

Reading a projection somebody shows you: seven questions

Every projection of an investment is an illustration with assumptions in it, like the two in the book. Ask these before you look at the final figure. Beside each, the answer for the book's own illustration of Chapter 8.

Name		Prepared on	
Plan		Date	

#	The question	The book's illustration	On this projection
1	What yearly return is assumed, and is it before or after costs?	7 per cent before costs; 6.85 after the low cost	
2	What does it cost a year, every layer added together?	0.15 per cent, or 1.15 for the dearer investor	
3	What does that cost come to in money over the whole period, and what is it worth at the finish?	13,026 and 83,343 paid; the extra 70,317 costs 170,885	
4	Is the final figure in money of the day, or in today's money?	738,846 nominal; 275,169 in today's money at 2.5 per cent	
5	Are contributions constant in cash, or do they rise with pay?	Constant, 3,600 a year; rising with inflation gives 377,817 in today's money	
6	What if the same average arrives in a different order?	A lost decade first: 1,079,380; last: 593,525 (case one)	
7	What if I stop, or sell, in a bad year?	One sale after a 30 per cent fall: 195,991 less at 65 (case two)	

If the projection cannot answer question 1 and question 4, it has given you a number rather than an answer. The return is always on the page; the inflation and the costs usually are not.

Before the first contribution

The questions to settle before any money goes into the market. A long-term plan is only as good as its ability to be left alone; each line here is something that would otherwise force a sale at a bad time.

Name		Prepared on	
Plan		Date	

Test	Why it matters	Your answer	Settled?
Cash set aside for emergencies, in months of spending	Without it, the first unexpected bill is paid by selling, possibly after a fall		
Debts charging more than any return you would assume	Paying off a 20 per cent debt is a certain 20 per cent; no fund offers that		
When will this money be needed?	Money needed within a few years should not depend on the market's mood		
How much can go in every month without strain?	A small amount kept up beats a large one abandoned (sheet 5)		
Is there an employer contribution you are not yet taking?	An immediate return that no market provides		
Which account, and what does it cost a year?	The account's charge is part of the cost (page 6)		
What will you do if the balance falls by a third?	Decide now, not then (page 10)		
Who else depends on this money?	It changes how much risk the plan can carry		

None of these is an investment decision, and all of them come before one. A plan that has to be interrupted costs more than a plan that starts later; case two prices one interruption at 195,991.

The plan on one page

Written once, kept where you will see it, and read before any change. The first column is the book's illustrative saver of Chapter 8, as a model of how specific each line should be.

Name		Prepared on	
Plan		Date	

Line	The book's saver (illustrative)	Your plan
What the money is for	A pot at 65	
When it will be needed	At 65, forty years away	
How much, how often, on what date	300 a month, 3,600 a year	
Into what	One simple, broad, low-cost fund	
The most it may cost a year, all layers	0.15 per cent	
The return assumed for planning, and why	7 per cent, a round teaching figure, not a forecast	
What it should reach, in today's money	275,169 (738,846 in money of the day)	
When contributions rise	Never in the illustration; with pay, if you can	
What happens in a fall	Nothing: contributions continue	
When the plan is reviewed	Once a year, on a fixed date	
What would justify changing it	A change in the goal or the date, not in the market	

Signed		Date	
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A plan that names its costs and its rule for a fall in advance has already answered the two questions most beginners answer badly, and in the heat of the moment.

The two numbers to check before any decision

Sheet 5 of the workbook. Before you accept a fee, and before you decide you cannot start yet, put the real figures in and read these two lines. The first column is the workbook's own example.

Name		Prepared on	
Plan		Date	

Input	Workbook example	Yours
Monthly contribution	250	
Age now	30	
Age to stop	65	
Return assumed	5.00 per cent	
Yearly cost	0.25 per cent	
Inflation assumed	2.50 per cent	

Result	Workbook example	Yours
The pot, in cash	269,559	
The pot, in today's money	113,584	
Of which contributed	105,000	
What one more year of saving adds	15,947	
What starting a year earlier would have added (the same)	15,947	
What half a point of extra cost takes away	27,304	

The decision in front of you

Decision	Its effect on the pot	Worth it?

