CHARTA LEARNING · LESSON NOTES

Net worth, taxes and the private client

Portfolio Construction

1 A story: the rich student

- A new graduate has little cash but decades of pay
- That future pay is her human capital
- Over a career, pay is turned into savings
- By retirement the portfolio carries everything

IN THE LESSON

- Imagine a newly qualified pharmacist with almost nothing in the bank.
- Is she poor?
- Not at all.
- She owns something far more valuable than any savings pot: decades of pay still to come.
- Economists call that stored up earning power human capital.
- Her adviser insists on counting it, because a balance sheet that shows only the bank balance misses most of her wealth.
- Over a working life the picture slowly flips.
- Each year she spends some pay and saves some, so the savings pile grows while the years of pay left shrink.
- By retirement, nearly all her wealth sits in the portfolio.
- Everything in this section follows from that slow swap.

2 Three pieces of one balance sheet

Economic net worth, in three pieces

Piece	What it is
Human capital	Present value of future pay
Financial capital	Savings and investments
Other assets less debts	House less mortgage, and so on
Economic net worth	All three added together

IN THE LESSON

- Owen Pryce draws one total balance sheet with three pieces.
- Human capital is the present value of the pay a person expects to earn, discounted at a rate that rises with the risk of the job.
- Financial capital is what they have saved and invested.
- Then there are other assets less liabilities, such as a house less its mortgage.
- Add the three together and you have economic net worth.
- The usual trap is to look at financial capital alone, which is only the visible tip.
- A young person with a small portfolio but secure pay can be rich, and ability to take risk should be judged from the whole sheet.

3 Valuing human capital

HC = $Y_1 \div (r - g) \times [1 - ((1 + g) \div (1 + r))^n]$

Pay next year	Pay due at the end of next year
Discount rate	Risk-free rate plus job premium
Pay growth	Yearly growth in pay
Years to retirement	Years left until retirement

IN THE LESSON

- Here is how Owen Pryce values human capital.
- It is the present value of a growing stream of pay, which you met at Level One as a growing annuity.
- Take the pay due at the end of next year and divide by the discount rate minus the growth rate.
- Then multiply by one minus the ratio of one plus growth to one plus the discount rate, raised to the number of years left until retirement.
- The discount rate is the risk free rate plus a premium for the riskiness of the job.
- A steady job earns a small premium, and a shaky one a big premium.
- A careful adviser can also weight each year's pay by the chance the client lives to receive it.

4 Example 1: Elena's human capital at thirty-five

Pay 60,000 next year, up 3% a year; retires in 30 years

Discount rate	3% + 2% premium	**5%**
Annuity part	60,000 ÷ (0.05 − 0.03)	**3,000,000**
Growth factor	1 − (1.03 ÷ 1.05)^30	**0.4384**
Human capital	3,000,000 × 0.4384	**1.315m**

IN THE LESSON

- Elena is thirty five.
- Next year she will earn sixty thousand, paid at the end of the year, and her pay grows three per cent a year until she retires at sixty five, thirty years away.
- The risk free rate is three per cent.
- Her hospital job is steady, so Owen Pryce adds a premium of two points, a discount rate of five per cent.
- The annuity part is sixty thousand divided by point oh two, which is three million.
- The growth factor is one minus one point oh three over one point oh five, to the thirtieth power, which is point four three eight four.
- Multiply and her human capital is about one million, three hundred and fifteen thousand.

5 Example 2: her economic net worth at thirty-five

Elena, 35: the total balance sheet

Human capital	from Example 1	**1.315m**
Financial capital	savings and investments	**90,000**
Flat less mortgage	300,000 − 200,000	**100,000**
Economic net worth	1.315m + 90k + 100k	**1.505m**
Human share of the total	1.315m ÷ 1.505m	**87%**

IN THE LESSON

- Now the rest of Elena's sheet.
- Her financial capital is ninety thousand.
- She owns a flat worth three hundred thousand with a mortgage of two hundred thousand, so her other assets less liabilities are one hundred thousand.
- Add human capital of one million, three hundred and fifteen thousand, and her economic net worth is about one million, five hundred and five thousand.
- Now look at the split.
- Human capital divided by the total is eighty seven per cent.
- Her bank statement shows ninety thousand, but nearly nine tenths of what she owns is future pay.
- That is why her portfolio, though small, can be adventurous, and why her family needs protecting if that pay stopped.

