GREAT INVESTMENTS PROGRAMME

Sell or hold?

A regret-minimisation decision tree for uncertain markets

Stop trying to predict the market. Choose the mistake you can live with.

Built on Nobel Prize-winning research by Daniel Kahneman, Richard Thaler and Harry Markowitz

Alpesh Patel OBE | Client framework | For education only, not investment advice

IN ONE PAGE

You cannot know what the market will do next, but you can know which mistake you would regret more

1

Name the two mistakes

Selling, then watching prices rise and buying back higher. Or holding, then watching prices fall. Both are real risks.

2

Run the regret test

Picture both futures in pounds. Ask which one you would find harder to live with, and act to avoid that one.

3

Split if you cannot tell

If both hurt equally, sell part. Harry Markowitz, a Nobel laureate, split 50/50 to "minimize my future regret".

4

Write the rule down first

Before acting, decide when you would buy back or review. That stops a second, emotional decision later.

Source: Zweig, "What Harry Markowitz Meant"; Loomes & Sugden (1982), Economic Journal; Minimax regret (Savage, 1951)

THE PROBLEM

Whatever you choose, one of the two possible futures will make you regret it

	If the market then… FALLS	RISES
You SELL	**Relief** You stepped aside and avoided the fall. The risk now: when do you get back in?	**Regret of action** You missed the rise and may have to buy back at a higher price, plus costs and possibly tax.
You HOLD	**Regret of inaction** You saw it coming, did nothing, and watched the value drop.	**Relief** You stayed invested and captured the gain.

Note: Because the column is unknowable in advance, the useful question is which red box you would find harder to live with.
Source: Minimax regret (Savage, 1951); Loomes & Sugden (1982), Economic Journal

Three Nobel laureates show that investors are driven by regret and loss, not just by return

NOBEL PRIZE 2002

Daniel Kahneman

Prospect theory, with Amos Tversky: people judge outcomes as gains or losses from a reference point, and "losses loom larger than gains".

So what: A fall in a share you still hold hurts more than missing an equal rise feels good.

NOBEL PRIZE 2017

Richard Thaler

Mental accounting and the endowment effect: we value what we own more than what we do not, and judge each decision narrowly rather than by its effect on the whole portfolio.

So what: Judge the sale by your whole plan, not by the profit or loss on one line.

NOBEL PRIZE 1990

Harry Markowitz

The father of portfolio theory described his own first pension allocation: "My intention was to minimize my future regret. So I split my contributions fifty-fifty."

So what: When you cannot choose, splitting is a legitimate, Nobel-grade answer.

Source: Nobel Prize 2002 press release; Kahneman & Tversky (1979), Econometrica; Nobel Prize 2017 press release; Zweig, "What Harry Markowitz Meant"

Economists have formalised regret: a sensible choice is the one whose worst regret is smallest

Minimax regret Savage, 1951	For each choice, find the worst gap between what you got and what the best choice would have given you. Pick the choice with the smallest worst gap. No forecast is needed.
Regret theory Loomes & Sugden, 1982; Bell, 1982	People do not just weigh outcomes; they compare them with what they would have got by choosing differently. Anticipating that comparison is rational, not a flaw.
Regret regulation Zeelenberg & Pieters, 2007	Regret can come from acting or from not acting. The more justifiable the decision, the less regret you feel afterwards.

Note: The decision tree applies minimax regret, then uses a written rule to make the decision justifiable.
Source: Minimax regret (Savage, 1951); Loomes & Sugden (1982), Economic Journal; Bell (1982), Operations Research; Zeelenberg & Pieters (2007)

ACTION VERSUS INACTION

Selling stings sooner, but missing out bites for longer, so test both time horizons

THE SHARE-SWITCH EXPERIMENT

Kahneman & Tversky, 1982

- Paul considered switching shares, did not, and would have been $1,200 better off if he had.
- George did switch, and would have been $1,200 better off if he had not.
- Same loss. Most people say George, the one who acted, feels more regret.