Half a point of cost on the example takes 27,304, more than a quarter of everything contributed. Checked before the decision, it is a number; after, it is a regret.

Early against late, decade by decade

Chapter 4's illustration with its figures: 3,600 a year at an illustrative 7 per cent, no cost. The early investor pays in from 25 to 35 and stops; the late one from 35 to 65. Fill the last columns with your own plan.

Name		Prepared on	
Plan		Date	

End of the year aged	Early: paid in	Early: balance	Late: paid in	Late: balance	Your paid in	Your balance
34	36,000	53,221	0	0		
44	36,000	104,694	36,000	53,221		
54	36,000	205,948	72,000	157,915		
64 (the finish at 65)	36,000	405,132	108,000	363,863		

What the table says	Figure
The early investor finishes ahead by	41,269
Having paid in	a third as much
Her growth in the last ten years, after twenty years without a contribution	199,183 (49.2 per cent of her total)
The return below which the late investor wins instead (revised)	6.28 per cent a year
At 4 per cent: early against late	145,794 against 209,982

What survives at any return is that each 1 paid in early works harder: at 7 per cent it becomes 11.25 against 3.37, at 4 per cent 4.05 against 1.94. Whether ten early years beat thirty later ones depends on the return; the book's figures clear the line.

The fee audit

Chapter 8. Every layer of cost, added up, and then turned into money at the finish. A charge quoted as a small percentage is a share of growth you never see.

Name		Prepared on	
Plan		Date	

Layer of cost, per year	Low-cost investor	Higher-cost investor	Yours
The fund's own ongoing charge			
The platform or account charge			
Advice, if paid as a percentage			
Dealing costs and spreads, spread over a year			
Anything else taken from the balance			
Total, per year	0.15 per cent	1.15 per cent	

What it comes to over forty years (3,600 a year, 7 per cent)	Low cost	Higher cost	Yours
Fees paid, in money	13,026	83,343	
The pot at 65	738,846	567,961	
Poorer by		170,885 (23.1 per cent)	
Extra fees handed over		70,317	
Lost for every 1 of extra fee		2.43	
The extra monthly saving that makes up for it (case three)		90.26 a month, 30.1 per cent more	
The same cost as years of delay (case three)		3.65 years	

The fee is not the cost: on the book's figures it is less than half of it. Read the total line, not the headline charge, and convert it to money before comparing.

Two funds, side by side

For the choice the book keeps simple: a broad, low-cost fund held for a long time. Fill one column per fund from its factsheet and key information document, then let the cost line decide between funds that do the same job.

Name		Prepared on	
Plan		Date	

Line	Fund A	Fund B
Name and identifier		
What it holds, and which index it follows		
How many holdings; largest single holding as a share		
Countries and currencies covered		
Ongoing charge, per year		
Platform charge on top, per year		
Total yearly cost		
How far it trailed its index last year, and over five years		
Income paid out or reinvested		
Size of the fund		
Minimum and regular investment		

Difference in total yearly cost	Costs at 65, on 3,600 a year for forty years
0.25 point	
0.50 point	
1.00 point	170,885 (the book's illustration)

If two funds hold the same things, the cheaper is almost always the better one: the cost is certain, the difference in returns is not. Fill the empty lines with the calculator on sheet 5 of the workbook.

What the pot buys: today's money

The step neither chapter takes. Divide any future figure by the factor for its number of years and its inflation rate to see what it buys today.

Name		Prepared on	
Plan		Date	

Years	2.0 per cent	2.5 per cent	3.0 per cent	4.0 per cent
10	1.219	1.280	1.344	1.480
20	1.486	1.639	1.806	2.191
30	1.811	2.098	2.427	3.243
40	2.208	2.685	3.262	4.801

Figure	Nominal	Years	Inflation	Factor	In today's money
The low-cost investor at 65	738,846	40	2.5 per cent	2.685	275,169
The higher-cost investor at 65	567,961	40	2.5 per cent	2.685	211,526
The late starter of Chapter 4	363,863	40	2.5 per cent	2.685	135,514
Contributions rising with inflation (sheet 4)	1,014,464	40	2.5 per cent	2.685	377,817
Your figure					
Your figure					

The return after inflation and the low cost is exactly $(1.07 - 0.0015) / 1.025 - 1 = 4.2439$ per cent. A beginner shown only the nominal figure has been shown the wrong number.

