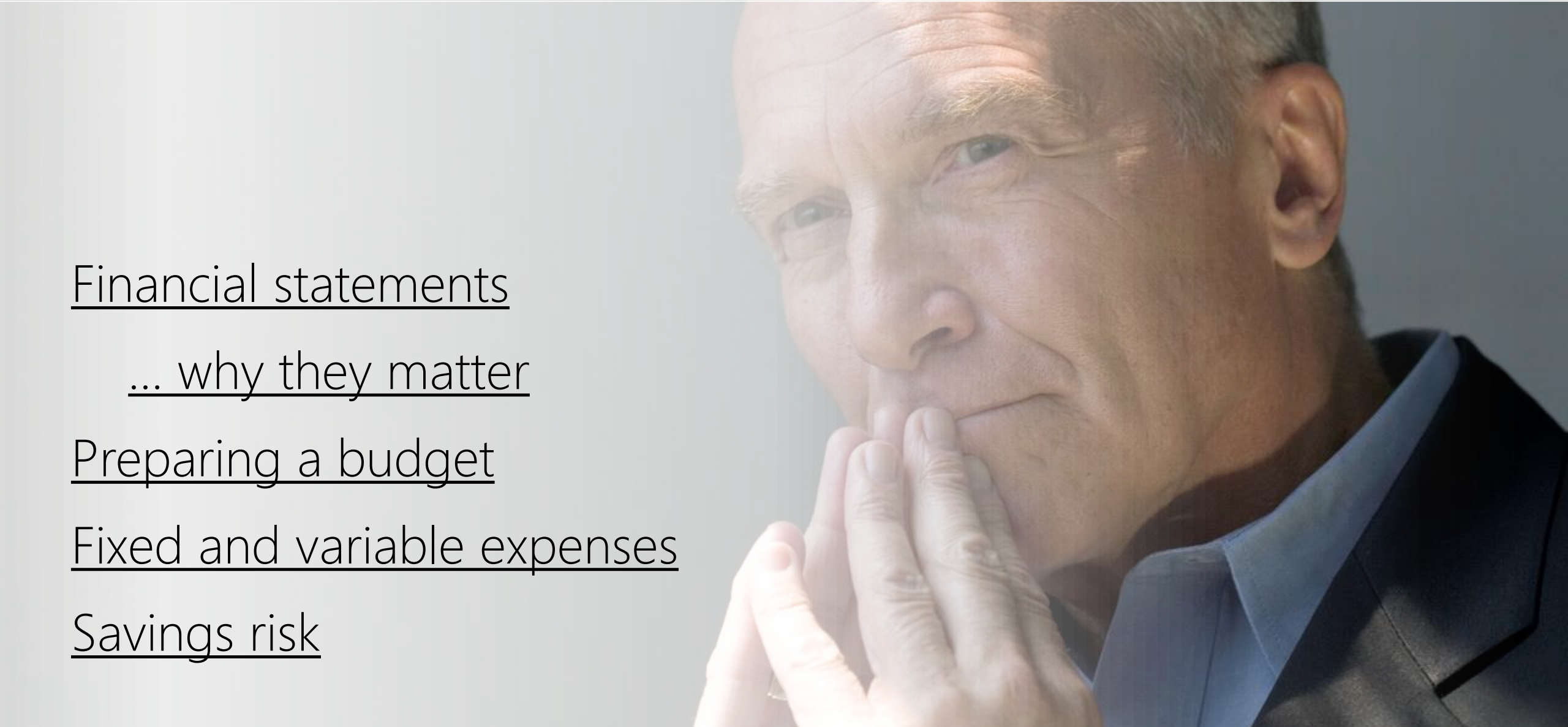
Money Intelligence (MIQ)



Financial statements

… why they matter

Preparing a budget

Fixed and variable expenses

Savings risk

You need to be able to …

1. Explain the differences between a balance sheet, income statement and cash flow statement
2. Explain how various transactions affect the amount saved, wealth and cash flow
3. Explain why a budget is important and how to set one
4. Classify expenses as either fixed or variable expenses and to calculate break-even income
5. Identify how different mixes of fixed and variable expenses are suitable to different situations
6. Explain how different mixes of fixed and variable expenses contribute to savings risk

