

Paying Off Your Mortgage Early vs. Investing The Extra Payments In Stocks

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|--------------------|---------------|---------|-----------|-----------|-----------------------------------|
| Mortgage Rates Hit | 30-Year Fixed | 3.75% | 3.75% APR | ➔ | Calculate Payment |
| 2.89% APR | 15 Year Fixed | 2.75% | 2.80% APR | ➔ | |
| | 5/1 ARM | 5/1 ARM | 2.75% | 2.89% APR | |

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Over the last several months I have written about how I plan to [pay off my 30 year mortgage in 7 years](#) and also debunked the whole loss of the tax deduction. In the [post about losing out on the tax deduction](#) I presented the math that proved the interest savings over the 7 years was far greater than the loss in the tax savings as a result of lower tax deductions. The math showed that while I lost \$10K due to an increased tax bill over the 7 years, the interest savings more than offset that with a total savings of \$27K or a net savings of approximately \$17K.

In [that same post](#), I briefly addressed why I am doing this vs. investing the extra money in stocks. I won't repeat that here, but I will admit that I didn't spend any time covering the opportunity cost of executing such a strategy, or what the performance would look like over a 30 year period. This brought up a good question from one of our readers.

Question from [Even Steven](#):

I'm curious of the numbers over the next 30 years (7 year mortgage payment and 23 investing vs 30 year investing and 30 year mortgage payment). I know it favors the investment just with putting your money in early rather than later in big chunks for the most part.

The Opportunity Cost Over 7 Years

Before we look at the longer term time frame, I thought it would be a worthwhile exercise to look at the shorter 7 year time frame in order to quantify what we are “potentially” missing out on. Are we missing out on anything? Let’s see...

In typical fashion, I turn to Excel in order to help me answer these types of questions. The table below shows you the following starting with column 2 (“Extra Payments”):

- The extra payments made by year over the course of the 7 years (and 3 months).
- The interest based on the original 30 year amortization schedule.
- The actual interest paid during the 7 year accelerated pay down plan.
- The interest savings between the 30 year pay down vs. the 7 year pay down.
- The increased taxes due to a shrinking tax deduction (lower interest = higher taxes).
- And finally the net savings between the interest savings and the increase in taxes of 7 years.

| Year | Extra Payments | Interest @ 30 Yrs | Interest @ 7 Yrs | Interest Savings | Tax Hit | Net Savings |
|-------------|----------------|-------------------|------------------|------------------|---------|-------------|
| 2015 | 10,000 | 12,786 | 12,622 | 164 | (62) | 101 |
| 2016 | 20,000 | 12,538 | 11,846 | 692 | (263) | 429 |
| 2017 | 30,000 | 12,281 | 10,683 | 1,598 | (607) | 991 |
| 2018 | 40,000 | 12,015 | 9,117 | 2,898 | (1,101) | 1,797 |
| 2019 | 50,000 | 11,738 | 7,140 | 4,598 | (1,747) | 2,851 |
| 2020 | 60,000 | 11,451 | 4,944 | 6,507 | (2,473) | 4,034 |
| 2021 | 70,000 | 11,154 | 2,409 | 8,745 | (3,323) | 5,422 |
| 2022 | 10,160 | 2,741 | 157 | 2,584 | (982) | 1,602 |
| Cummulative | 290,160 | 86,704 | 58,918 | 27,786 | -10,559 | 17,227 |

Note: Tax hit is calculated using a 38% effective tax bracket (28% Federal, 10% State).

This table essentially summarizes the math I presented in [this post](#). Now let’s build on this and see what that extra \$290K over 7 years does when invested into an S&P 500 index fund. Let’s assume the standard 8% that almost everyone uses across the web. And to keep the example simple, we will assume that the money is invested at the beginning of the year (this will make it look a bit better than reality).

| Year | MKT Value of PMTs | Return | Net Savings | Opportunity Cost |
|------|-------------------|---------|-------------|------------------|
| 2015 | 10,800 | 800 | 101 | (699) |
| 2016 | 33,264 | 3,264 | 530 | (2,734) |
| 2017 | 68,325 | 8,325 | 1,521 | (6,804) |
| 2018 | 116,991 | 16,991 | 3,318 | (13,673) |
| 2019 | 180,350 | 30,350 | 6,169 | (24,182) |
| 2020 | 259,578 | 49,578 | 10,203 | (39,375) |
| 2021 | 355,945 | 75,945 | 15,625 | (60,320) |
| 2022 | 395,393 | 105,233 | 17,227 | (88,006) |

Note: The second column (MKT Value of PMTs) in the table above is displaying the cumulative value of the extra payments as if they were invested in the market earning a compounded 8% return. The 3rd column (Return) is the actual cumulative profit you made on investing those extra payments.

So what this table is telling us is that at first glance the opportunity cost of making extra payments on the mortgage vs. investing in the money into an index fund at 8% is costing us \$88K (after you net it against net savings calculated in the first table).