THE TIME TWIST

Gilovich & Medvec, 1995

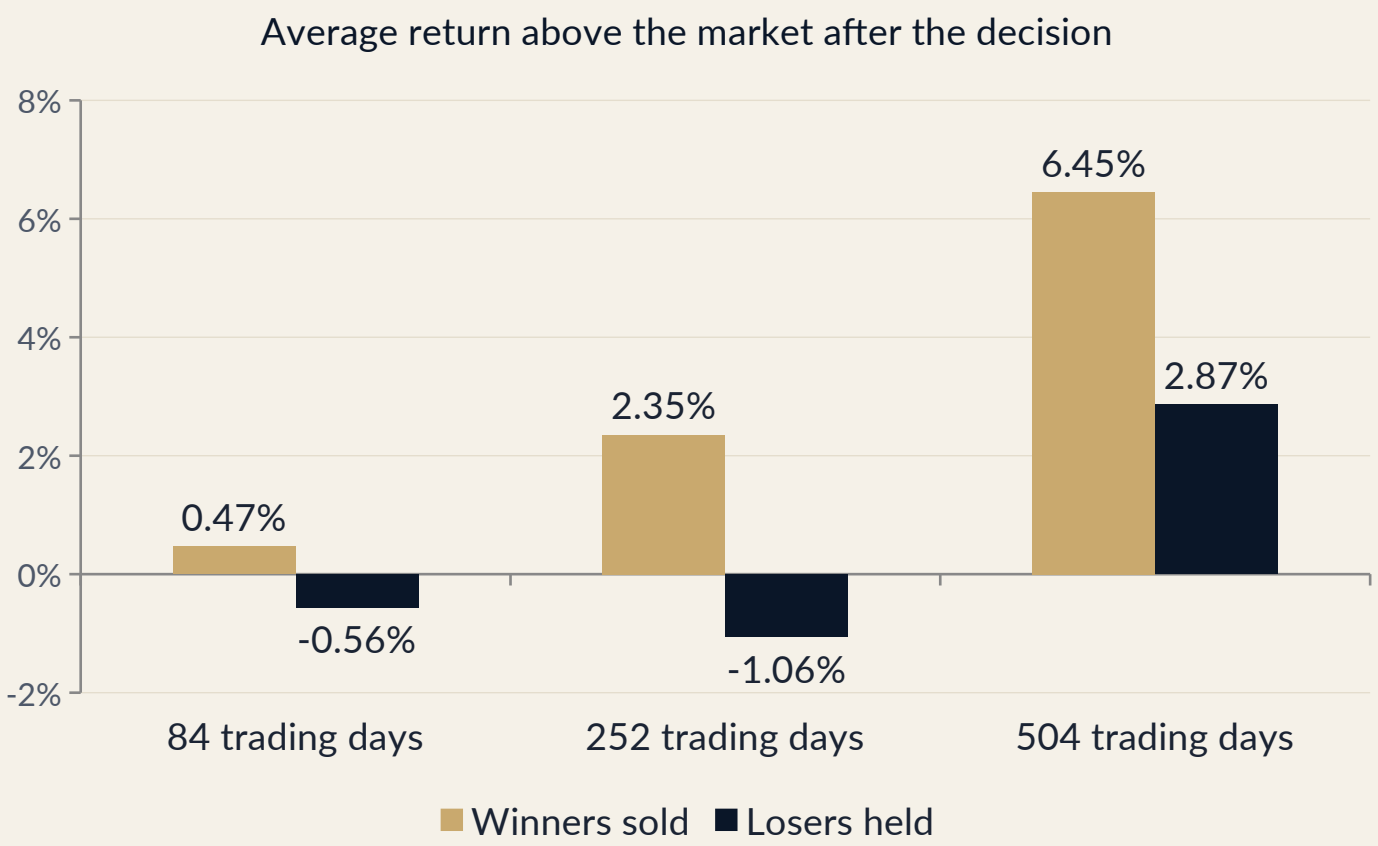
Short run: actions, such as selling, produce more regret.

Long run: inactions, such as never acting on a known risk, produce more regret.

Ask yourself: which would I regret more next month, and which in five years?

Source: Kahneman & Tversky (1982), Scientific American; Gilovich & Medvec (1995), Psychological Review

Left to instinct, investors sell the wrong things: the winners they sold beat the losers they kept



3.41 points

Gap over the following year (252 trading days) between winners investors sold and losers they kept

Shefrin and Statman linked this disposition effect to regret avoidance: selling a loser makes the mistake final. The decision tree forces the question onto the reason you own the share, not the price you paid.

Note: Odean (1998): 10,000 US discount-brokerage accounts, 1987 to 1993; returns in excess of the CRSP value-weighted index.
Source: Odean (1998), Journal of Finance; Shefrin & Statman (1985), Journal of Finance

THE DECISION TREE

Three questions replace "what will the market do?" with "what can I live with?"