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Financial statements

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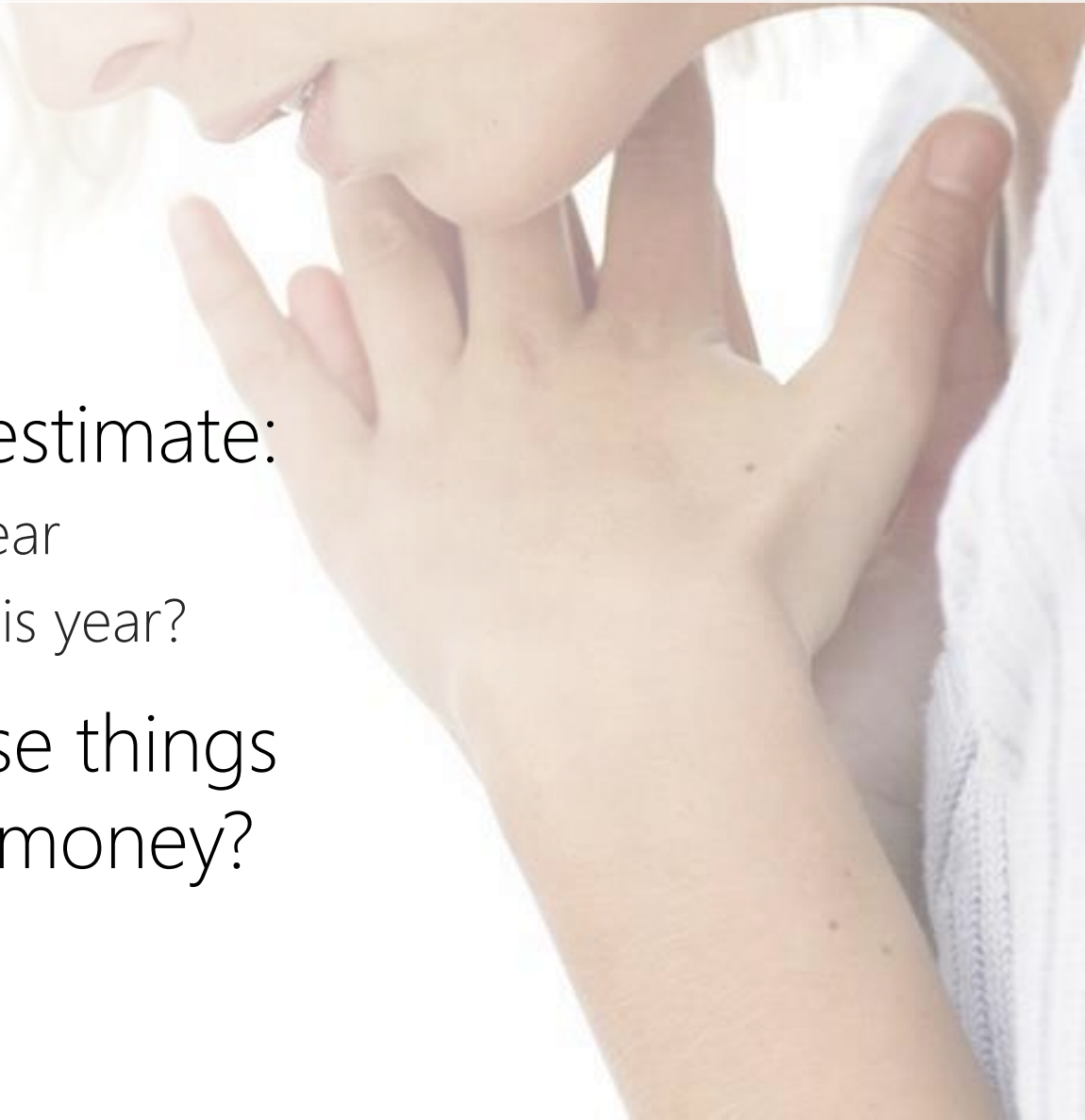
Think and discuss



How many friends could accurately estimate:

- what their income and expenses were last year
- assets and debts are and they will change this year?

How do you think knowledge of these things could help you better manage your money?

Warning: This next bit could hurt a bit

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Some key terms

Over a period of time ...

Income

Benefits received from work, investments, family

Expense

Cost incurred of using a product or service

Amount Saved

= Income – Expenses

At a point in time ...

Assets

Something you own that is useful in the future

Debt

Amount that must be repaid in the future

Wealth or Net assets or Equity

= Assets – Debt

Personal income statement

Income earned

- Personal income (after tax salary, wages or gifts from parents)
- Investment income (after tax interest on savings)

Less expenses incurred

- Rent Food Electricity Vehicle Education Clothing …
- Depreciation is an ‘invisible’ expense measuring drop in value

Amount Saved = Income – Expenses

- ‘Amount Saved’ can also be called ‘Net income’ or ‘Profit’
- It is not how much your bank account changes (see cash flow later!)

Always measured over a period of time

- Such as between 1 Jan and 31 Dec this year
- Measures ‘flow’ of income and expenses over that period

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Example of income statement

Between 1 Jan and 31 Dec This Year

Amount Saved (Income – Expenses)	**10,000**
Income	**45,000**
Personal income	44,000
Investment income	1,000
Expenses	**35,000**
Home (mortgage interest, bills etc)	12,000
Food and drink	8,000
Vehicle (including 2,000 depreciation)	5,000
Leisure	2,000
Education	2,000
Clothes	1,000
Other	5,000

Note that I am totalling up here

Personal balance sheet

Assets: Things you own that will be useful in future

- Focus on financial assets (bank accounts and investments)
- Include your property or vehicle if you own one
- Don’t include lifestyle assets (clothes and phones) which are expenses

Debt: Money that must be repaid now or in the future

- Credit cards, student loans, car loans and home loans

Wealth = Assets – Debt

- Wealth will also be referred to as ‘Net assets’ and ‘Equity’

Always measured at a point in time

- Such as 31 Dec this year or 31 Dec last year
- Measures ‘stock’ of assets less debt at one point in time

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Example of balance sheet

	31 Dec This year	31 Dec Last year
Wealth (Assets – Debt)	**70,000**	**60,000**
Assets	**325,000**	**320,000**
Bank account	12,000	5,000
Property (2 bedroom unit)	300,000	300,000
Vehicle (2,000 depreciation)	13,000	15,000
Debt	**255,000**	**260,000**
Credit card	5,000	7,000
Home loan	250,000	253,000

Amount saved on income statement = $10,000
Note that change in wealth also = $10,000

