

When I was 17, a 61-year-old Benedictine monk named Jean-Marie Dechanet gave a talk about yoga at the Benedictine abbey where I was a student. He demonstrated many yoga poses. He told us that if we did yoga every day, when we were 61 we would have as much energy and fitness as he did. I bought his book, *Yoga in Ten Lessons*, and taught myself to do yoga. I still have that book. Starting yoga early was good advice. Many habits benefit from an early start. Few benefit as much as the habit of saving. Saving for purchases, rather than buying on credit, keeps you out of debt. And starting to save for retirement early makes it much easier to achieve your retirement goals.

I was flying back to California from Minnesota a few weeks ago, and I got into a conversation with the passenger sitting next to me. I had told him that I was working on a course on personal finance. And he told me that when he was a young man in the late 1970s, he had opened a tax-deferred retirement account and invested \$7,000 in an S&P 500 index fund. He didn't pay much attention to the account for many years, and today it's worth more than \$350,000. Now, the stock market has performed remarkably well over the last 35 years. And most financial economists don't expect it to do that well over the next 35 years. But almost certainly, if you invest in the market today and hold that investment for 35 years, you will earn large returns.

When you invest for a long period, whether in stocks or bonds, you benefit from compounding. Let's look at a simple example of compounding. Suppose you were to invest \$100 in a savings account that paid 7% interest each year. To be clear, 7% is a good deal more than you can get in a savings account today, though it's not an unrealistic expected return for the stock market. At 7%, your \$100 would earn \$7 for the year. So at the end of the first year, you'd have \$107. Now you could spend that \$7, or you could keep invested. If you spend the \$7 and keep the original \$100 invested, you'll earn \$7 again the second year. If you don't spend the \$7, and you keep it invested along with your original \$100, you earn \$7.49 the second year. \$0.49 more, not a lot. But now let's look at what happens over 30 years. In case 1, you kept the \$100 invested for 30 years, but each year you withdrew the \$7 in interest that you earned, and you spent it. Over 30 years, you'd withdraw 30 times \$7, or a profit of \$210, and you'd still have your original \$100. What happens in case 2 where you continually reinvest your earnings? At the end of 30 years, you'll have \$761, your original \$100 plus a profit of \$661. And most of that \$661 will be interest that you earned on the interest you had already received. Interest earned on interest, or compound interest. Note, though, that given recent inflation rates in the US, \$1 in 30 years will likely buy about half as much as it does today.

Now, what if instead of taking out \$7 each year, you're able to actually put another \$7 in the account each year? Over 30 years, you will have contributed an additional \$210 on top of your original \$100. And at the end of 30 years, you will have \$1,422, the \$310 that you contributed plus a profit of \$1,112. As before, most of the profit comes from compound interest. Over long periods, the results of compounding are much greater than most people realize. So there are huge benefits from starting your savings early. How early? Well, unless you've got a rich uncle funding your account, you're not going to save much while you're a child. And with current tuitions, most college students aren't in a position to

start funding their retirement accounts. But even teenagers and college students can develop the habit of saving for things they need or want before purchasing them. That is, they can learn not to buy on credit.

Once you have a regular job, it's time to start saving for retirement. How much should you save? In her book, *All Your Worth*, Senator Elizabeth Warren recommends saving 20% of after-tax income. For many people, 20% will be a goal, not a starting place. If you can't save 20% today, save 15%, or 10%, or even 5%. Saving something is better than saving nothing. Put away what you can and get into the habit of saving every month. Then look for ways to save more. So how do you get to 20% from where you start? A good first step is to automate your savings. If your company has a 401(k) plan, sign up immediately and be sure to save at least enough to get the maximum matching contribution from your company. Passing up a company match is like not cashing your paycheck. But don't stop there. If your company has a low matching contribution or doesn't make a match at all, that doesn't mean you don't need to save. You need to save more. What if your company doesn't have a 401(k) plan or other retirement plan? Then you need to set up your own retirement account, such as a traditional IRA or a Roth IRA. We'll discuss retirement accounts in greater detail elsewhere in this course.

If you open a traditional or a Roth IRA account, be sure to also set up automatic contributions. You'll want to set things up so that when your monthly paycheck is deposited in your checking or savings account, the amount that you intend to save is automatically transferred to your retirement account. Pay yourself first and pay yourself automatically. Saving is tough. If you wait till the end of the month to save, you're likely to find out you didn't. Make saving automatic and save before you spend. Many Americans who are saving for retirement believe that they aren't saving enough. But how can you save more? My friends Richard Thaler and Shlomo Benartzi have a suggestion. They call it "save more tomorrow." Sounds like a procrastinator's motto, doesn't it? Here's the idea. You're working. You're putting money into savings every month. You know you should be saving more, but you just can't see how you can do so. But what if you had a bit more money? You could save more if you had more, right? So commit now to increasing your savings rate when you get your next raise. And while you're at it, commit to putting your next federal tax refund directly into savings.

Some 401(k) plans will let you sign up to automatically increase your retirement savings rate annually or even when you get your next raise. If yours does, sign up for a future increase now. Otherwise, make a commitment to yourself to increase your savings rate when you get that next raise. While it's a good idea to start saving for retirement in your 20s, many people don't do so.

So what should you do if you're in your 30s, or 40s, or 50s and haven't started saving? Start today. How much do you need to save? Well, that's going to depend on a lot of factors-- how old you are, what assets, if any, you've accumulated, how long you expect to work. The courseware has links to calculators that will help you estimate your retirement savings needs. For many people, the calculators may tell you that you need to save more than you think you can. The most important thing is to start saving something. First get into the habit of saving and then find ways to increase what you're putting away. Saving is not an all or nothing game. Even if you don't hit your ideal goal, your retirement years are going to be easier for every dollar you do save. If you are 50 years old and save a dollar today, that dollar will have been earning compounded returns for 20 years when you're 70. That's likely to be a big return.

You know, however old you are today, you're the oldest you've ever been. That probably seems pretty old now. However, it's likely to seem young when you look back 20 or 30 years from now. Don't look back and say, wow, I really should have started saving then. Start now. When I was a freshman in college, I wanted to learn to play guitar. However, one of my roommates, Dave [? Vanata, ?] had been playing guitar for about four years and was already pretty good. I decided it was too late for me to learn guitar. I regret that decision, but maybe it's not too late. I'm 64. If I start today, I'll have been playing guitar for 20 years when I'm 84.