Q1 Has the reason I bought it broken?

- **Yes** → **SELL**
  A broken thesis is a fact, not a forecast. Sell on the reason, not the price you paid.
- **No** → **Q2** Do I need this money within five years?

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- **Yes** → **SELL WHAT YOU NEED**
  Money needed soon should not depend on the market. Move that amount to safety.
- **No** → **Q3** Regret test: which future would hurt more?
  (A) I sell, it rises, I buy back higher
  (B) I hold, it falls

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- **B hurts more** → **SELL OR TRIM**
  Avoid the fall you fear. Write your buy-back rule.
- **Cannot tell** → **SPLIT**
  Sell part, often half, as Markowitz did.
- **A hurts more** → **HOLD**
  Stay invested. Write your review rule.

Every branch ends here: write your pre-commitment card before you trade (slide 11).

Source: Minimax regret (Savage, 1951); Zweig, "What Harry Markowitz Meant"; Zeelenberg & Pieters (2007)

WORKED EXAMPLE

On a £500,000 portfolio, selling half cuts the worst-case regret from £100,000 to £50,000

Your choice	Market falls 20%	Market flat	Market rises 20%	Worst regret
Sell everything	£0	£0	£100,000 missed, buy back higher	**£100,000**
Hold everything	£100,000 lost	£0	£0	**£100,000**
Sell half	**£50,000**	**£0**	**£50,000**	**£50,000**

How to read it: regret is the gap between what you got and what the best choice would have given you in hindsight. The minimax-regret choice is the row with the smallest worst number.

Then make it personal: if a £100,000 fall would hurt you twice as much as missing a £100,000 rise, lean towards selling more than half.

Note: Illustrative figures only; ignores dealing costs, tax, cash interest and dividends.
Source: Minimax regret (Savage, 1951); Kahneman & Tversky (1979), Econometrica

THE BUY-BACK TRAP

If you sell, the second decision, when to buy back, is where most of the damage is done

Half

How much a portfolio would have been cut by missing the 10 best days in the market over the past two decades, according to J.P. Morgan Asset Management

- The worst days often sit very close to the best days, so selling into a fall risks missing the rebound.
- After selling, buying back at a higher price feels like admitting a mistake, so many investors wait, and the gap widens.
- Thaler's planner-doer model explains why: the calm "planner" sets the rule, the anxious "doer" breaks it. Write the rule while you are the planner.
- Count the costs too: dealing charges, spreads and, outside an ISA or SIPP, capital gains tax.

Source: J.P. Morgan Asset Management; Nobel Prize 2017 press release

PRE-COMMITMENT CARD

Write your rule before you trade, so the decision stays justifiable whatever happens next

My decision	I am going to SELL ALL / SELL PART (___%) / HOLD
My reason	Because _____
If I sell	I will buy back if _____ or on date _____
If I hold	I will review if the price falls to _____ or the reason changes
The regret I accept	If I am wrong, the regret I am choosing to live with is _____

Signed _____ Date _____ Review date _____

Source: Zeelenberg & Pieters (2007); Nobel Prize 2017 press release

YOUR TURN

Fill in your numbers, then pick the row with the smallest worst regret

Your choice	Market falls ___%	Market flat	Market rises ___%	Worst regret	Gut check (1-10)
Sell everything	£	£	£	£	
Hold everything	£	£	£	£	
Sell ____%	£	£	£	£	

- Put your portfolio value in pounds into each scenario and enter the gap against the best choice in hindsight.
- Gut check: score how much each row's worst case would hurt, at one month and at five years.
- If the numbers and your gut disagree, discuss it with your mentor before trading.

ACADEMIC REFERENCES

Nobel-winning and peer-reviewed research backs every step

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Note: Each reference above links to its source.

GREAT INVESTMENTS PROGRAMME

Decide what you can live with, then write it down

NOT INVESTMENT ADVICE

This framework is for educational purposes only and is not a personal recommendation to buy, sell or hold any investment. The value of investments and the income from them can fall as well as rise, and you may get back less than you invest. Past performance is not a reliable indicator of future results. Figures in the worked example are illustrative and ignore costs and tax. Tax treatment depends on individual circumstances and may change. If you are unsure whether an investment is right for you, seek advice from a regulated financial adviser.