

RETIREMENT PLANNING: LEGACY AND MORE

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INTRODUCTION

WHERE WE'VE BEEN AND WHERE WE'RE GOING

WHERE WE'VE BEEN:

Recall that this same team of researchers has done a lot of work on optimizing the sustainability of cash flow during retirement. This work has been in the context of retirees whose primary source of retirement income is a securities portfolio (typically, but not necessarily, a 401(k) account or a rollover IRA, and who have a home with little or no mortgage debt..

WHERE WE'VE BEEN (CONT'D)

Specifically, our work has compared the sustainability of retirement cash flow under two different strategies, one of which we have called the “Coordinated Strategy” and the other we have called the “Last Resort Strategy.”

WHERE WE'RE GOING:

With those same strategies being used, we'll be looking at the legacies left by those same retirees, at the “end of retirement.”

More specifically, we'll be comparing the legacies left by retirees who used the Coordinated Strategy with the legacies left by retirees who used the Last Resort Strategy.

BUT THERE'S MORE !

We'll be looking not only at the amounts of the legacies, but also at the composition of those legacies. The composition of those legacies means the portion of those legacy amounts that consist of the securities remaining in the portfolio and the portion that consists of the equity remaining in the home.

This added insight, the insight into the composition of the legacy, is probably not very important to the retiree's heirs, but it can be very important to the retiree him/her self and to his/her financial advisor, while the retiree is still living. Because of the importance of these considerations to both the retiree and to the heirs, the terms "legacy" and "net worth" are to be understood as interchangeable.

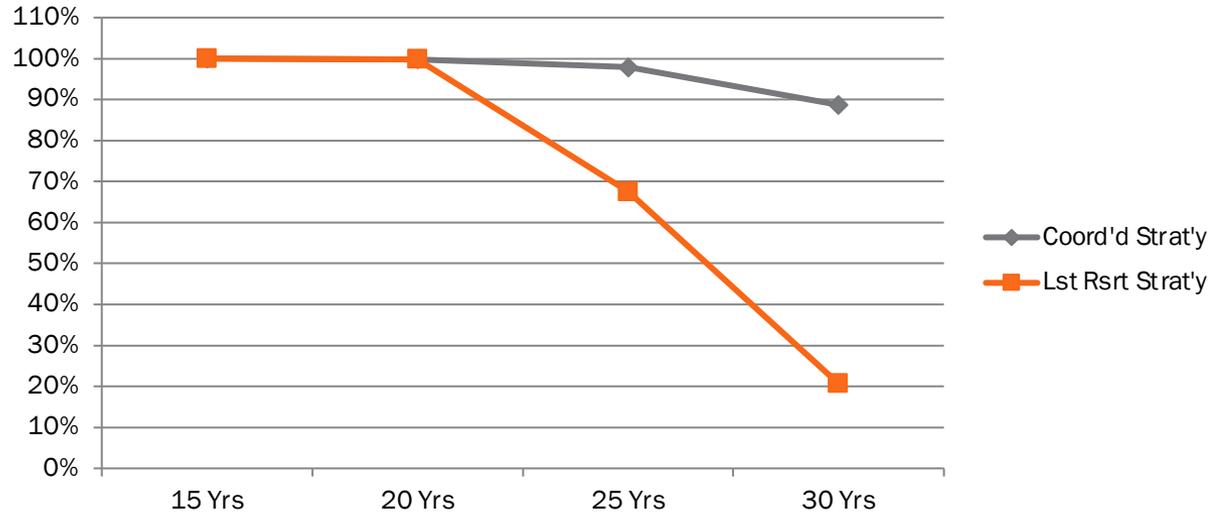
WHO ARE THE REPRESENTATIVE RETIREES?

We'll present our analysis and results using 3 different representative retirees. They all have the same net worth, which is \$1.2 million, but in different proportions. The 3 retirees are the following:

	<u>Securities Portfolio Value</u>	<u>Home Value</u>
<u>Retiree No. 1</u>	\$400,000	\$800,000
<u>Retiree No. 2</u>	\$600,000	\$600,000
<u>Retiree No. 3</u>	\$800,000	\$400,000

A QUICK REVIEW OF EARLIER RESULTS

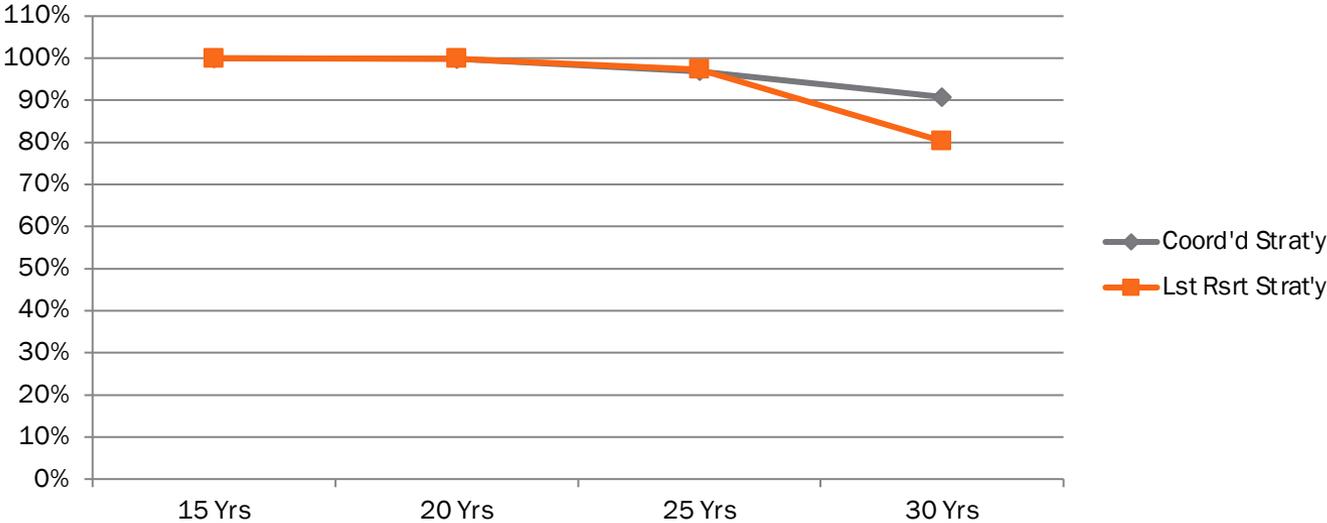
Probability of Cash Flow Survival



Retiree No. 1: Portfolio Value \$400,000 Home Value \$800,000

A QUICK REVIEW OF EARLIER RESULTS (CONT'D)