Personal cash flow statement

Cash flow = changes in cash over a period of time

Cash = currency + at-call bank accounts

Such as change in cash between 1 Jan and 31 Dec this year

Sources of cash

Personal income Investment income Sale of assets Borrow money

Uses of cash

Pay expenses Investment expenses Purchase assets Repay loans

Depreciation is not a cash flow

Change in cash = Sources of cash – Uses of cash

Cash at end of period = Cash at start + Change in cash

Calculated from balance sheet and income statement

Example of cash flow statement

Between 1 Jan and 31 Dec This Year

Sources of cash	**45,000**	
Personal income	44,000	Income statement
Investment income	1,000	Income statement
Uses of cash	**38,000**	
Expenses	35,000	Income statement
Less depreciation on vehicle (not cash flow)	– 2,000	Balance sheet (15,000 – 13,000)
Repayment of credit card	2,000	Balance sheet (7,000 – 5,000)
Repayment of home loan	3,000	Balance sheet (253K – 250K)
Bank account balance at start (1 Jan)	5,000	Balance sheet (end of Last year)
Add **Sources of cash – Uses of cash**	**7,000**	45,000 – 38,000
Bank account balance at end (31 Dec)	**12,000**	Balance sheet (end of This year)

Note that change in bank account balance = $7,000 but $10,000 was actually saved

Recap

Accounting is surprisingly useful!

Income statement tracks flow of income, expenses and amount saved

Balance sheet tracks stock of assets, debt and wealth

Cash flow tracks changes in bank account

All three work together in *perfect harmony*

Understanding them are part of Money Intelligence

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Q1: Financial statements

Identify the effects of each transaction on the amount Saved, Wealth and Cash flow

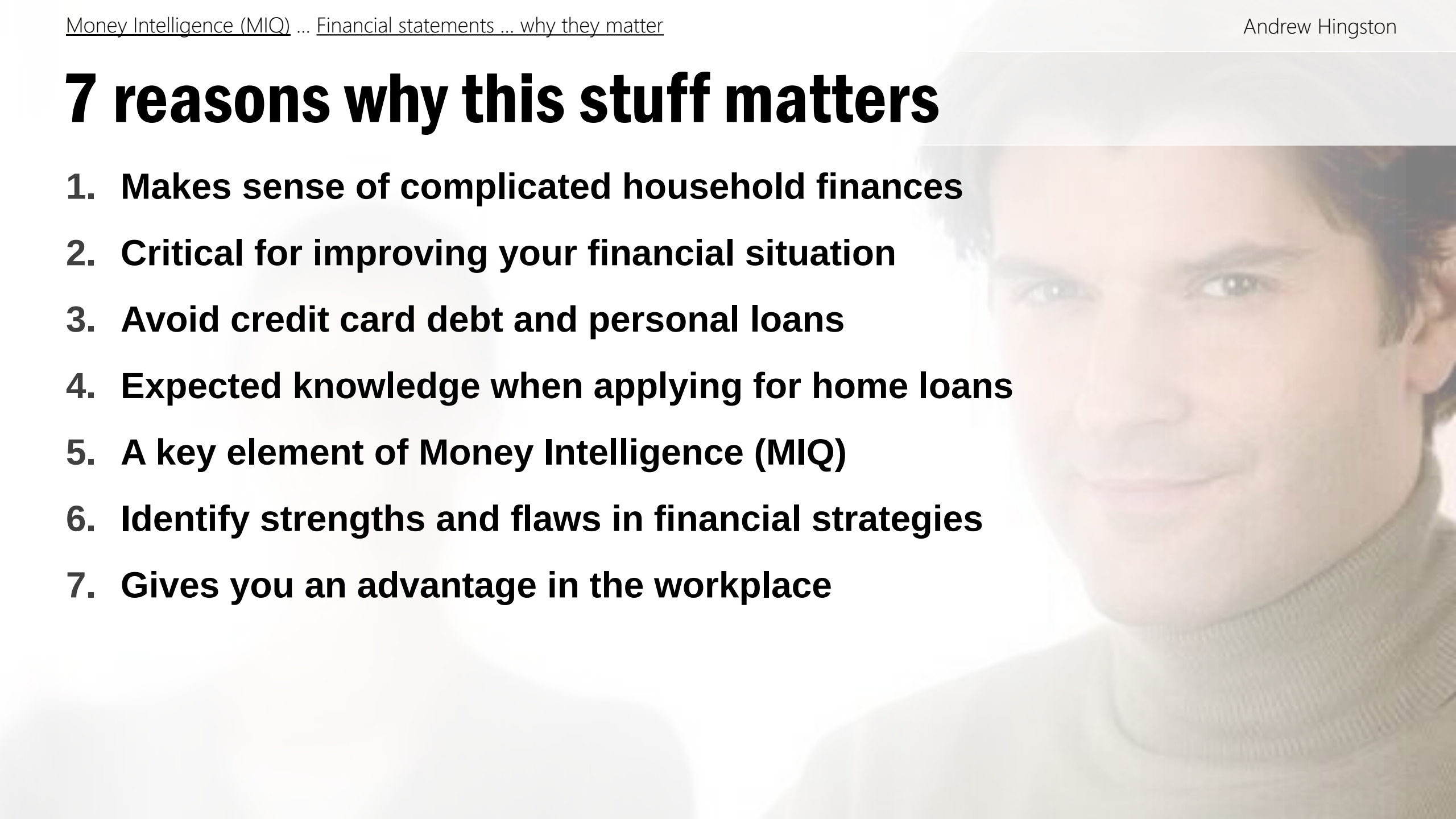
	Transaction	Saved	Wealth	Cash
A	You purchase a cup of coffee for $3	–3	–3	–3
B	You pay $100 in rent for your apartment			
C	You receive $200 in income for your work			
D	Your computer falls in value by $100 but you do not sell it			
E	You sell a used computer game for $50 You previously bought it for $80 and treated it as an asset			
F	You buy some clothes for $100 on credit card			
G	You pay your credit card balance of $100			
H	Your property rises in value by $10,000			