Now some people may stop there and come to the conclusion that you're better off investing the money vs. paying down the mortgage early. Not us! We like to ask the questions that might poke holes in this massively adopted assumption. Before I jump into some of the questions that pop in to my mind, let me first state that the 8% return assumption is based on historical performance and as we all know is "not an indication of future performance" (how many times have you read or heard that one...I am gagging myself for even repeating it here). This is also an assumed rate of return that is based on time frames much longer than 7-years.

Let's also point out that we are now entering our 7th year of this incredible bull market. The longest run prior to this before a new recession was 10 years. So even if we match that or beat it, in my opinion, we are likely to enter a recession sometime over the next 1-3 years. Typically this could lead to a 20-40% pull back in the market.

And lastly, I will point out once again that this is not a strategy that I recommend in lieu of investing in the markets. Like I have mentioned in previous posts, I look at this as the safe portion of my portfolio where many would be allocating capital to

bonds. So that means that during this time I will also be investing in the stock market in parallel with paying down the mortgage early.

Questions that we need to ask ourselves regarding the tables above

1. ***What about any appreciation that occurs on your house?***
 - I don't think we should consider that, because that is appreciation you would have received regardless of the accelerated pay down or investing the extra payments in the market.
2. ***What is the break even market return to make the opportunity cost zero?***
 - Wow, you read my mind...oh wait, these are questions from my own head. **Either way, I did the math and calculated the break even return rate. If the market return averages 1.5% over the next 7-years the opportunity cost is zero.**
 - The 8% is not a guaranteed return. However, the 3.675% I will no longer be paying on my mortgage is essentially a guaranteed return.
 - If the market is flat in 7-years then you are \$17,000 better off in my personal example.
3. ***What about the psychological win of paying of your mortgage early and the options that it affords you?***
 - This can be a very personal decision. I don't know about you, but there are not that many 35 and under folks in my circle of influence that don't have a mortgage. I think it gives you the courage to make decisions that you could not make when you have to make sure the mortgage is paid.
4. ***What about the savings from the remaining 23 years on the mortgage? What is the present value of that? Shouldn't that be netted against the opportunity cost?***
 - Yes, I do think we should at least note the present value of the interest savings over the 23 years. The question is what should the discount rate be? I think we should use the same 8% assumption we used for the market growth. With an approximate savings of \$170K over the 23 years, **the present value of that figure is about \$79K.** We won't net this against the \$88K calculated opportunity cost in the above table, but it's something to keep in mind.

What is the dollar and cents conclusion over the short term?

I can't argue that if the market returns its historical 8% per year average that I will be missing out on \$88,000 in market returns by paying off my mortgage early. I also can't argue with the fact that I would have \$370K in capital tied up in my house once it is fully paid off. Nor will I waste any time trying to convince someone that it is the right move. That's because this is a personal decision. All I can do is lay out the facts and let others decide what is best for them.

In all honesty, I think that giving up a "potential" (oh, there's that word again) \$88,000 to be mortgage free is worth it. It's a major goal that will be very liberating both financially and psychologically. The other thing to consider is the increased free cash flow that I will have available to start investing in the market once the mortgage is officially put to bed. If you read the first post where I outlined this strategy you will remember that it's based on the "pay more tomorrow" framework. Whereby, I plan to increase my income by \$10,000/year, and each year I will throw that against the mortgage. So by the end, I will have an extra \$70,000/year to invest.

Okay, yes, I will admit that there are taxes that I will have to deal with and we will continue to iron those out as we move forward. Here are a few things we are doing to help on the tax side of the equation:

- Maxing out my 401K at \$18,000/year
- Maxing out a IRA at \$5,500/year for the wife
- Changing our medical plan to a HSA (we can contribute up to \$6,000)
- Set up a SEP IRA for side business activities (up to \$55,000 in contributions)
- We will likely be starting a family in the next couple years (so that will help with tax deductions as well)

At the end of the day, I am sticking to the plan and will be at peace with the "potential" loss of \$88K.

Now back to Even Steven and the comparison of returns over a 30 year time frame

Above, Even Steven wanted to see what it would look like if you invested the extra payments (\$290K over 7 years) into the market and left it invested for the full 30

year term compared to paying off the mortgage and then investing.

This is for you Even Steven...