6 Human capital turns into financial capital

Chart: Value (illustrative) vs Age, 35 to 85

- Human capital
- Financial capital
- Retires at 65
- Cross at about 55

IN THE LESSON

- Here is Elena's whole life on one picture.
- Age runs along the bottom, from thirty five to eighty five, and value is up the side.
- Follow the gold line first, human capital.
- It starts high, because many years of pay remain, and falls steadily as the years are used up.
- At sixty five, when she retires, it drops to nothing.
- Now the green line, financial capital.
- It starts tiny, climbs as she saves and as her investments grow, and peaks at retirement.
- The two lines cross in the middle fifties.
- After retirement the green line slowly falls, because the portfolio now has to pay for her spending.
- The values are illustrative.

7 Life stages and the choices that follow

Four financial stages

Stage	What the portfolio does
Accumulation	Save, take risk, insure the pay
Consolidation	Peak pay, build the pot steadily
Spending	Fund life, income, stability
Gifting	Pass on spare wealth tax-efficiently

IN THE LESSON

- Financial advisers describe four stages, and each asks for different choices.
- In the accumulation stage the client is young, human capital dominates, and the goal is to save and take risk, while insuring the pay.
- In consolidation, pay is at its peak, the portfolio is growing fast, and risk stays steady while debts shrink.
- In the spending stage, human capital is gone and the portfolio must fund life, so income, protection against outliving the money, and stability matter most.
- Finally, gifting: wealth beyond what the client needs may be passed on, ideally in a tax efficient way.
- The stages blend, but the direction is always the same.

8 Example 3: Elena at fifty and at sixty-five

Elena at 50: pay 93.5k next year, 15 years left

Human capital at 50	93.5k pay, 15 years, 5%	**1.171m**
Net worth at 50	1.171m + 700k + 350k	**2.221m**
Human share at 50	1.171m ÷ 2.221m	**53%**
Net worth at 65	1.6m + 450k, no pay left	**2.05m**
Human share at 65	0 ÷ 2.05m	**0%**

IN THE LESSON

- Let us move Elena forward.
- At fifty her pay next year is about ninety three thousand five hundred, and there are fifteen years left.
- Same discount rate, and her human capital is about one million, one hundred and seventy one thousand.
- She now has seven hundred thousand saved, and her flat is worth three hundred and fifty thousand net of the mortgage.
- Her economic net worth is two million, two hundred and twenty one thousand.
- Human capital is now only fifty three per cent.
- At sixty five it is zero, and the human share of her two million fifty thousand falls to nothing.
- The same woman needs very different advice at each age.

9 Example 4: a riskier job is worth less

Same 93.5k pay, 15 years: steady job against risky job

Steady job, rate 5%	3% + 2% premium	**1.171m**
Risky job, rate 7%	3% + 4% premium	**1.017m**
Fall in value	1.171m − 1.017m	**154k**
Fall as a share	154k ÷ 1.171m	**13%**
Life cover idea	pay the family would lose	**up to 1.017m**

IN THE LESSON

- The discount rate carries the risk of the job.
- Suppose Elena's pay were identical, but earned from commissions that swing with markets.
- Owen Pryce would add a premium of four points instead of two, a discount rate of seven per cent.
- The same pay for the same fifteen years is then worth only about one million and seventeen thousand, against one million, one hundred and seventy one thousand.
- That is a drop of one hundred and fifty four thousand, or thirteen per cent.
- The cash flows did not change, only our confidence in them.
- If the family would lose that pay on a death, the loss to insure is the human capital, so life cover is sized from it.

10 A story: two pay cheques

- Elena's pay arrives whatever the market does
- Rafi's commissions rise and fall with markets
- Pay is an asset, so the portfolio must complement it
- Same savings, opposite advice

IN THE LESSON

- Meet Rafi Marsh, Elena's younger brother.
- He is a commission based equity salesman, and at the same age as Elena he earns about the same, with the same savings pot.
- Yet Owen Pryce would never give them the same portfolio.
- Elena's pay behaves like a bond.
- It arrives whatever the market does.
- Rafi's pay behaves like a share.
- When markets boom his commissions soar, and when they fall they shrink, usually just as his shares fall too.
- Rafi insists he should be more aggressive, because he understands markets.
- The adviser's answer: you already own a lot of the market through your job, so the portfolio should balance it, not add to it.