Go to Answer

Financial statements … why they matter

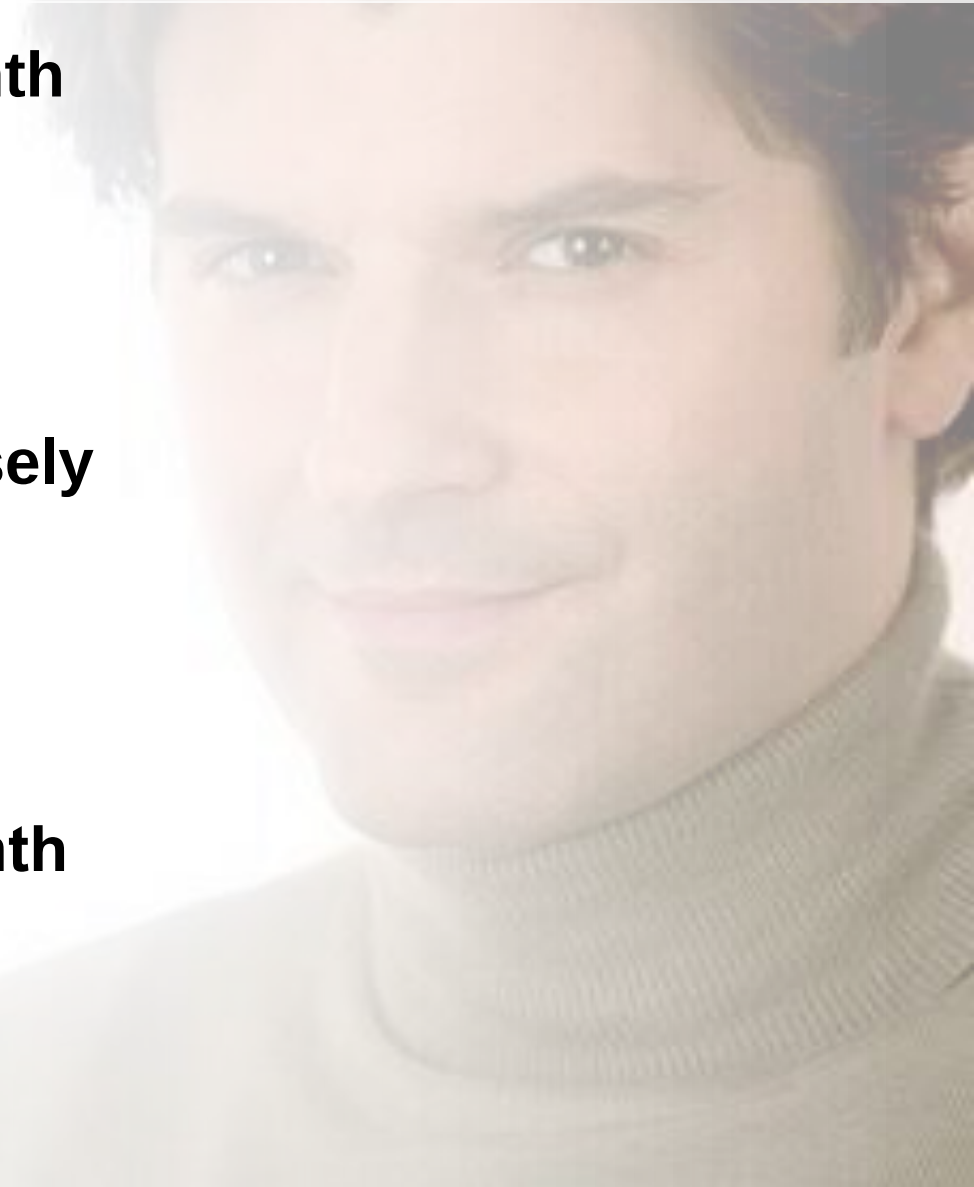
7 reasons why this stuff matters

1. **Makes sense of complicated household finances**
2. **Critical for improving your financial situation**
3. **Avoid credit card debt and personal loans**
4. **Expected knowledge when applying for home loans**
5. **A key element of Money Intelligence (MIQ)**
6. **Identify strengths and flaws in financial strategies**
7. **Gives you an advantage in the workplace**



6 common misconceptions

1. **If my bank account balance went up this month**
   … then I must have saved money
2. **Someone has a flashy car and house**
   … so they must be very wealthy
3. **Everyone needs to watch their cash flow closely**
4. **Your car going down each month**
   … does not affect the amount you are saving
5. **It's okay to not save anything this month**
   … since I will likely save something next month
6. **Wealth is a trap**
   … not having much money brings freedom



Preparing a budget

A key skill from Money Intelligence (MIQ)

What is a budget?

Budget is estimated income statement for the next year

Usually estimate total for year

… and then divide by 12 to get average for each month

Power users can also estimate each month separately

You should use 'expected values'

- **Best not to over or under estimate in order to change behaviour**

What does a budget look like?