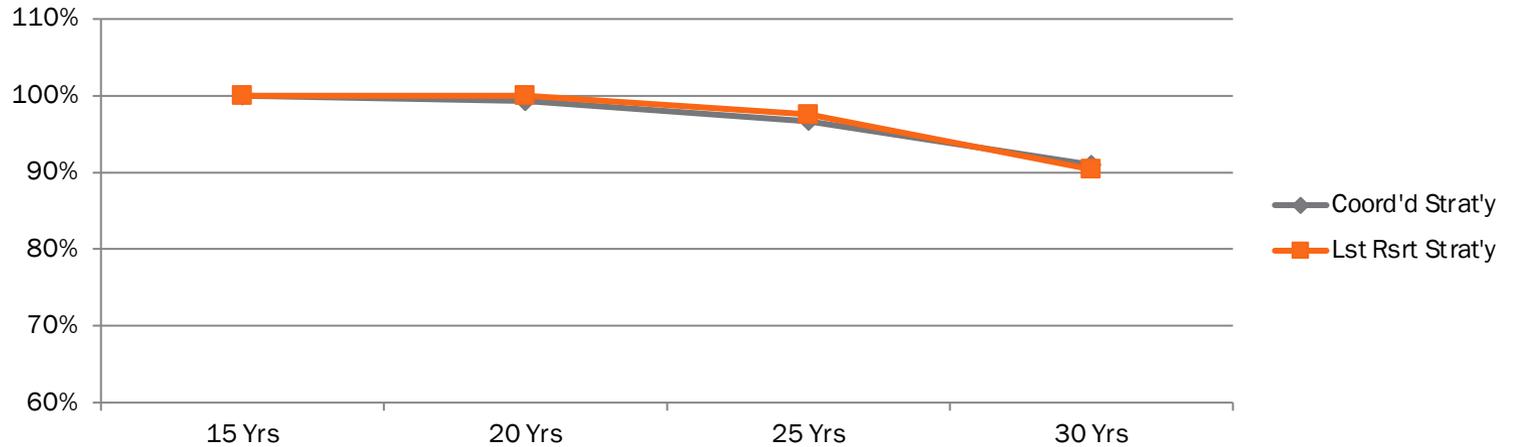
Probability of Cash Flow Survival



Retiree No. 2 Portfolio Value \$600,000 Home Value \$600,000

A QUICK REVIEW OF EARLIER RESULTS (CONT'D)

Probability of Cash Flow Survival



Retiree No. 3 Portfolio Value \$800,000 Home Value \$400,000

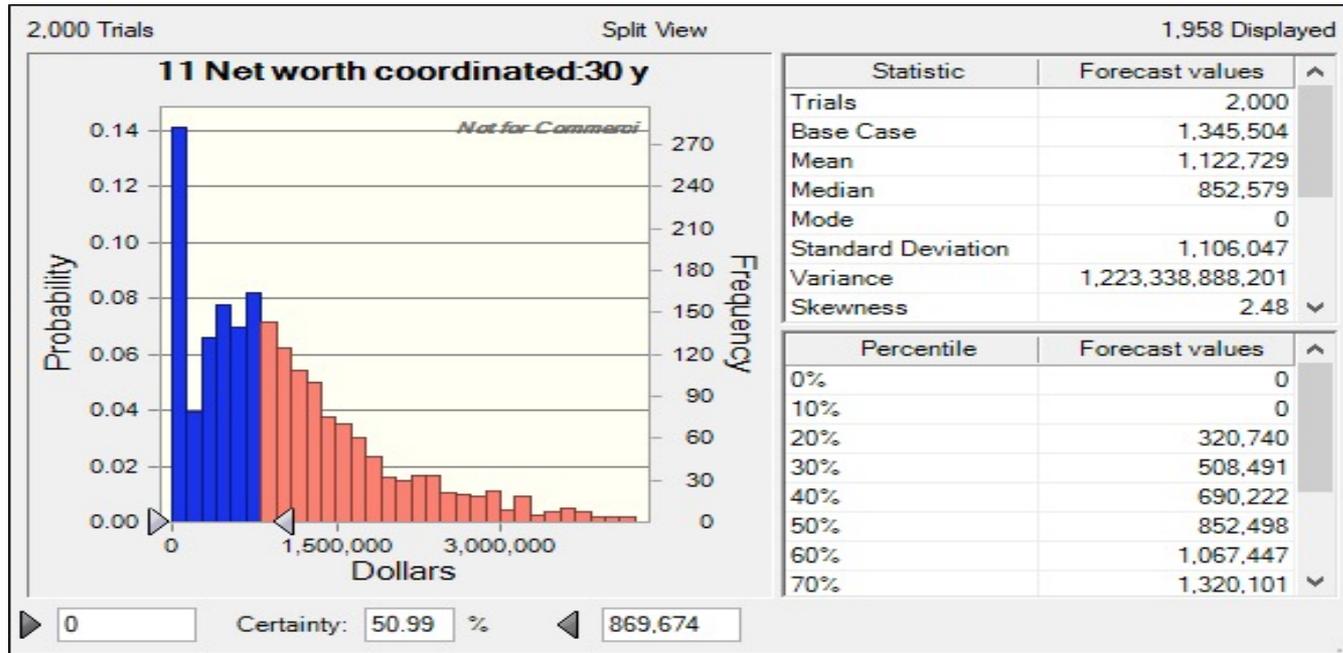
NOW, LET'S LOOK AT THE LEGACIES

1. Many Different Future Economic Outcomes Could Occur. It's quite obvious that over a 30-year retirement, or even over shorter periods, many different economic results can unfold.
2. Not Possible to Predict Precisely Which Future Outcome Will Occur. We can't predict precisely what the future financial picture will be. (As Yogi Berra said, "It's tough to make predictions, especially about the future.")
3. Different Possible Outcomes Generated by Monte Carlo Simulation. Instead, of trying to predict, we look at many different possible outcomes, generated by Monte Carlo simulation,.

LEGACIES (CONT'D)

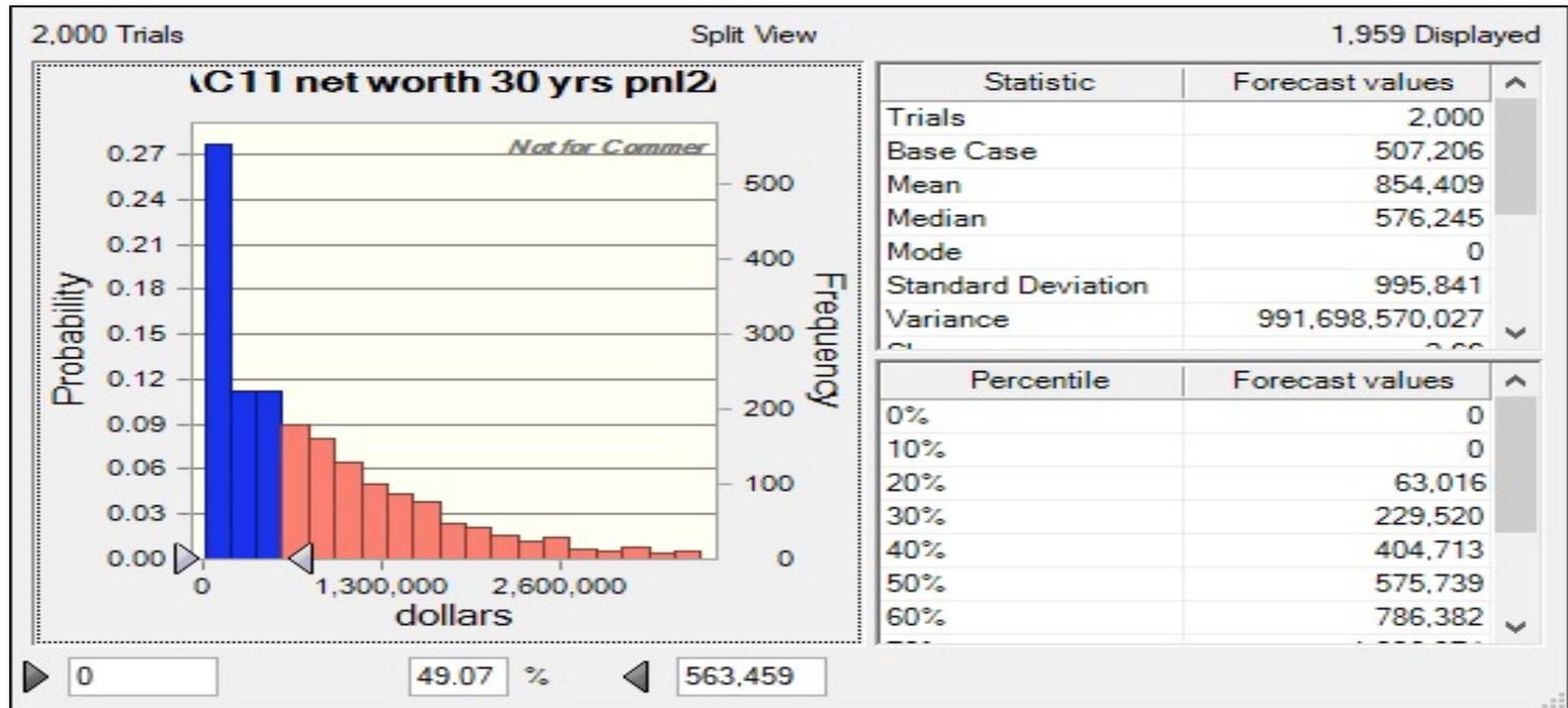
4. Different Possible Outcomes Presented as a Histogram. Different possible outcomes, generated by Monte Carlo simulation, are presented according to “likelihood” of occurring, which is in the form of a “histogram”
5. See the next slides for samples of histograms.

