The Hidden Virtue of the RMD

The required minimum distribution (or RMD) has a hidden virtue. I'm talking about the mathematical mechanics of the RMD—not the fact that we are forced to make annual withdrawals and have them taxed. It's a pretty tough sell to call that aspect of the RMD a virtue.

The "virtue" boils down to the following. (1) The withdrawals are percentage-based, which is a "portfolio-friendly" method of withdrawing money. Fixed dollar-based withdrawals are merciless because they don't adjust downward after rough years like 2008…or 2022. Percentage-based withdrawals are smaller after bad years— which helps the portfolio recover faster. (2) The RMD percentage-based withdrawal methodology starts low and escalates up each year by fairly small amounts, rather than starting and staying at a moderately higher percentage withdrawal rate each and every year.

The RMD math

The annual RMD divisors from the Uniform Lifetime Table (which can be translated to annual percent withdrawal rates) are shown in Table 1 on the next page. For example, the divisor for a 73-year-old is 26.5, which translates to a withdrawal rate of 3.77%.

Let's assume a 73-year-old retiree has a balance of $1,000,000 in their IRA account at the end of the prior year. The RMD math is as follows: 100 / 26.5 = 3.7736 or 3.77%. In this case, they would need to withdraw a total of $37,700 as calculated by $1,000,000 x 3.77% (assuming the Uniform Lifetime Table applies to their situation).

Over the course of a 25-year retirement period (an assumption I am making) from age 73–97, the average annual RMD withdrawal would be 6.96% (as noted by the yellow highlighted section in Table 1).That average of 6.96% is the result of 25 RMD withdrawals that started at 3.77% at age 73 and escalated to 12.82% by the age of 97.

It's worth noting that the RMD now starts at age 73, starting in 2023 (due to Secure Act 2.0) with a withdrawal rate of 3.77%—below the well-known "4% withdrawal rate." The next year (for a 74-year-

old) the RMD withdrawal rate moves to 3.92%. As you can see, the rate escalates each year. But the annual RMD withdrawal rate does not exceed 6% until the age of 85.

Table 1: Uniform Lifetime Table
Applies to all account owners unless the sole beneficiary is your spouse who is also more than 10 years younger than you

Age	RMD divisor	Translates to the following annual withdrawal rate	Age	RMD divisor	Translates to the following annual withdrawal rate
73	26.5	3.77%	98	7.3	13.70%
74	25.5	3.92%	99	6.8	14.71%
75	24.6	4.07%	100	6.4	15.63%
76	23.7	4.22%	101	6.0	16.67%
77	22.9	4.37%	102	5.6	17.86%
78	22.0	4.55%	103	5.2	19.23%
79	21.1	4.74%	104	4.9	20.41%
80	20.2	4.95%	105	4.6	21.74%
81	19.4	5.15%	106	4.3	23.26%
82	18.5	5.41%	107	4.1	24.39%
83	17.7	5.65%	108	3.9	25.64%
84	16.8	5.95%	109	3.7	27.03%
85	16.0	6.25%	110	3.5	28.57%
86	15.2	6.58%	111	3.4	29.41%
87	14.4	6.94%	112	3.3	30.30%
88	13.7	7.30%	113	3.1	32.26%
89	12.9	7.75%	114	3.0	33.33%
90	12.2	8.20%	115	2.9	34.48%
91	11.5	8.70%	116	2.8	35.71%
92	10.8	9.26%	117	2.7	37.04%
93	10.1	9.90%	118	2.5	40.00%
94	9.5	10.53%	119	2.3	43.48%
95	8.9	11.24%	120	2.0	50.00%
96	8.4	11.90%	>120	2.0	50.00%
97	7.8	12.82%			

Source: Craig Israelsen

To reiterate: A key "virtue" of the RMD is that the annual percentage rate of withdrawal is phased in through annual escalations, rather than being a set percentage withdrawal rate each year. This feature is the primary focus of the analysis presented in this article.

A fixed-dollar withdrawal is not sensitive to market-based declines in the portfolio's value, but in fact, punishes a portfolio after a year like 2008 by withdrawing the same amount of money as the prior year (or an even larger withdrawal if a COLA is involved) rather than allowing the withdrawal to decline in response to the loss experienced by the portfolio. The RMD withdrawal is always based on a percentage of the portfolio's value, which technically means you can never actually empty the portfolio. Practically speaking, the balance can become very small, but cannot actually hit zero if only the RMD is withdrawn each year.

Here is the primary analytical question addressed in the remainder of this article: Is there a meaningful difference in the outcome after 25 years between an annual RMD withdrawal that escalates (the way

the RMD actually works) compared to a fixed percentage-based withdrawal that stays the same each year?

In this case, the fixed annual percentage-based withdrawal over 25 years would be equal to the average of the 25 escalating RMD withdrawals. The question is relevant because many people in retirement have accounts not impacted by RMD rules (such as Roth IRA or regular investment accounts). In these accounts the decision of how much to withdraw each year is discretionary.

Thus, a retiree might ask: Should the withdrawal simply be a fixed percentage amount (such as the well-known 4% rule) OR should the percentage-based withdrawal start small and ratchet up each year as the RMD does? In other words, would someone want to simulate the RMD approach when they have a choice in how money is withdrawn? The results are outlined in Table 2.