	Next year		Per month
Saved	**10,000**	÷ 12 =	**833**
Income	**45,000**		**3,750**
Personal income	44,000		3,667
Investment income	1,000		83
Expenses	**35,000**		**2,917**
Home (mortgage interest, bills etc)	12,000		1,000
Food and drink	8,000		667
Vehicle (including 2,000 depreciation)	5,000		417
Leisure	1,000		83
Education	2,000		167
Clothes	1,000		83
Other	5,000		417

8 good reasons to prepare a budget

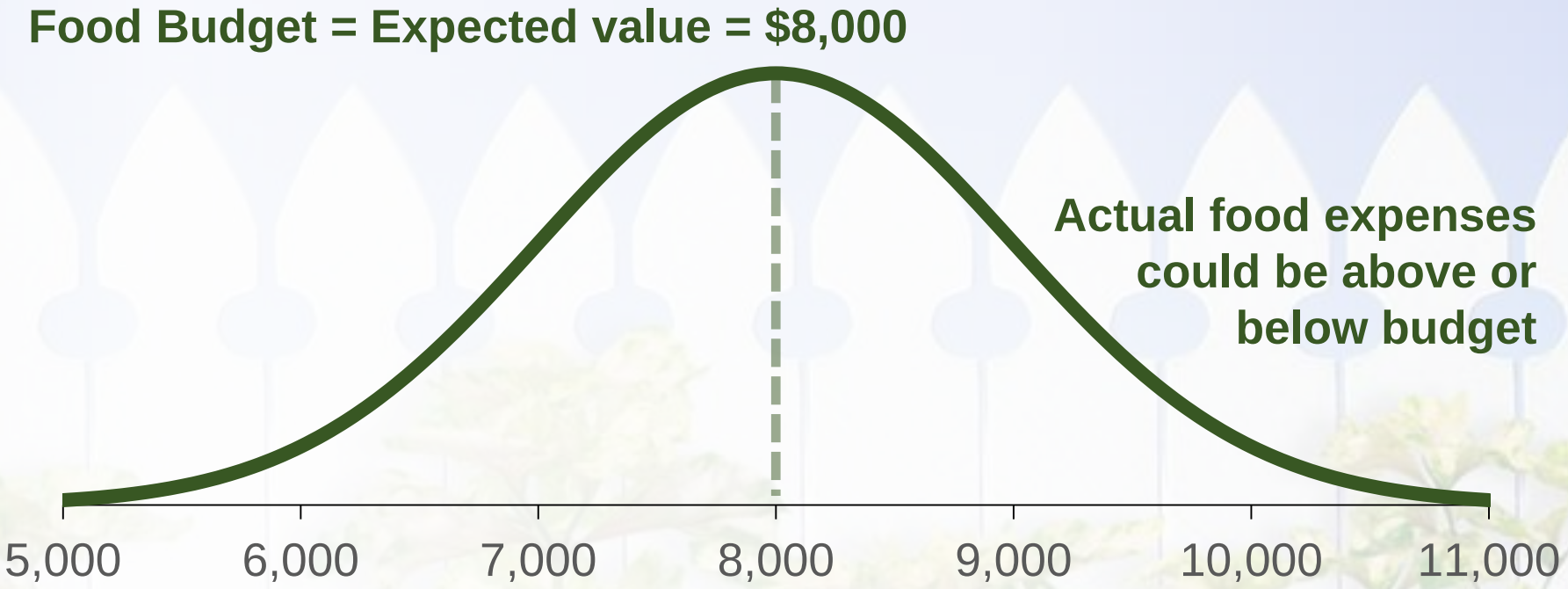
1. Gives you ideas to make things better
2. Identifies future expenses that require a savings plan
3. Allows you to compare budget with actual numbers
4. Identifies areas of over-spending
5. Helps us to be accountable and stay disciplined
6. Helps us to save more which is key to wealth creation
7. Improves your Money Intelligence (MIQ) and skills
8. Easy and quick if you are already tracking expenses

7 steps for creating a budget

1. **Track expenses for a few months**
2. **Remove any extraordinary items**
3. **Calculate average for last few months by category**
4. **Estimate a ‘buffer’ for extraordinary items in future**
   Include in ‘other’ category 10% of regular expenses works for many
5. **Identify how job or living situation may change**
6. **Estimate impact of changes on income and expenses**
7. **Budget = Current + Estimated changes + Buffer**

Your budget will always be wrong

But if the budget is in the middle of what is expected to happen then hopefully it will all work out in the end



Budgets get more accurate with experience and stability

But the future is so uncertain!

Yes the budget will be wrong

Budget amount is expected value

- **… 50% chance of being over or under that amount**

Uncertainty may not change expected value

- **Perhaps two different scenarios will have the same ‘middle’ value**
- **If scenario changes spread of outcomes then ‘middle’ may not change**

If you have 2+ different scenarios that are very different

… prepare a budget for each one and list assumptions

Not expected to do more than 2 scenarios for this course

Budgeting next year for 2 scenarios

	Stay here Next year	Move city Next year
Saved	**10,000**	**12,000**
Income	**45,000**	**50,000**
Personal income	44,000	50,000
Investment income	1,000	0
Expenses	**35,000**	**38,000**
Home (mortgage interest, bills etc)	12,000	15,000
Food and drink	8,000	10,000
Vehicle (including 2,000 depreciation)	5,000	2,000
Leisure	1,000	3,000
Education	2,000	1,000
Clothes	1,000	1,000
Other	5,000	6,000

Both columns are for 'next year' but use different scenarios

Budgeting for 2 different periods

	Studying for 2 years	Graduate after 2 yrs
Saved	**10,000**	**12,000**
Income	**45,000**	**50,000**
Personal income	44,000	50,000
Investment income	1,000	0
Expenses	**35,000**	**38,000**
Home (mortgage interest, bills etc)	12,000	15,000
Food and drink	8,000	10,000
Vehicle (including 2,000 depreciation)	5,000	2,000
Leisure	1,000	3,000
Education	2,000	1,000
Clothes	1,000	1,000
Other	5,000	6,000

Now columns are different time periods.