11 From bond-like pay to equity-like pay

- Teacher
- Civil servant
- Salaried manager
- Commission broker
- Entrepreneur

IN THE LESSON

- Place different jobs on a line.
- On the far left is pay that behaves like a bond: a tenured teacher, or a civil servant, whose earnings are steady and almost certain.
- In the middle sit salaried managers, whose pay is fairly safe but depends on the firm's fortunes.
- On the right is pay that behaves like a share: a commission based broker, whose income rises and falls with markets, and an entrepreneur, whose income depends on a single business.
- The further right a client sits, the more equity risk is already inside their human capital.
- Elena is on the left of this line, and Rafi is on the right.

12 Capital features and what they drive

Name the feature, then the thing it drives

Feature of the capital	What it drives
Stable, bond-like pay	Higher risk target, more equities
Volatile, equity-like pay	Fewer equities, less employer stock
High human-to-financial ratio	Higher ability to take risk
Large fixed spending need	Lower ability, more liquidity

IN THE LESSON

- A strong justification names a feature of the client's capital and the objective or constraint it drives.
- Stable, bond like pay supports a higher risk target and more equities.
- Volatile, equity like pay calls for fewer equities and, above all, little exposure to the client's own employer or industry.
- A high ratio of human to financial capital raises ability to take risk, because the pot is small next to the pay that will refill it.
- A large, fixed spending need relative to financial capital does the opposite, and pushes towards liquidity and a lower risk target.
- Constraints such as horizon and tax shift with the life stage too.

13 Example 5: a risk budget for each sibling

Same age, 50; portfolio 700k; equity-like budget 30% of wealth

Elena's total wealth	1.171m + 0.70m	**1.871m**
Elena's equities	30% × 1.871m − 10% × 1.171m	**444k**
Rafi's total wealth	1.017m + 0.70m	**1.717m**
Rafi's equities	30% × 1.717m − 40% × 1.017m	**108k**
Share of the 700k portfolio	Elena, then Rafi	**63% and 15%**

IN THE LESSON

- Here is the reasoning in numbers.
- Compare them at the same age, fifty, each with seven hundred thousand in the portfolio, and each may put thirty per cent of total wealth into equity like risk.
- Elena's total wealth is one million, one hundred and seventy one thousand of human capital plus the portfolio, one million, eight hundred and seventy one thousand.
- Ten per cent of her human capital counts as equity like, so her portfolio can hold four hundred and forty four thousand in equities, sixty three per cent.
- Rafi's human capital is worth one million and seventeen thousand, and forty per cent of it is equity like.
- His portfolio can hold only one hundred and eight thousand, fifteen per cent.

14 Where the equity risk sits

Equity-like exposure (thousands)

Elena: pay	**117**
Elena: portfolio	**444**
Rafi: pay	**407**
Rafi: portfolio	**108**

Budget: about 560k and 515k

IN THE LESSON

- Here is the same budget as bars.
- The vertical axis is equity like exposure in thousands.
- Each sibling has a pair of bars that add up to nearly the same total, about five hundred and sixty thousand for Elena and five hundred and fifteen thousand for Rafi.
- Look at Elena first.
- The gold bar is the equity like part of her human capital, only one hundred and seventeen thousand, and the green bar is the portfolio, four hundred and forty four thousand.
- Now Rafi.
- His gold bar is four hundred and seven thousand, because his pay already behaves like shares, which leaves just one hundred and eight thousand for the portfolio.
- On portfolios alone Elena looks bold and Rafi timid, but across the whole balance sheet they take similar risk.