LEGACIES (CONT'D)



Retiree No. 2. Legacy (Net Worth = Remaining Portfolio + Remaining Home Equity) at 30 Years into retirement. **Coordinated Strategy Used.**

LEGACIES (CONT'D)



Retiree No. 2. Legacy (Net Worth = Remaining Portfolio + Remaining Home Equity) at 30 Years into retirement. **Last Resort Strategy Used.**)

THE HISTOGRAMS: “TMI” (TOO MUCH INFORMATION)

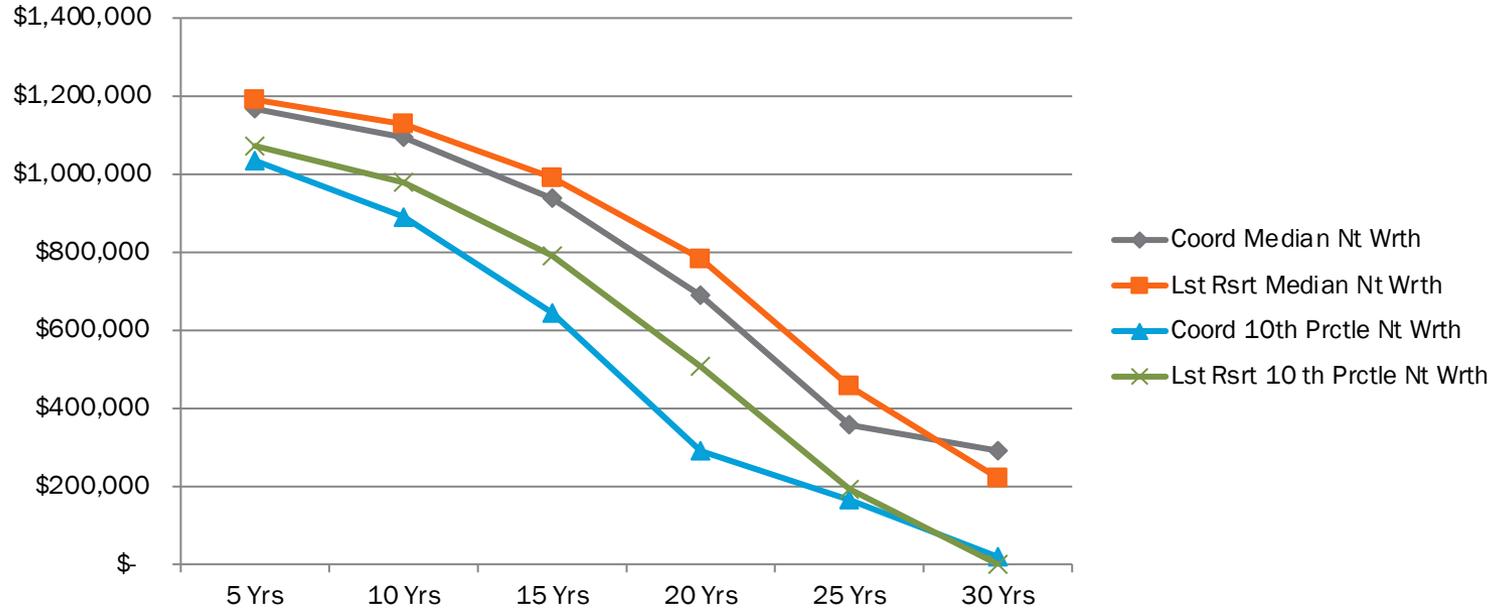
Although there is more information in these histograms than we can readily grasp, a few points are important to note:

1. There is a probability, small but not negligible, that even after drawing money for decades, there is even more left as a legacy than the retiree started with.
2. There is also a probability, and not very small, that the retiree will run out of money before the “end of retirement.”

THE HISTOGRAMS: “TMI” (TOO MUCH INFORMATION)

1. Distill to Look at Median and 10th Percentile. It’s hard to look at these histograms and draw much useful information quickly and directly from them. So, let’s distill them somewhat, at look at just the medians and the 10th percentiles.
2. The Median. The median is the value that the retiree has a 50-50 chance of leaving at least that much of a legacy.
3. The 10th Percentile. The 10th percentile is the value that the retiree has a 90% chance of leaving at least that much of a legacy. (So, obviously, it’s an amount quite a bit less than the median.)

THE MEDIANS AND 10TH PERCENTILES OF LEGACY AMOUNTS (RETIREE NO. 1)