Number still are ‘per year’.

8 tips for preparing budgets

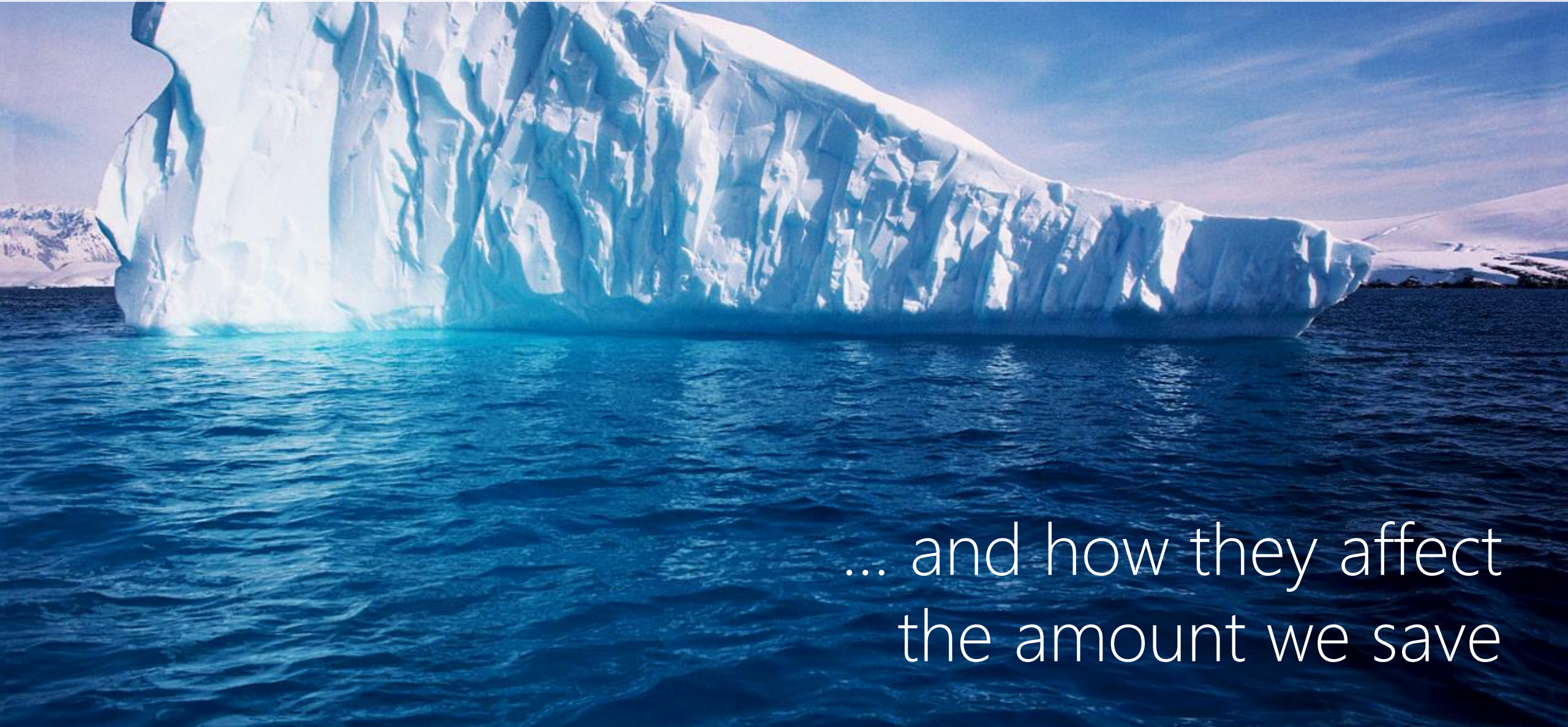
1. Track expenses for a few months first
2. Include your partner in the process
3. Be realistic … don't use your budget to whip yourself
4. Include a generous **buffer** to allow for errors
5. Avoid being harsh by including *fun* in your budget
6. Avoid being stingy by including *gifts* in your budget
7. Aim to save 10% of your after-tax income
8. Use your software to track actual versus budget

Q2: Estimate a budget for yourself

	Next year	Per month
Saved		
Income		
Expenses		
Home (mortgage interest, bills etc)		
Food and drink		
Vehicle (including depreciation)		
Leisure & gadgets		
Education		
Health & personal care		
Holidays		
Other		

No answer provided

Fixed and variable expenses



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Visualise

Imagine that you earn $20,000 per year

What would the following be like:

1. Your typical lunch out
2. Your motor vehicle
3. Where you live
4. The contents of your wardrobe
5. Your favourite tech toy (notebook or phone)

How would these things change within 1 year if you received a permanent pay increase to $100,000 per year?