15 Example 6: the employer's shares

Rafi: employer shares 25% of 700k; equity budget 108k

Employer shares	25% × 700k	**175k**
Shares fall 40%	40% × 175k	**−70k**
Commissions fall 30%	30% × 93.5k	**−28k**
Hit in one bad year	70k + 28k	**98k**
As a share of the portfolio	98k ÷ 700k	**14%**

IN THE LESSON

- A classic error is piling savings into the employer's stock.
- Rafi holds a quarter of his portfolio in his firm, bought through bonus awards.
- A quarter of seven hundred thousand is one hundred and seventy five thousand, which is already more than the one hundred and eight thousand of equities his budget allows.
- Now picture a bad year for the firm.
- Its shares fall forty per cent, a loss of seventy thousand.
- At the same time his commissions fall thirty per cent, which costs about twenty eight thousand.
- The total hit in one year is ninety eight thousand, fourteen per cent of his portfolio, and his job might be at risk too.
- Owen Pryce would sell most of these shares.

16 A story: the leaky bucket

- Tax is a leak, inflation is another leak
- The slice taken by tax stops compounding
- Tax is charged on the nominal return
- Elena lives on the real, after-tax return

IN THE LESSON

- Picture a bucket of water carried a long way.
- Each step, a little spills.
- Taxes are one leak, and inflation is another.
- Tax takes a slice of the return every year, and the slice that is taken can no longer grow.
- Inflation takes a different slice, because prices rise and each unit of money buys less.
- The cruel part is that tax is usually charged on the nominal return, including the part that only keeps up with prices.
- So a client can pay tax on a gain that is not a gain at all.
- Owen Pryce works out the real, after tax return, and that is the number Elena actually lives on.

17 Five taxes on an individual

What each tax bites

Tax	What it bites
Income	Pay, interest, dividends
Capital gains	Profit when sold
Wealth	Yearly, on what you own
Consumption	Spending, like a sales tax
Transfer	Gifts and inheritance

IN THE LESSON

- Individuals can face five broad kinds of tax.
- Income tax falls on pay, interest and dividends, often at different rates.
- Capital gains tax falls on the profit when an asset is sold, which means the client controls the timing.
- Wealth tax is charged each year on what the client owns, whether or not it earned anything.
- Consumption tax, like a sales tax, falls on spending and matters most to a retiree living off the portfolio.
- And transfer taxes fall on gifts and inheritances when wealth is passed on.
- Each one pushes the adviser towards a different tool: account choice, timing of sales, or planning of gifts.

18 After-tax and real returns

After tax = r × (1 − t) Real after tax = (1 + after tax) ÷ (1 + π) − 1

Nominal return	Return before any tax
Tax rate	Share of the return taken
Inflation	Yearly rise in prices
Real after-tax return	What she can really buy

IN THE LESSON

- Two short formulas cover most cases.
- First, the after tax return equals the nominal return times one minus the tax rate, when all the return is taxed in the year it is earned.
- Second, the real after tax return is one plus the after tax return, divided by one plus inflation, minus one.
- Notice the order: tax first, because tax is charged on the nominal return, and inflation second.
- When returns come from several sources taxed at different rates, tax each source separately and add them up.
- Dividing, rather than subtracting inflation, matters because prices and wealth both compound together.

19 Example 7: taxing each part of Elena's return

Elena's taxable account: 7.5% a year in total

Interest 3.0%, taxed at 30%	3.0 × 0.70	**2.10%**
Dividends 1.5%, taxed at 20%	1.5 × 0.80	**1.20%**
Gains 3.0%, taxed at 15%	3.0 × 0.85	**2.55%**
After-tax return	2.10 + 1.20 + 2.55	**5.85%**
Share lost to tax	1.65 ÷ 7.50	**22%**

IN THE LESSON

- Elena's taxable account is expected to return seven and a half per cent in total, from three sources.
- Interest is three per cent, taxed at thirty per cent, which leaves two point one.
- Dividends are one and a half per cent, taxed at twenty, which leaves one point two.
- Realised capital gains are three per cent, taxed at fifteen, which leaves two point five five.
- Add them: five point eight five per cent after tax.
- Tax took one point six five points, twenty two per cent of the seven and a half.
- Notice that the mix matters.
- Interest loses the most, and gains lose the least.