Retiree No. 1

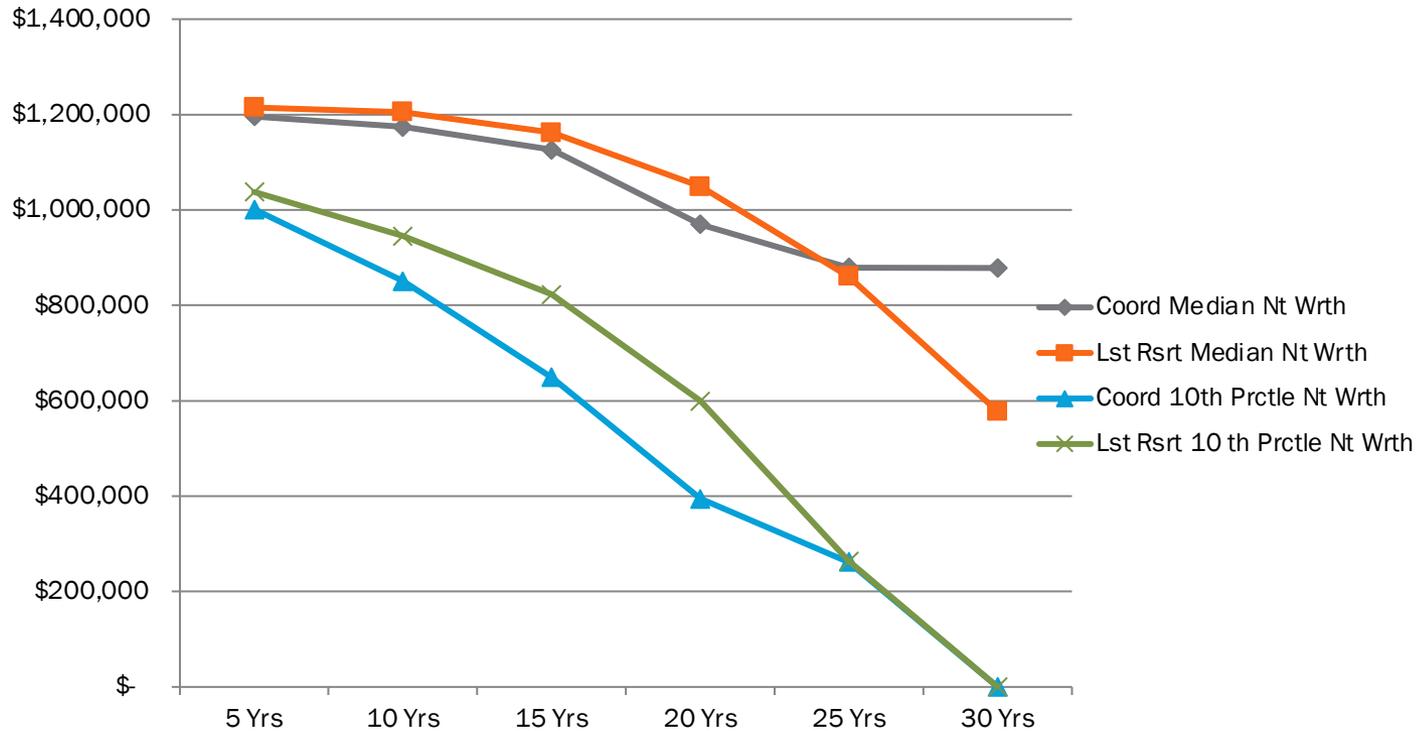
THE MEDIANS AND 10TH PERCENTILES OF LEGACY AMOUNTS (RETIREE NO. 1)

Recall that Retiree No. 1 is the one whose initial home value was \$800,000 and whose initial portfolio value was \$400,000. He/she was the one who had the greatest cash flow survival probability using the Coordinated Strategy as compared with using the Last Resort Strategy. And, from the standpoint of the Median Legacy values, there is no significant difference between the results of the two strategies.

On the other hand, in the intermediate duration of retirement, from about 10 years to 20 years, from the standpoint of the 10th percentile legacy values, the Last Resort strategy has an advantage.

On balance, however, because of the importance of cash flow survival, for Retiree No. 1, the Coordinated Strategy is preferable.

THE MEDIANS AND 10TH PERCENTILES OF LEGACY AMOUNTS (RETIREE NO. 2)

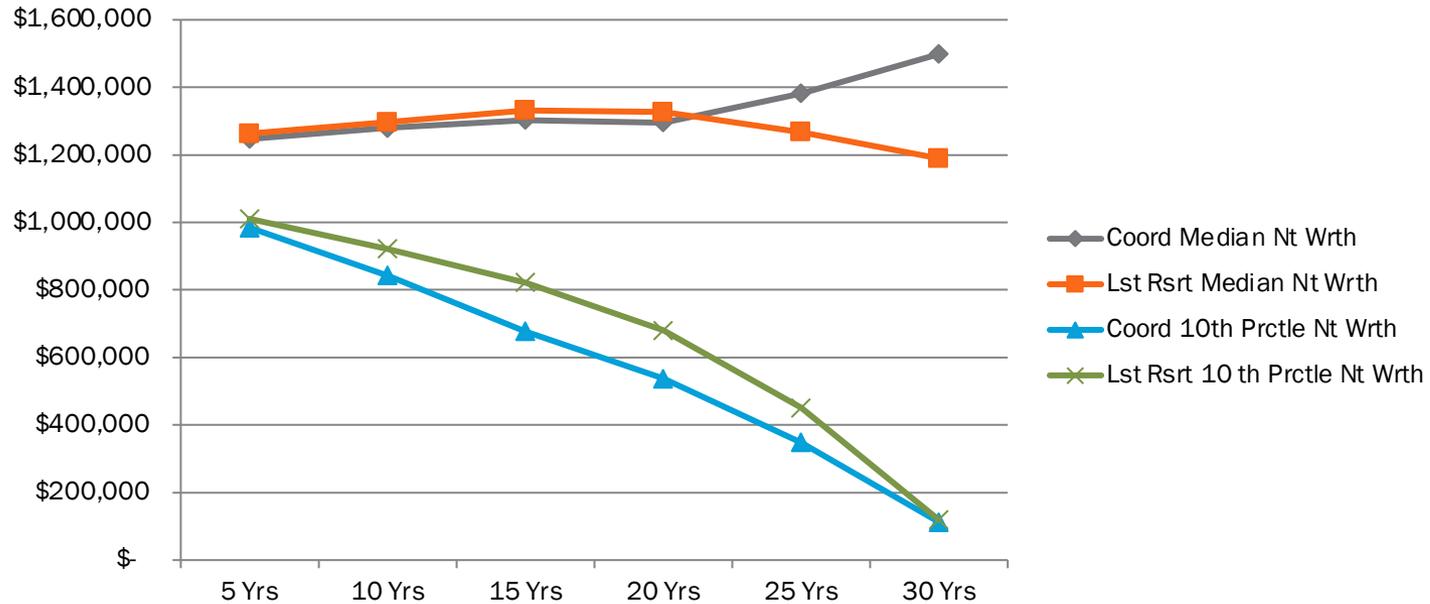


THE MEDIANS AND 10TH PERCENTILES OF LEGACY AMOUNTS (RETIREE NO. 2)

Recall that Retiree No. 2 is the one with equal initial values of the portfolio and the home, both at \$600,000. In this case, there was still an advantage, in terms of cash flow survival probability, of the Coordinated Strategy over the Last Resort Strategy. And in terms of Median Legacy, the two strategies produce equal results until about 25 years into retirement. After 25 years, the Coordinated Strategy produces a greater Median Legacy Value.

Therefore, with an advantage in Cash Flow Survival probability, and an advantage in later years' Median Legacy value, and no disadvantage at any time during retirement, the Coordinated Strategy is preferable over the Last Resort Strategy for Retiree No. 2.