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A behavioural view of saving

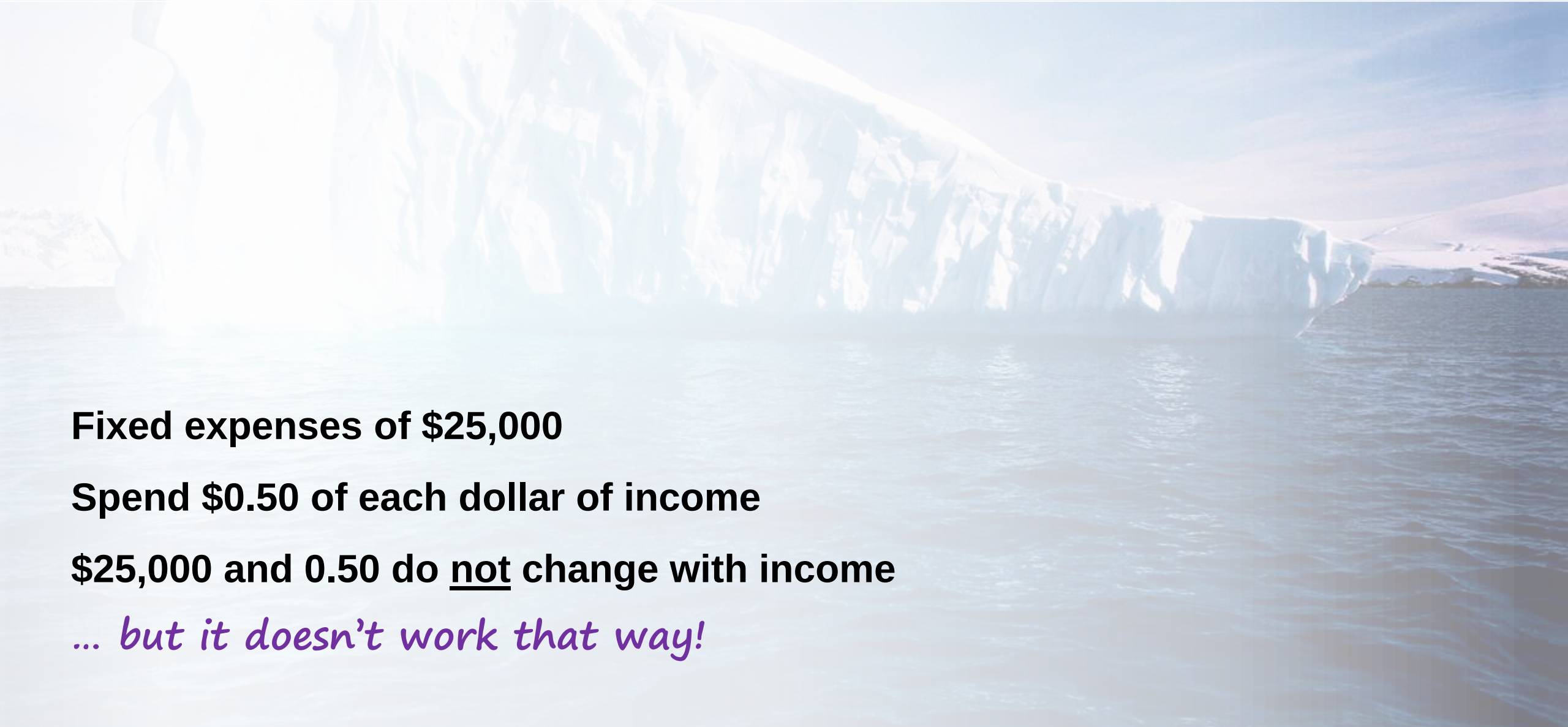
We have a target balance

Spend less if balance < target

Spend more if balance > target

Our bank balance
is like the thermostat
of an air conditioner

The rational way to save ...



Fixed expenses of $25,000

Spend $0.50 of each dollar of income

$25,000 and 0.50 do not change with income

... but it doesn't work that way!

What are fixed expenses?

Recall definition of ‘Expense’

The cost incurred of using a product or service over a period of time

Expense is fixed when over the next year (12 months)