The price of waiting: the catch-up table

Case three. What it takes each month to reach the low-cost saver's pot of 738,846 at 65, by the age saving starts, at 7 per cent less 0.15. Use the last lines for your own target.

Name		Prepared on	
Plan		Date	

Start age	Years to 65	Each month, 7 per cent	Times 300	Paid in, in all	Each month, 4 per cent (ADDED)
25	40	300.00	1.00	144,000	646.32
30	35	430.68	1.44	180,886	829.52
35	30	626.68	2.09	225,606	1,083.87
40	25	930.86	3.10	279,257	1,452.62
45	20	1,428.79	4.76	342,909	2,022.18
50	15	2,319.72	7.73	417,550	2,994.06
55	10	4,200.27	14.00	504,033	4,972.60

Your target at 65	Your start age	Years	Each month needed	What you can afford	Gap

Each five years of delay multiplies the monthly bill by about one and a half. Chapter 4's late starter draws level with the early one on 334.03 a month, but for thirty years: 120,249 in all against 36,000.

The rule for a falling market, written before the fall

Case two. The paper loss arrives first and the decision second; write the decision down now, while the loss is only a number. The book's saver is the low-cost saver of Chapter 8, in the year she is 45.

Name		Prepared on	
Plan		Date	

If the market fell by	The book's saver: 155,134, fallen at once	Your balance now	After the fall	What you will do
10 per cent	139,621			
20 per cent	124,107			
30 per cent	108,594			
40 per cent	93,081			

What one sale did to the book's saver (case two, 30 per cent fall, ADDED)	At 65
Stays invested	751,020
Sells after the fall, buys back above the old peak, out two years	555,030
Sells after the fall and never goes back	245,396
Cost of the one sale	195,991, 1.15 times forty years of one point of fees

My rule	
In a fall, contributions	
I will not sell unless	
The person I will talk to first	

Staying cost the book's saver nothing at the finish: she ended above the steady path, because three years of contributions bought below the trend.

The yearly review

Once a year, on a fixed date. The plan columns are the low-cost saver of Chapter 8 at an even 7 per cent: a line to read yourself against, not a target, since no real year is average.

Name		Prepared on	
Plan		Date	

Age	Plan: paid in	Plan: fee	Plan: balance	Paid in	Fees paid	Balance	Allocation still as planned?
25	3,600	5.40	3,847				
26	3,600	11.17	7,957				
27	3,600	17.34	12,348				
28	3,600	23.92	17,041				
29	3,600	30.96	22,055				
30	3,600	38.48	27,412				
31	3,600	46.52	33,136				
32	3,600	55.10	39,253				
33	3,600	64.28	45,788				
34	3,600	74.08	52,771				

This year	
Total yearly cost, all layers, in money	
Anything in the plan on page 3 that changed, and why	
Contribution for next year	
Next review date	

Read the fee column in money, not in per cent. After ten years the plan's saver has paid 367 in fees at 0.15 per cent; at 1.15 per cent she would have paid 2,727, seven times as much, and every 1 of the difference is missing from the balance that compounds.

The contribution record

One line a month. The first two lines are an example (ADDED): the same 300 buys 3.00 units at 100 and 4.29 at 70. That is why a fall helps somebody still paying in.

Name		Prepared on	
Plan		Date	

Month	Date	Amount	Price per unit	Units bought	Units held	Value
1		300	100.00	3.00	3.00	300
2		300	70.00	4.29	7.29	510
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

A lost decade at the start of forty years is, for a saver, a decade of cheap units: case one ends at 1,079,380 with the lost decade first against 593,525 with it last, on the same forty-year growth.