THE MEDIANS AND 10TH PERCENTILES OF LEGACY AMOUNTS (RETIREE NO. 3)



MEDIANS AND 10TH PERCENTILES OF LEGACY AMOUNTS (RETIREE NO. 3)

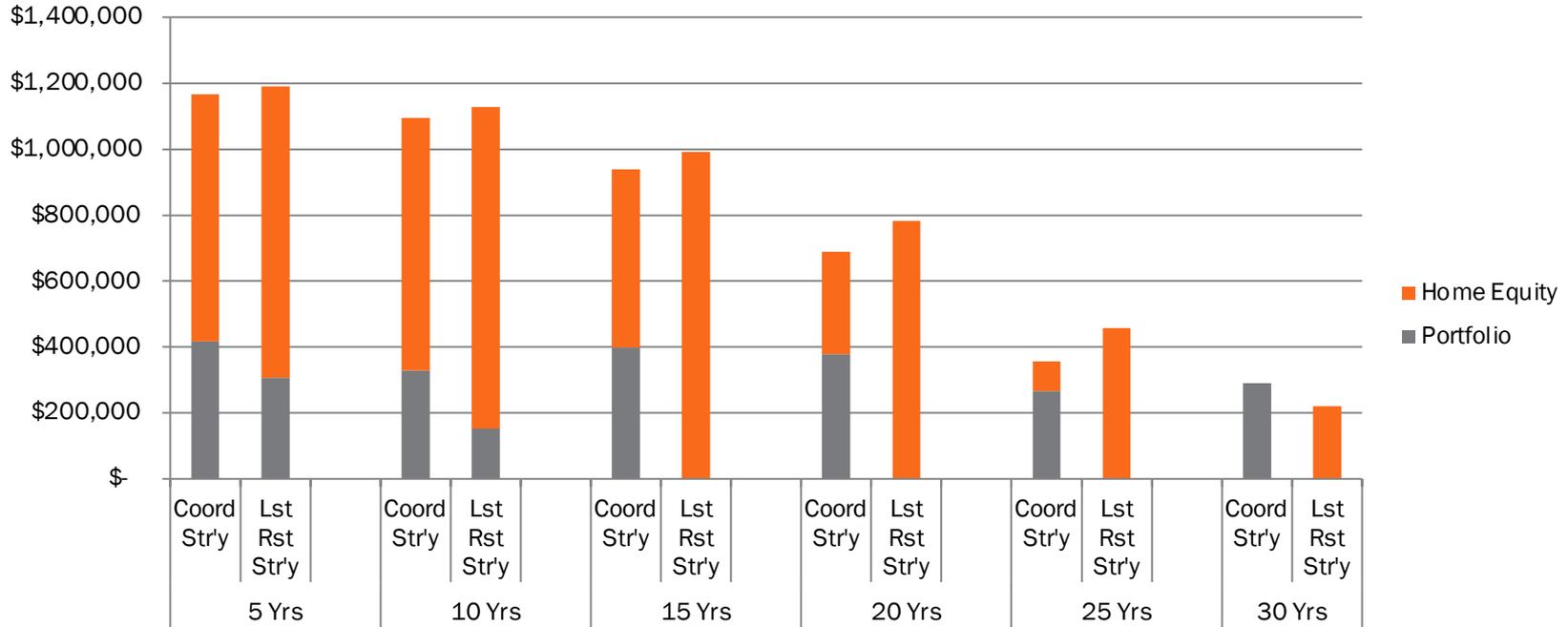
Recall that Retiree No. 3 is the one whose initial portfolio value was \$800,000 and whose initial home value was \$400,000. That is, he/she has, at least initially, much more in securities value than in home value. And, throughout retirement, the probability of cash flow survival was essentially the same whether the Coordinated or the Last Resort strategy was used. And in the first 20 years of retirement, there's not much difference in Median Legacy value, either. BUT, after 20 years, there is a significant divergence in Median Legacy value, with the Median Legacy value resulting from the use of the Coordinated Strategy increasing over time, while the Median Legacy value resulting from the Last Resort Strategy is decreasing.

At 30 years into retirement, the difference in Median Legacy value is more than a quarter of a million dollars. This suggests that, for Retiree No. 3, the Coordinated Strategy is preferable.

MEDIAN LEGACY AMOUNTS (CONT'D)

Notice, also, that although all 3 representative retirees started off with the same initial net worth, \$1.2 million, those with the greater amount in securities (Retirees Nos. 2 and 3) than the one with the smallest amount in securities (Retiree No. 1) ended up with much greater legacy amounts. That's a reasonable result in light of the fact that securities values generally increase, over the long-term, at greater rates than home values.

AND NOW, LET'S LOOK AT THE COMPOSITIONS OF THE MEDIAN NET WORTHS (RETIREE NO. 1)

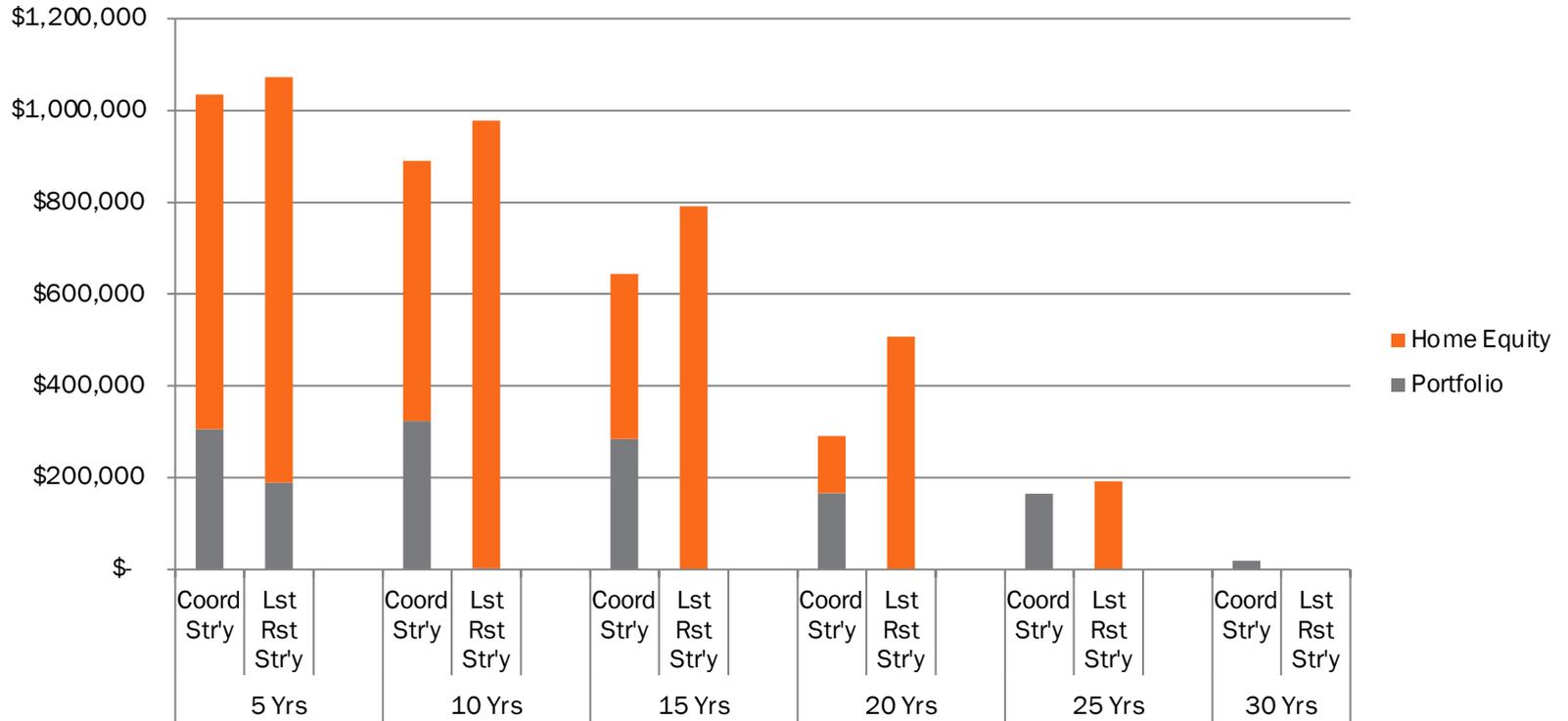


Retiree No. 1

SOME COMMENTS ABOUT THE COMPOSITIONS OF THE MEDIAN NET WORTHS (RETIREE NO. 1)

1. By 10 years into retirement, the median net worth of the No. 1 retiree using the Last Resort Strategy had almost entirely exhausted the securities. Out of a total median net worth of about \$1.1 million, only about \$150,000 was in securities.
2. On the other hand, at 10 years into retirement, the median net worth of the No. 1 retiree using the Coordinated Strategy, also about equal to \$1.1 million, consisted of about \$350,000 in securities.
3. By 15 years into retirement, the median net worth of the No. 1 retiree using the Last Resort Strategy had no securities at all in his/her retirement source portfolio. His/her entire net worth was in his/her home equity.