20 Example 8: tax first, then inflation

Inflation 2.5%; tax drag 22% of the return

Real return before tax	1.075 ÷ 1.025 − 1	**4.88%**
After tax, nominal	7.5% − 1.65%	**5.85%**
Real return after tax	1.0585 ÷ 1.025 − 1	**3.27%**
Wrong order	(7.5 − 2.5) × 0.78	**3.90%**
Overstated by	3.90 − 3.27	**0.63 pts**

IN THE LESSON

- Now bring in inflation of two and a half per cent.
- Before tax, the real return is one point oh seven five over one point zero two five, minus one, which is four point eight eight per cent.
- After tax, it is one point oh five eight five over one point zero two five, minus one, which is three point two seven per cent.
- Now the wrong order.
- If you subtract inflation first, seven and a half minus two and a half is five, and taking twenty two per cent tax off that leaves three point nine.
- That overstates her real return by about point six three of a point.
- The reason is that the tax collector taxes the inflation part too.

21 The drag compounds

Chart: Value of 100,000 invested vs Years invested (20)

- No tax, 7.5%: 425k
- Deferred, tax 30% once: 327k
- Taxed yearly, 5.85%: 312k

IN THE LESSON

- Here is what the leak does over twenty years.
- Time runs along the bottom, and the value of a hundred thousand invested is up the side.
- The red line is the dream: seven and a half per cent with no tax at all, ending near four hundred and twenty five thousand.
- The blue line is a taxable account, taxed every year, so only five point eight five per cent compounds, ending near three hundred and twelve thousand.
- The green line sits between: the same investment in a tax deferred account, where tax at thirty per cent is paid once on the gain at the end, leaving three hundred and twenty seven thousand.
- Tax paid early costs far more than tax paid late.

22 Example 9: twenty years, three ways

100,000, 20 years, 7.5%; yearly drag 22%; deferred tax 30%

No tax at all	100,000 × 1.075^20	**424.8k**
Taxed every year	100,000 × 1.0585^20	**311.8k**
Deferred, taxed once at the end	100k + 70% × 324.8k	**327.3k**
Drag from yearly tax	424.8k − 311.8k	**113.0k**
Deferral still gains	327.3k − 311.8k	**15.6k**

IN THE LESSON

- Let us work out those three lines.
- With no tax, a hundred thousand at seven and a half per cent grows to about four hundred and twenty five thousand.
- Taxed every year, it compounds at five point eight five, and ends at about three hundred and twelve thousand, so the drag of annual tax is one hundred and thirteen thousand.
- Now the deferred account.
- The gain is three hundred and twenty five thousand, and tax at thirty per cent is paid only once, leaving about three hundred and twenty seven thousand.
- Notice the tax rate at the end is higher than the twenty two per cent average, yet deferral still wins by about fifteen thousand, six hundred, because the whole pot kept compounding.

23 Example 10: inflation and Elena's spending

Inflation 2.5% for 15 years, Elena aged 50 to 65

Spending now	Elena at 50	**50,000**
Same lifestyle in 15 years	50,000 × 1.025^15	**72,400**
The 1.6m, in today's money	1.6m ÷ 1.025^15	**1.105m**
Cash's lost buying power	1 − 1 ÷ 1.025^15	**31%**

IN THE LESSON

- Inflation matters even without tax, especially for a retiree.
- Elena spends fifty thousand a year at fifty.
- At two and a half per cent inflation, in fifteen years the same lifestyle costs fifty thousand times one point zero two five to the fifteenth, about seventy two thousand, four hundred.
- Seen the other way, the one million, six hundred thousand she hopes to have at sixty five buys only what one million, one hundred and five thousand buys today.
- Cash left idle loses thirty one per cent of its buying power.
- So she needs a real return, and holding only cash is not safe.

24 Placing assets and timing sales

Four ways to plug the leaks

Item	Best placement or timing
Bonds paying interest	Tax-deferred account
Low-turnover equity funds	Taxable account
Gains and losses	Time them, offset them
Fund turnover	Prefer low turnover
Gifts and bequests	Plan early

IN THE LESSON

- What can the adviser do about the leaks?
- Choose the right account, the right timing and the right vehicle.
- Asset location means putting heavily taxed assets, like interest paying bonds, inside tax deferred or tax free accounts, and holding low turnover equity funds, whose gains are taxed lightly, in the taxable account.
- Timing means realising gains deliberately, not by accident, and using losses to offset gains.
- Vehicle choice means favouring funds that trade rarely.
- Gifts and bequests need planning early, since transfer taxes bite on what is passed on.
- None of this changes the investment case, but it changes what Elena keeps.

