Framing Bias – an information-processing bias in which a person answers a question differently based on the way in which it is asked (framed). Questions can be posed in a positive or negative frame. Positive or negative framing can influence the selection of suboptimal investments.

The pension decision

FDNY Retirees that have invested incremental funds into the pension through the ITHP and/or the 50% Indicator will generate a pension surplus. The pension surplus consists of capital contributed and interest earned. At retirement a retiree with a surplus must make an investment decision about that surplus. There are generally 3 options:

1. Annuitize the surplus - The retiree purchases an incremental annuity from the pension fund resulting in the maximum pension amount. We will also refer to this as annuitization.
2. Base Pension – The retiree elects to roll over, or transfer out, the surplus to an appropriate retirement account, e.g., an IRA.
3. Final Loan – In addition to rolling over the surplus the retiree also takes a loan (withdrawal) equaling 90% of the minimum required amount. The cost of this loan is subtracted from the base pension reducing the pension for the life of the pension. We will use final loan and final withdrawal interchangeably.

Purpose of the paper:

We explain how presenting the final loan as a “loan” may be influencing retirees against this option through framing bias. We briefly comment on annuitizing the surplus (#1) and the base pension (#2), but the focus is on the final loan (#3) and framing bias. Using quantitative analysis, we illustrate that declining annuitization and taking the final loan are mathematically equivalent.

In our experience most FDNY retirees elect the base pension option, and a very small minority in aggregate either annuitize or take the final loan. Our research shows that this is the exact opposite of what should happen. Our analysis indicates that most retirees should either annuitize or take the final loan, and the base pension should probably be selected the least of all three. In our opinion negatively framing the maximum distribution as a “loan” biases the retiree against this option. We think that framing bias is contributing to sub-optimal decisions for some retirees whose best choice is to take the final loan. Retirees should approach the pension decision from a neutral perspective and in an investment framework that considers risk and expected return. In addition, retirees should disregard the term “loan” as this presents information in a negative frame, and simply consider the final loan as 1 of 3 pension options.

Presentation as a loan – The negative frame

We believe that the FDNY presentation of the maximum withdrawal as a “final loan” casts this option in a negative light. Specifically, many retirees have consistently invested (saved) money for many years using the ITHP or 50% Indicator options. Through our experience these retirees tend to be savers. Hence, casting the maximum withdrawal as a final loan presents this option in a negative frame to these savers. In our experience we have found that very few FDNY retirees elect the final loan. In contrast, the NYPD presents this option as a “final distribution”, and we believe NYPD retirees elect the final distribution at a higher rate than FDNY retirees elect the “final loan”. There is no data available to quantify these decisions, so we offer a qualitative assessment based on experience.
**Pension estimate report example**

BC Bennet Gordon is retiring at 55 years old after a long rewarding 30-year career with the FDNY. After consistently investing throughout his career the Battalion Chief is presented with the following information:

- **Excess (surplus) details:**
  - Total excess amount: $300,000
  - Annual Increase in pension with excess: $28,127

- **Maximum eligible retirement loan:**
  - 90% of minimum required: $100,000
  - Annual cost with taking eligible loan: $9,376

To summarize the information above, BC Gordon can annuitize his surplus and receive $28,127 per year. The surplus is used to purchase the annuity and no longer belongs to the retiree. Alternatively, the Chief can take the “final loan” and receive an incremental $100,000 in addition to his $300,000 surplus, which can all be rolled into a retirement plan, this costs $9,376 more and is paid for through an annual reduction in the pension.

**The usual approach**

In our experience we have noted that most retirees have strong feelings towards not annuitizing or taking the final loan. Most default to the base pension and roll the surplus to a retirement account. Importantly, these predetermined decisions are not the result of analyzing the potential investment options.

BC Gordon thinks that surplus annuitization is a bad deal. As a lifelong saver he disdains loans. Over the years he has heard countless arguments against the final loan, especially at the kitchen table, where many have mentioned that you have to pay for the loan for the rest of your life. Without hesitation BC Gordon takes the base pension, rolls his surplus into an IRA, and declines the final loan.

**Quantitative Analysis**

The mathematical results are interesting. **When analyzed as an investment decision in isolation, the results imply that nobody should elect the base pension, and retirees should either be annuitizing their surplus or taking the final loan.** This is the opposite of our experience where the vast majority of FDNY retirees elect the base pension and a small minority annuitizes or takes the final loan.

The pension estimate report presents a single life annuity factor (SLAF). For BC Gordon this factor at 55 years old is 10.666. The SLAF is used to calculate the increase in pension for those that annuitize the excess, and the cost of the final loan for those that choose the final loan. Importantly, the same SLAF is used for both calculations.

The inverse of the 10.666 SLAF is 9.38%. This is equivalent to both the increase in pension (28,127) divided by the excess amount (300,000), and the cost of the loan (9,376) divided by the loan amount (100,000). This is an important relationship for a proper analysis of retiree options.