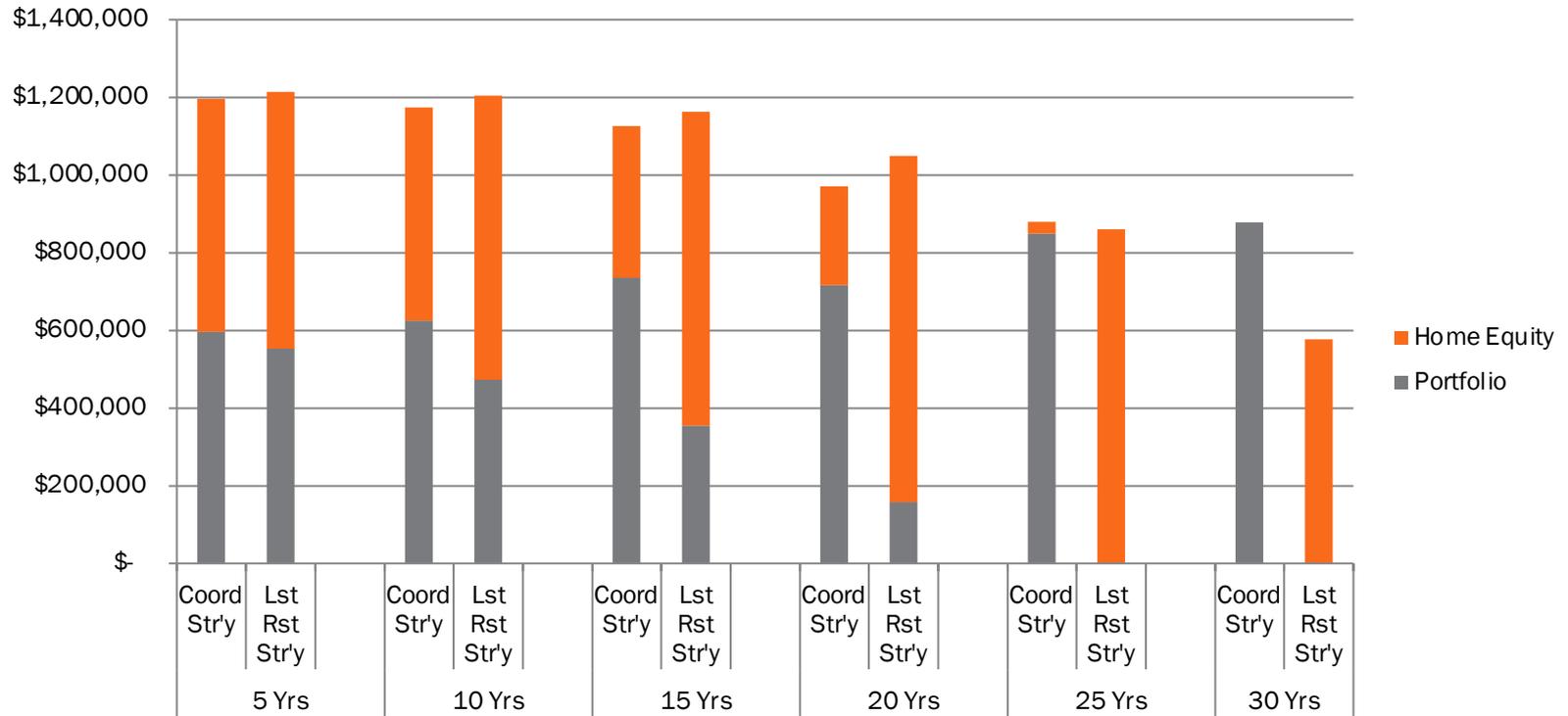
THE COMPOSITIONS OF THE 10TH PERCENTILE NET WORTHS (RETIREE NO. 1)



SOME COMMENTS ABOUT THE COMPOSITIONS OF THE 10TH PERCENTILE NET WORTHS (RETIREE NO. 1)

1. By 10 years into retirement, the 10th percentile net worths of the No. 1 retiree using the Last Resort Strategy, at value of about \$950,000, had already depleted the securities, and was entirely dependent on home equity for retirement income.
2. By contrast, at 10 years into retirement, the 10th percentile net worths of the No. 1 retiree using the Coordinated Strategy, at value of about \$900,000, included about \$375,000 of securities.
3. At 15 years and 20 years into retirement, the 10th percentile net worths of the No. 1 retiree using the Last Resort Strategy, consisting entirely of home equity, did noticeably exceed the 10th percentile net worths of the No. 1 retiree using the Coordinated Strategy, which consisted of about 50% securities.
4. At 30 years into retirement, the 10th percentile net worth of both No. 1 retirees was essentially exhausted.

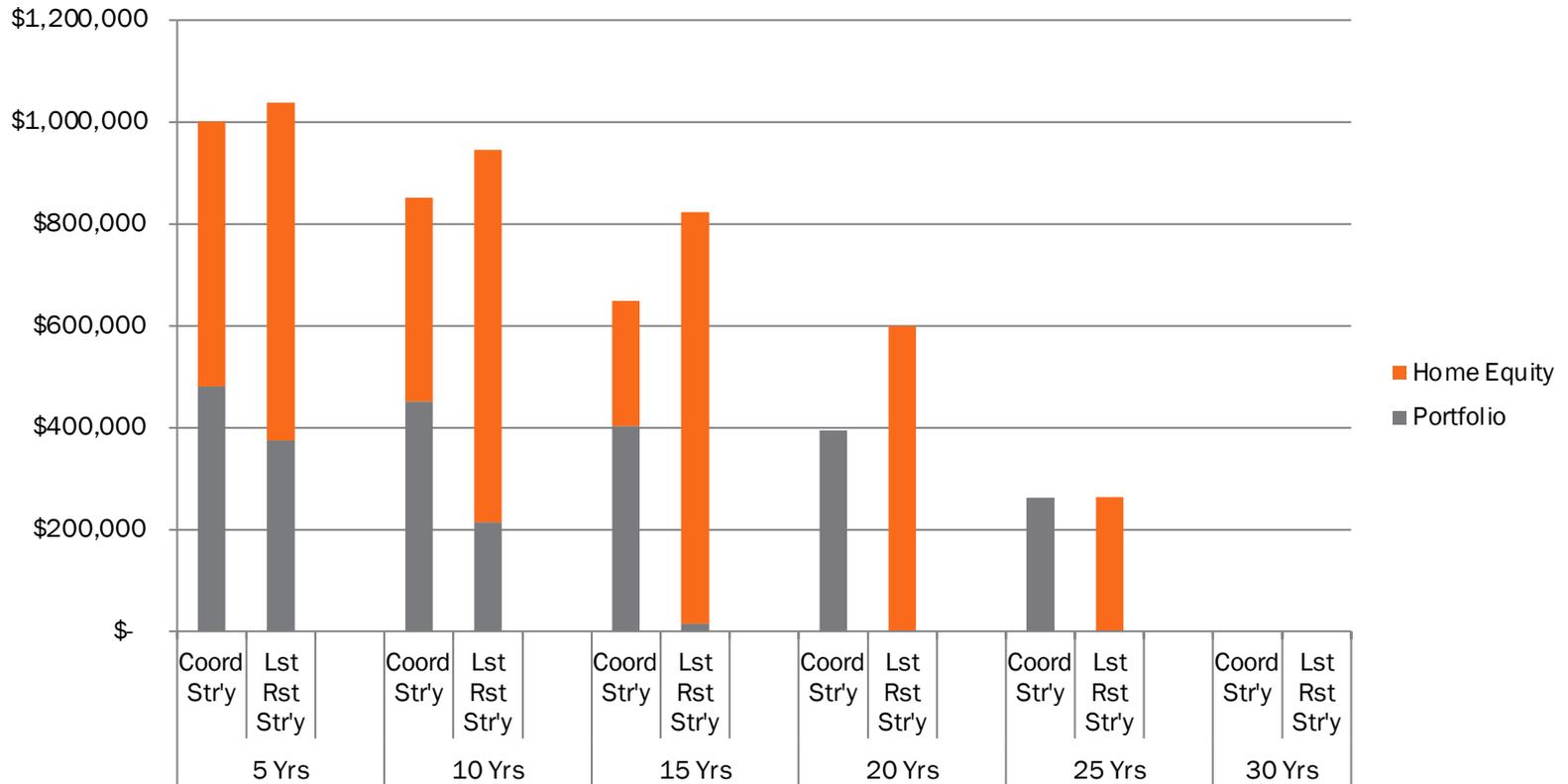
COMPOSITIONS OF THE MEDIAN NET WORTHS (RETIREE NO. 2)