Table 2: Retirement Portfolio Performance With RMD-Based Annual Withdrawals

Results based on analysis of 73 rolling 25-year retirement periods from 1926–2022
$1,000,000 assumed balance in retirement account at each starting age (73, 74, etc.)
60/40 Asset Allocation: 40% Large US stock, 20% Small US stock, 30% Bonds, 10% cash*
100 bps annual portfolio cost subtracted from index-based returns to simulate actual performance using funds with expense ratios

25-year age range of retiree	1st year RMD withdrawal	25th tear RMD withdrawal	AVERAGE RMD % withdrawal during the 25-year period	Average monthly RMD withdrawal during each 25-year period	Average ending portfolio balance after 25 years of withdrawals	FIXED annual % withdrawal rate	Average monthly withdrawal during each 25-year period	Average ending portfolio balance after 25 years of withdrawals
Age 73 – 97	3.77%	12.82%	6.96%	$9,779	$1,420,707	6.96%	$7,681	$1,437,012
Age 74 – 98	3.92%	13.70%	7.36%	$9,872	$1,274,172	7.36%	$7,692	$1,290,273
Age 75 – 99	4.07%	14.71%	7.79%	$9,944	$1,131,152	7.79%	$7,684	$1,148,599
Age 76 – 100	4.22%	15.63%	8.26%	$9,986	$994,851	8.26%	$7,657	$1,010,849
Age 77 – 101	4.37%	16.67%	8.75%	$9,999	$865,564	8.75%	$7,611	$884,178
Age 78 – 102	4.55%	17.86%	9.29%	$9,981	$743,465	9.29%	$7,543	$762,249
Age 79 – 103	4.74%	19.23%	9.88%	$9,935	$629,086	9.88%	$7,453	$647,512
Age 80 – 104	4.95%	20.41%	10.51%	$9,853	$525,611	10.51%	$7,343	$543,351

Source: Craig Israelsen
*Large-cap US equity represented by the S&P 500 Index from 1926–2022. Small-cap US equity represented by the Ibbotson Small Companies Index from 1926–1978 and the Russell 2000 Index from 1979–2022. US Bonds represented by SBBI US Intermediate Government Bonds from 1926–1975 and the Bloomberg Aggregate Bond Index from 1976–2022. Cash represented by 3-month Treasury Bills from 1926–2022

Let's start with a retiree who takes their first RMD-based withdrawal at age 73 (row highlighted in yellow in Table 2). As already noted, their first withdrawal is 3.77% and their 25th withdrawal is 12.82%. The average RMD withdrawal was 6.96% from age 73–97. Assuming a starting balance of $1 million in a 60/40 portfolio, the average monthly RMD withdrawal over 73 rolling 25-year periods from 1926–2022 was $9,779 and the average ending balance after 25 years of RMD-based withdrawals was $1,420,707 (based on 73 ending balances).

If this same retiree simply chose to withdraw 6.96% of their portfolio balance each year (representing the average of the 25 RMD withdrawals from age 73–97) their average monthly withdrawal was $7,681 and their average ending balance after 25 years was $1,437,012.

The escalating nature of the RMD (from a low percentage to a larger percentage over time) provided the retiree with roughly $2,000 more each month (on average) compared to a fixed percentage-based withdrawal while keeping the ending account balance after 25 years roughly the same. That is quite a virtuous achievement.

The same phenomenon is observed at all the various ages (74–98, 75–99, and so on). The RMD-based method of employing annually escalating percentage- based withdrawals produces between $2,000–$2,500 more in monthly income compared to a fixed-percentage rate withdrawal that equaled the average of the 25 escalating annual withdrawals. Moreover, this was accomplished while keeping the ending balance nearly equivalent in every case.

Here is the surprising outcome of this analysis: Retirees may actually choose to employ an RMD-like withdrawal method for their accounts even if they are not governed by RMD guidelines! In other words, the retiree would start with smaller percentage withdrawals (such as 3.5% or so) in the early years and then slowly escalate the percentage-based withdrawal over time.

A final observation is that regardless of the withdrawal method (RMD-based escalating annual percentages or a fixed percentage annual withdrawal rate) the average monthly withdrawal is surprisingly consistent. For example, for a 73– 97-year-old the average RMD monthly withdrawal was $9,779 and for a 80– 104-year-old it was $9,853. For a retiree using a fixed annual withdrawal of 6.96% the average monthly withdrawal was $7,681 and if using a 10.51% annual withdrawal the average monthly withdrawal was $7,343.

Where the impact is experienced at higher and higher rates of withdrawal is in the ending account balance (in this analysis at the end of rolling 25-year retirement periods). A percentage-based withdrawal system (whether escalating annually like the RMD or a fixed percentage-based annual withdrawal) tends to stabilize the annual (or monthly) withdrawal over a wide range of percentage-based withdrawal rates. However, as the percentage-based withdrawal rate increases to higher levels, the average ending balance diminishes significantly. Very simply, the portfolio balance suffers in order to maintain a fairly consistent "cash flow" to the retiree.

Understandably we don't like the fact that the RMD forces us to make withdrawals that likely incur taxation. Understood. The mathematics of the RMD, however, might be something we choose to employ for accounts not governed by RMD guidelines.

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