25 Mistakes to avoid so far

- Judging risk capacity from the portfolio alone
- Treating bond-like and equity-like pay alike
- Concentrating savings in the employer's stock
- Subtracting inflation before tax
- Heavily taxed assets in the taxable account

IN THE LESSON

- Let us collect the common mistakes from the first three topics.
- One: judging a client's risk capacity from the financial portfolio alone, and ignoring human capital.
- Two: treating every salary alike, when a bond like salary and a commission income deserve opposite portfolios.
- Three: putting savings in the employer's stock, so that job and portfolio fall together.
- Four: subtracting inflation before applying tax, which overstates the real return.
- Five: ignoring where assets are held, so heavily taxed income sits in the taxable account.

26 A story: the committee and the person

- An institution has a committee and a regulator
- A person has a life, a tax bill and feelings
- Goals are personal, not defined liabilities
- The statement must record all of this

IN THE LESSON

- A pension fund writes its investment policy in a committee room.
- A regulator watches, the liabilities are written down, and the fund may exist for generations.
- Elena writes hers at a kitchen table.
- Her horizon ends when her life changes: a retirement, a child's education, a bequest.
- Her goals are personal rather than defined liabilities.
- Her tax situation is her own, nobody supervises her decisions, and her feelings about risk may not match her finances.
- A private client investment policy statement, or I P S, has to record all of this.
- Copying an institution's wording is the quickest way to get it wrong.

27 Private clients against institutions

Private client against institution

Private client	Institution
Life-linked horizon	Long, often perpetual
Goals: retirement, bequest	Liabilities, a funding target
Own tax position	Often tax-exempt
Informal, biased	Committee, regulator

IN THE LESSON

- Let us set the two side by side.
- A private client has a horizon tied to life, shorter than an endowment's, and may change with a marriage, an illness or a sale of a business.
- Goals are retirement, education or a bequest, not an actuary's list of payments.
- Tax is personal and varies from one client to the next, while many institutions are exempt.
- Governance is informal: a person decides, often with a family, and is open to behavioural biases such as fear after a fall.
- An institution has a committee, a regulator and often explicit liabilities.
- The adviser must therefore write the statement around the person.

28 What goes into an investment policy statement

Objectives

Background and goals → Return objective → Risk tolerance

Constraints and plan

Horizon and liquidity → Tax, legal, unique → Allocation and review

IN THE LESSON

- Here is the shape of an I P S for an individual, in the order it is usually written.
- The first row sets the purpose.
- Start with the client's background and goals.
- Then the return objective, what the portfolio must earn to reach those goals.
- Then risk tolerance, which combines willingness and ability.
- The second row holds the constraints.
- Horizon and liquidity say when and how much cash is needed.
- Then tax, legal and regulatory limits, together with unique circumstances such as a concentrated holding.
- Last, the strategic allocation, with rules for rebalancing and review.
- Each box must name the client's actual facts, not generic words.

29 Example 11: Elena's return objective

Elena: 700k now, 1.6m at 65, saves 15k; inflation 2.5%

Years to the goal	age 50 to age 65	**15**
Return needed, after tax	solve the time-value problem	**4.19%**
Needed before tax	4.19 ÷ 0.78	**5.37%**
Needed in real terms	1.0419 ÷ 1.025 − 1	**1.65%**

IN THE LESSON

- Elena is fifty.
- She has seven hundred thousand now and wants one million, six hundred thousand at sixty five, fifteen years away.
- Owen Pryce asks her to save fifteen thousand a year.
- Solving the time value of money problem gives a return needed of four point one nine per cent a year after tax.
- Her tax drag is twenty two per cent, so she keeps point seven eight of each return, and before tax she needs four point one nine divided by point seven eight, five point three seven per cent.
- In real terms, after tax and after inflation of two and a half per cent, that is one point six five per cent.
- This number is what the return objective in her statement must say.