| | Scenario 0 | Scenario 1 | Scenario 2 | Scenario 3 |
|------|-------------------|----------------------|----------------------|----------------------|
| Year | Invest Extra PMTS | Invest After Pay-Off | Invest After Pay-Off | Invest After Pay-Off |
| 2015 | 10,800 | - | - | - |
| 2016 | 33,264 | - | - | - |
| 2017 | 68,325 | - | - | - |
| 2018 | 116,991 | - | - | - |
| 2019 | 180,350 | - | - | - |
| 2020 | 259,578 | - | - | - |
| 2021 | 355,945 | - | - | - |
| 2022 | 395,393 | 21,384 | 96,984 | 96,984 |
| 2023 | 427,025 | 42,895 | 194,543 | 194,543 |
| 2024 | 461,187 | 66,126 | 299,906 | 299,906 |
| 2025 | 498,081 | 91,216 | 343,699 | 413,699 |
| 2026 | 537,928 | 118,314 | 390,995 | 536,595 |
| 2027 | 580,962 | 147,579 | 442,074 | 669,322 |
| 2028 | 627,439 | 179,185 | 497,240 | 812,668 |
| 2029 | 677,634 | 213,320 | 556,819 | 967,481 |
| 2030 | 731,845 | 250,186 | 621,165 | 1,134,680 |
| 2031 | 790,393 | 290,000 | 690,658 | 1,315,254 |
| 2032 | 853,624 | 333,000 | 765,711 | 1,510,274 |
| 2033 | 921,914 | 379,440 | 846,767 | 1,720,896 |
| 2034 | 995,667 | 429,596 | 934,309 | 1,948,368 |
| 2035 | 1,075,320 | 483,763 | 1,028,853 | 2,194,038 |
| 2036 | 1,161,346 | 542,264 | 1,130,962 | 2,459,361 |
| 2037 | 1,254,254 | 605,446 | 1,241,239 | 2,745,909 |
| 2038 | 1,354,594 | 673,681 | 1,360,338 | 3,055,382 |
| 2039 | 1,462,962 | 747,376 | 1,488,965 | 3,389,613 |
| 2040 | 1,579,999 | 826,966 | 1,627,882 | 3,750,582 |
| 2041 | 1,706,398 | 912,923 | 1,777,913 | 4,140,428 |
| 2042 | 1,842,910 | 1,005,757 | 1,939,946 | 4,561,463 |
| 2043 | 1,990,343 | 1,106,017 | 2,114,941 | 5,016,180 |
| 2044 | 2,149,571 | 1,214,299 | 2,303,937 | 5,507,274 |

Scenarios Definitions

Scenario 0: In this scenario I would invest the money I had planned to apply to the mortgage in order to pay it off in 7 years. The assumption here is that the money would compound at an 8% annual rate of return. It also assumes that no additional contributions will be made beyond the extra payments that would have otherwise been applied to the mortgage (that totals about \$290K).

Scenario 1: In this scenario I pay off the mortgage early and then start investing what used to be my monthly mortgage payment. This is approximately \$20,000/year. I think this is the scenario that Even Stevens was suggesting we compare against scenario 0.

Scenario 2: In this scenario I pay off the mortgage early and then start investing what used to be my monthly mortgage payment like in scenario 1. But with a kicker, I make a lump sum contribution of \$70,000/year for three years in order to jump start the returns to catch up and eventually beat scenario 0.

Scenario 3: In scenario I do everything exactly the same as scenario 2, except I keep making extra contributions of \$70,000/year for the full 30 year period. Which by the way, this would put me at 58 years old.

I personally think I will fall somewhere in between scenario 2 and scenario 3.

Given the math, what would you do? Let us know in the comments below.

- Gen Y Finance Guy

Oh, you're still reading.

Do you want to help keep our lights on? You're under no obligation, but if you were already thinking about it or were a little bit curious, why not help us out?

Here are a few ways you can help us out:

1. **Personal Capital** - You know how big I am on tracking my finances, that's why I totally recommend Personal Capital's FREE software that helps you see

all your financial accounts in one secure and convenient place (checking, savings, investments, and retirement accounts). Without a tool like Personal Capital, these reports would take 2-3 times as long to complete. You want to track your income? Your expenses? How about your Net Worth (who doesn't like watching that bad boy climb). Just sign up and link your accounts today. **Absolutely free to you!**

2. **Amazon** - I order just about everything from Amazon. Not only does Amazon have the **lowest price**, but with Amazon prime I get **FREE two-day shipping** as well as the following: 1 Million ad FREE songs, FREE instant streaming of thousands of TV shows and movies, FREE unlimited photo storage in the cloud, and FREE books for Kindle. Lets be honest, at some point you actually need to spend money, but you might as well get the best price. Anytime you use this link and make any sort of purchase on Amazon within 24 hours, we will get a very small commission at **no additional cost to you**.
3. **Blue Host** - Have we inspired you to create your own blog? Well let me save you some money. This is the hosting company that I use for this blog. It is stupid cheap and the customer service is amazing. The normal price is \$5.99/month, but if you use this link you will get a 34% discount (only \$3.99/month). It took me less than 5 minutes to buy my domain, install wordpress, and get the first version of this site up and running.

OR you can check out our [Recommended Products and Resources page](#).



Gen Y Finance Guy

Hey, I'm Dom - the man behind the cartoon. You'll notice that I sign off as "Gen Y Finance Guy" on all my posts, due to the fact that I write this blog anonymously (at least for now). I like to think of myself as the *Chief Freedom Officer* here of my little corner of the internet. In the real world, I'm a 30-something former C-Suite executive turned entrepreneur turned capital allocator. I am trying to humanize finance by sharing my own journey to Financial Freedom. I believe in total *honesty* and *transparency*. That is why before I ever started blogging, I

decided that I would share all of my own [financial stats](#). I do this not to brag, but instead to inspire motivate, and also to hold myself accountable. My goal is to be a beacon of hope, motivation, and inspiration for *you*, the reader, by living life by example and sharing it **all** here on the blog. My sincere hope is that you will be able to learn from me - both from my successes and my failures! [Read More](#)