Some retirees have strong feelings against annuitizing their surplus, yet they are also disinclined to take the final loan. A dispassionate analysis of the numbers shows that this is not rational and is probably being driven by behavioral biases, including Framing Bias. We will use the numbers above from BC Gordon’s hypothetical pension estimate report to illustrate.

For every $100,000 of surplus BC Gordon is being offered an annuity of $9,376 per year for life (9,376 x 3 = 28,127). By declining this option BC Gordon is implying that he would rather have 100,000 today than $9,376 a year for life. Since the Chief has a $300,000 surplus, he is offered this deal times 3. BC Gordon has emphatically
turned down the annuitization option and it is obvious that he prefers the lump sum value of $100,000 over an annual annuity of $9,376.

The Chief is now presented with another deal called the final loan. In this deal the Chief is offered an additional $100,000 (final loan amount) today or an annuity of $9,376 (annual cost of loan) per year for life. BC Gordon was just offered the same exact deal and chose to roll over the surplus of $300,000, i.e., the Chief declined to trade away $100,000 today for $9,376 per year for life. **The Chief is now being offered the same exact deal, to receive another $100,000 today in lieu of $9,376 per-year for life. However, he now chooses the annuity over the lump sum value.** When analyzed in a quantitative frame, the logical flaw is obvious.

**Should anyone choose the base pension**

The analysis above has strong implications for retirees that think annuitization is a bad deal. Analyzing the pension decision in isolation, these retirees should take the final loan, since we have shown that **taking the final loan is mathematically equivalent to declining annuitization.**

Could there be a logical reason to take the base pension? Sure, there are probably several. Holistic portfolio diversification between the pension asset and investment portfolio is certainly one good reason. The pension surplus decision should not be made in isolation, but rather in the context of the retiree’s holistic portfolio. Retirees should use prudence in making this decision and may want to consider seeking professional help.

**An alternative presentation**

If this negatively framed information was presented differently, would it affect retiree pension decisions? We think so. The following is an example presented using the exact same surplus and loan numbers from above, but in a non-biased frame. BC Gordon is presented with the following three pension choices:

A. Receive an annual pension of $100,000 and rollover $400,000 of retirement funds
B. Annuitize the first $100,000 of retirement funds and receive a pension of $109,376. Rollover $300,000 of retirement funds
C. Annuitize all $400,000 of retirement funds and receive a pension of $137,503

We believe if the information was presented in this fashion many more retirees would elect pension A. Pension A is in fact the final loan, just presented differently. Pension B is the base pension and pension C is annuitization. The surprising result here is that in order to get to pension B, the base pension, you must annuitize a portion of retirement funds. Going from pension B to pension C requires annuitizing all retirement funds. For this example, we assumed that the “base pension” (pension B) is $109,376.

**This result should be striking for retirees that select the base pension and have strong feelings against annuitization. They are in fact annuitizing a portion of retirement funds.**

**Investment decision framework**

Each retiree has different circumstances and the optimal decision depends on those circumstances. That said, we can present a basic investment decision framework that considers return and risk to aid retirees and advisors

**Return:**

The option to annuitize can be analyzed like any investment option, i.e., by estimating the cash flows. SLAF’s are determined by the retirees age and determine the annual cash flows of the investment. Once the SLAF is known absolute rates of return can be estimated over the investment time horizon. The expected return can also
be compared relatively to comparable investments of the retiree/advisor’s choosing, e.g., a diversified investment portfolio, or the expected return on a similar security or a similar product like an annuity.

**Risk:**

There are several and this is not inclusive of all risks. However, one obvious risk to point out is that annuitizing causes an increase in credit exposure to the pension fund (NYC). In addition, the pension asset is usually the largest asset in the retiree’s portfolio. Hence, annuitizing the surplus to increase the pension concentrates rather than diversifies certain risks.

**Taxes Matter** – Our analysis is consistent in that we have compared gross cash flows to gross cash flows (apples to apples). Each retiree will have a unique tax situation that may affect the option decision about annuitization or final loan. Please seek tax advice when considering the optimal decision.

**Conclusion**

Framing the final loan as a loan on the pension report, rather than a final withdrawal or simply a numbered option, presents information in a negative frame. We believe this is influencing some retirees to make sub-optimal decisions. Our conclusion is based on a small sample size of retirees that we have worked with or spoken to that have neither annuitized or taken the final loan, leaving the base pension as the selection in the overwhelming majority of cases. This contrasts with results of a quantitative analysis of the pension, which leads us to believe the base pension should be selected the least. A retiree that analyzes the annuitization offer and declines because they are not satisfied with the prospective risk adjusted returns should strongly consider the final loan, since it is simply more of the exact same offer. Retirees that are satisfied with the annuitization offer can consider annuitization with acknowledgement of increased risk exposures, including credit risk. When analyzed in isolation it is difficult to find a logical reason to select the base pension over either annuitizing or taking the final loan. The optimal decision is specific to each retiree and should be considered within the retiree’s holistic portfolio.