30 Willingness against ability

Reconciling the two for the statement

Ability and willingness	Tolerance recorded
Able and willing	Above average
Willing, less able	Ability governs: lower
Able, unwilling	Lower governs; educate
Neither	Below average

IN THE LESSON

- Now the risk objective.
- Ability is what the client can bear, set by the horizon, human capital, and spending needs.
- Willingness is what the client feels able to bear.
- Four combinations arise.
- If the client is both able and willing, tolerance is above average, and if neither, below average.
- If willing but less able, ability governs, because a loss that the finances cannot absorb does real damage, however the client feels.
- If able but unwilling, the lower figure usually governs, since a client pushed too far may sell at the bottom.
- But here the adviser may educate the client, and revisit the answer if willingness grows.

31 Example 12: Elena's risk objective

Elena: able but unwilling

Ability	secure pay, 53% human capital	**Above average**
Willingness	sold shares in a past fall	**Below average**
Overall tolerance	the lower governs	**Below average**
Cautious mix, after tax	5.0 × 0.78	**3.90%**
Gap to the 4.19% needed	4.19 − 3.90	**0.29 pts**

IN THE LESSON

- Elena's ability is above average.
- Her pay is secure, human capital is fifty three per cent of her wealth, and the horizon is fifteen years.
- Her willingness is below average.
- She tells Owen Pryce that she sold her shares in a past market fall and that any year with a loss costs her sleep.
- Because the lower governs, her overall risk tolerance is below average, for now.
- A cautious mix is expected to earn five per cent before tax, three point nine per cent after tax.
- She needs four point one nine, a gap of point two nine.
- The statement must say so plainly, and name the remedies: save more, or educate her.

32 Elena's investment policy statement

Draft statement, in brief

Section	Draft wording
Return objective	3.7% after tax; saves 20k a year
Risk tolerance	Below average; educate her
Horizon, liquidity	15 years; pay covers spending
Tax and unique	Bonds deferred; sold in past fall

IN THE LESSON

- Here is the draft Owen Pryce brings to Elena.
- The remedy for the gap is to save twenty thousand a year, not fifteen.
- Then she needs only about three point seven per cent after tax, which a cautious mix can deliver.
- The risk objective is below average, with a plan to educate her and review the answer each year.
- Horizon is fifteen years, and her steady pay covers spending, so liquidity needs are modest.
- For tax and her unique circumstances, bonds go in the deferred account, and her past selling in a fall is recorded.
- A trap to avoid is pasting in a pension fund template that ignores tax and life events.

33 Recap: the lesson in five lines

- Net worth: human + financial + other, less debts
- Bond-like pay allows more equity, share-like less
- Tax first, then inflation; location and timing help
- Private clients: life horizon, own tax, own biases
- The statement uses the lower of willingness, ability

IN THE LESSON

- Let us pull the lesson together.
- First, economic net worth is human capital plus financial capital plus other assets less debts, and over life human capital turns into the portfolio.
- Second, stable pay behaves like a bond and allows more equities, while commission pay behaves like a share and calls for fewer, with no pile of employer stock.
- Third, tax comes first and inflation second, tax drag compounds, and asset location and timing soften it.
- Fourth, a private client differs from an institution in horizon, goals, tax and governance.
- Fifth, the statement reconciles willingness and ability, and the lower usually governs.

34 Try three quick questions

1. Return 8%, tax 25%, inflation 3%. Real after tax?
   Answer: 8 × 0.75 = 6.0%; 1.06 ÷ 1.03 − 1 ≈ 2.91%.
2. Pay 1.0m, savings 0.5m; budget 40%; 20% of pay equity-like. Equities?
   Answer: 0.6m − 0.2m = 0.4m, which is 80% of the savings.
3. Client able but unwilling. Which governs?
   Answer: The lower, willingness; the adviser may educate.

IN THE LESSON

- Now try three quick questions yourself.
- Pause after each one.
- Question one.
- A client's portfolio earns eight per cent, all taxed at twenty five per cent, with inflation at three per cent.
- What is the real after tax return?
- Eight times point seven five is six, and one point oh six over one point oh three, minus one, gives about two point nine one per cent.
- Question two.
- Wealth is one million in pay and five hundred thousand in savings.
- The equity like budget is forty per cent of the total, and twenty per cent of pay is equity like.
- What share of the savings goes in equities?
- The budget is six hundred thousand, less two hundred thousand, so four hundred thousand, which is eighty per cent of the savings.
- Question three.
- A client is able but unwilling.
- Which governs?
- The lower one, though the adviser may educate the client.
- Remember the plain rule.