SOME COMMENTS ABOUT THE COMPOSITIONS OF THE MEDIAN NET WORTHS (RETIREE NO. 2)

1. Recall that the No. 2 Retiree is the one who began retirement with equal amounts of securities and home equity, i.e., \$600,000 of each asset.
2. Notice that it is not until about 15 years into retirement that the median Net Worth of the No. 2 retiree who uses the Coordinated Strategy consists substantially more of securities than of home equity, while the median net worth of the No. 2 Retiree who uses the Last Resort Strategy consists primarily of home equity.
3. By 25 years into retirement, the No. 2 Retiree who uses the Coordinated Strategy has his/her entire net worth in securities while the No. 2 Retiree who uses the Last Resort Strategy has his/her entire net worth in home equity.

THE COMPOSITIONS OF THE 10TH PERCENTILE NET WORTHS (RETIREE NO. 2)



SOME COMMENTS ABOUT THE COMPOSITIONS OF THE 10TH PERCENTILE NET WORTHS (RETIREE NO. 2)

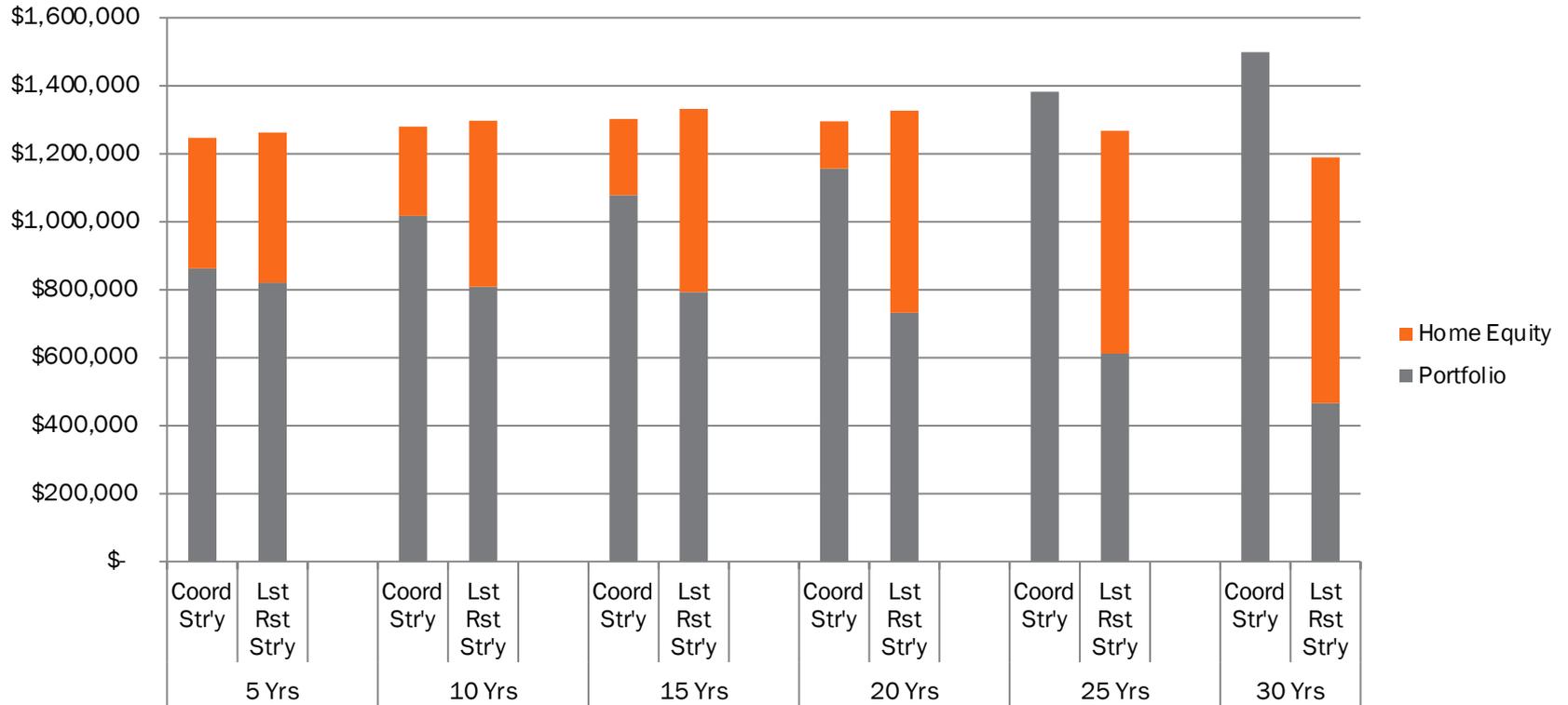
1. As in the case of the median Net Worths, at 5 years into retirement, the 10th percentile net worths of the No. 2 Retiree using the Coordinated Strategy and the No. 2 Retiree using the Last Resort Strategy are about equal.
2. By 10 years into retirement, however, the 10th percentile net worth of the No. 2 Retiree using the Last Resort Strategy consists largely of home equity, while the 10th percentile net worth of the No. 2 Retiree using the Coordinated Strategy still consists of about equal parts securities and home equity.
3. By 15 years into retirement, the 10th percentile net worth of the No. 2 Retiree using the Last Resort Strategy consists entirely of home equity, while the 10th percentile net worth of the No. 2 Retiree using the Coordinated Strategy is about 2/3 securities and 1/3 home equity.

SOME COMMENTS ABOUT THE COMPOSITIONS OF THE 10TH PERCENTILE NET WORTHS (RETIREE NO. 2) (CONT'D)

4. By 20 years into retirement, the 10th percentile Net Worth of the No. 2 Retiree using the Coordinated Strategy consists entirely of securities, and the 10th percentile Net Worth of the No. 2 Retiree using the Last Resort Strategy consists entirely of home equity.

5. By 30 years into retirement, the 10th percentile net worth of the No. 2 Retiree using the Coordinated Strategy and of the No. 2 Retiree using the Last Resort Strategy have both reached zero.

COMPOSITIONS OF THE MEDIAN NET WORTHS (RETIREE NO. 3)



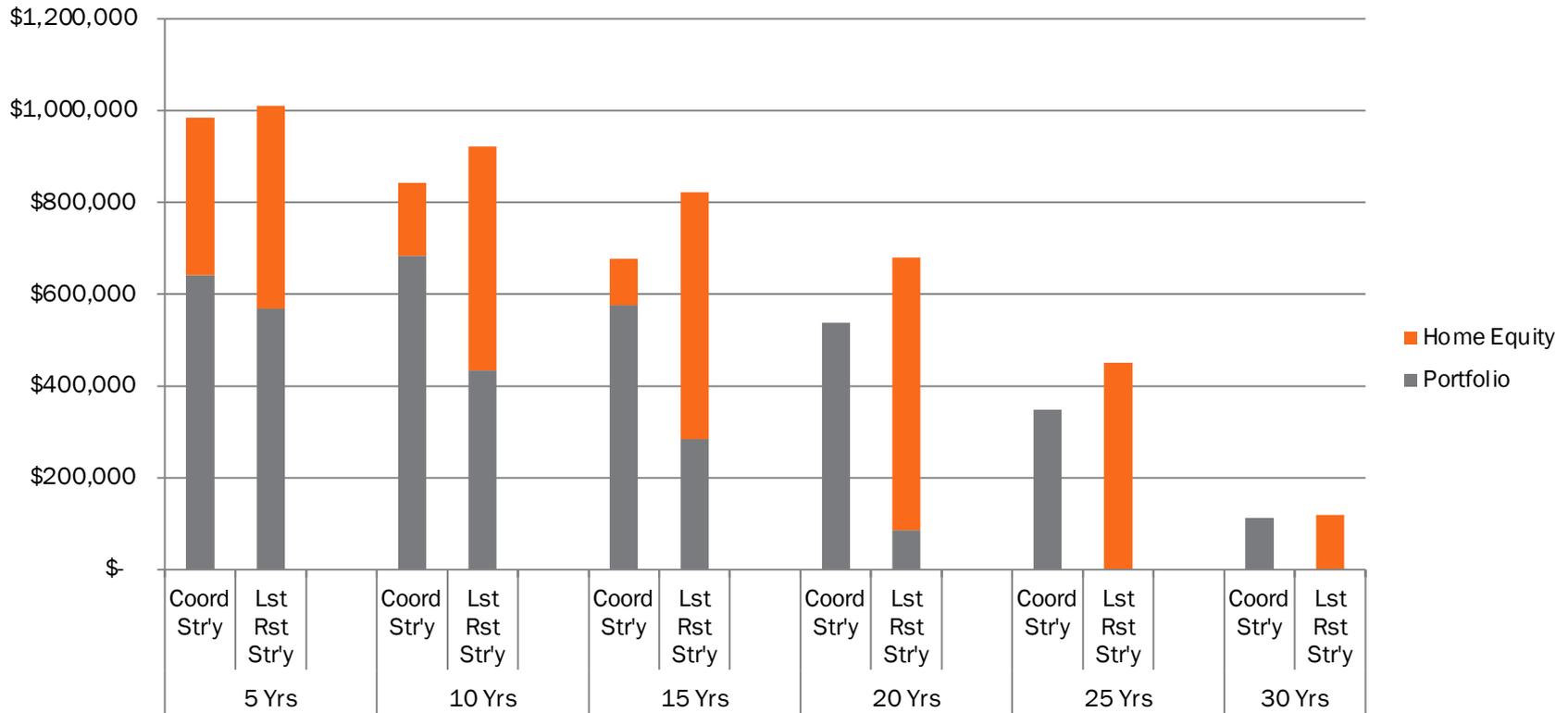
SOME COMMENTS ABOUT THE COMPOSITIONS OF THE *MEDIAN* NET WORTHS (RETIREE NO. 3)

1. Recall that Retiree No. 3 is the one whose initial securities portfolio value is \$800,000 and initial home equity value is \$400,000. In other words, he/she is somewhat atypical, in that most retirees have more value in their homes than in their securities portfolios.
2. Note that, from these graphs, just as from the line graphs (slide 21), the No. 3 retiree has a median net worth, at all times throughout the 30-year retirement, of at least as much as he/she started with (\$1.2 million), no matter which of the two distribution strategies he/she used. (But of course, this result is very sensitive to the initial distribution amount, which is about the same as the initial distribution amounts taken by Retirees No. 1 and No. 2.) The reason for this high level of net worth, late in retirement, is that in the long term, securities values generally grow at a greater rate than home values.

SOME COMMENTS ABOUT THE COMPOSITIONS OF THE MEDIAN NET WORTHS (RETIREE NO. 3) (CONT'D)

3. By 20 years into retirement, the median net worth of the No. 3 Retiree using the Coordinated Strategy consists almost entirely of securities, while the median net worth of the No. 3 Retiree using the Last Resort Strategy consists of about equal parts of securities and home equity.
4. Even at 25 years into retirement, the median net worth of the No. 3 Retiree using the Last Resort Strategy still consists of about equal parts of securities and home equity. A result which reflects the greater long term growth rate of securities over that of home value.

THE COMPOSITIONS OF THE 10TH PERCENTILE NET WORTHS (RETIREE NO. 3)



SOME COMMENTS ABOUT THE COMPOSITIONS OF THE 10TH PERCENTILE NET WORTHS (RETIREE NO. 3)

1. As early as 10 years into retirement, the 10th percentile net worth of the No. 3 Retiree using the Coordinated Strategy already consists almost entirely of securities. And by 20 years into retirement, it consists entirely of securities.
2. At 25 years into retirement, the 10th percentile net worth of the No. 3 Retiree using either distribution strategy is about \$400,000. By contrast, the 10th percentile net worths of Retirees No. 1 and No. 2 were about \$200,000.
3. It is noteworthy that even at 30 years into retirement, the No. 3 Retiree using either of the two distribution strategies has a 10th percentile net worth of greater than \$100,000, whereas the 10th percentile net worths at 30 years of Retirees No. 1 and No. 2 had reached (or very nearly reached) zero.

WHY ARE THESE COMPOSITIONS IMPORTANT?

For whom are they important?

For BOTH the Retiree and his/her financial advisor.

- The crucial point is: A portfolio of securities is much more flexible and manageable, financially, than a home. Therefore, if the the financial climate changes, and/or if the retiree's personal circumstances change, the financial advisor can recommend, and implement, adjustments and changes in the retiree's securities portfolio, to accommodate to such changes. So, more value in the securities portfolio than in the home equity makes for better, more nimble, management.

WHY ARE THESE COMPOSITIONS IMPORTANT? (CONT'D)

These graphs showing the compositions of the medians illustrate the benefit of the Coordinated Strategy across a broad range of ratios of home equity value to portfolio value.

The benefit improves the retirement prospects of the retiree AND the ability of the retiree's financial planner and/or the retiree's investment manager. Specifically, it enables the planner/manager to help the retiree to have sustainable income throughout a long retirement.