It is difficult, costly or impractical to change it

You have little or no choice

They do not increase over 1 year if your income rises

Mortgage or rent 2 year mobile contract Education fees

Car registration Basic food Essential clothing Depreciation

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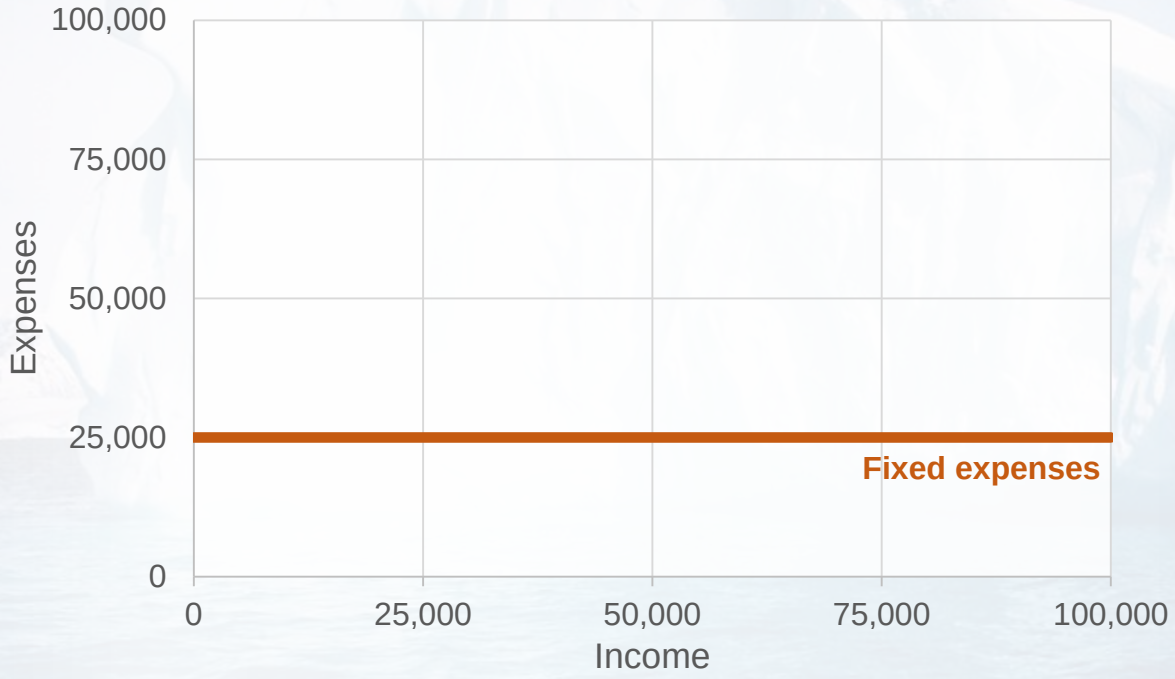
Fixed expenses



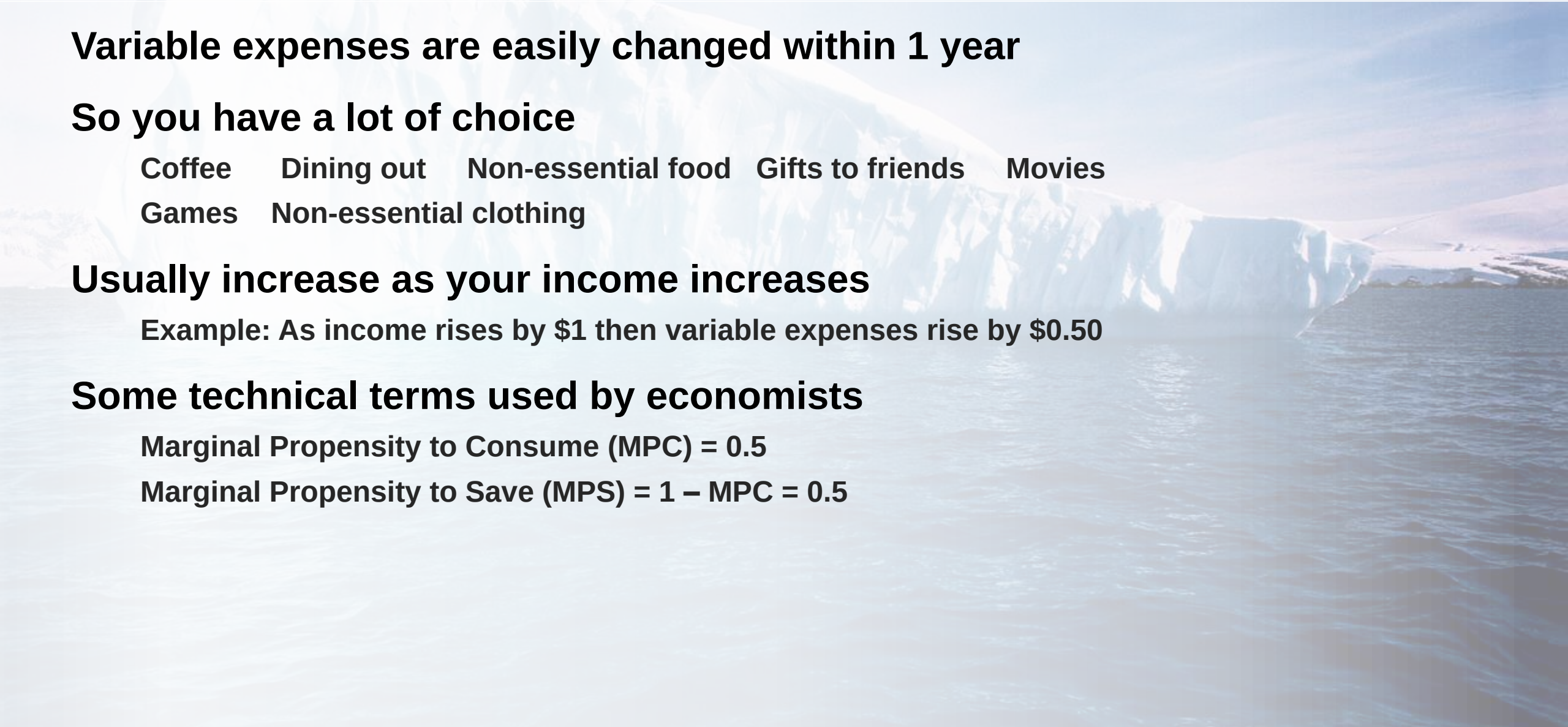
Fixed expenses do not rise with income over 1 year

Fixed expenses = intercept of vertical axis = $25,000

Examples

Mortgage, 2 year mobile phone contract, car registration …

What are variable expenses?



Variable expenses are easily changed within 1 year

So you have a lot of choice

Coffee Dining out Non-essential food Gifts to friends Movies

Games Non-essential clothing

Usually increase as your income increases

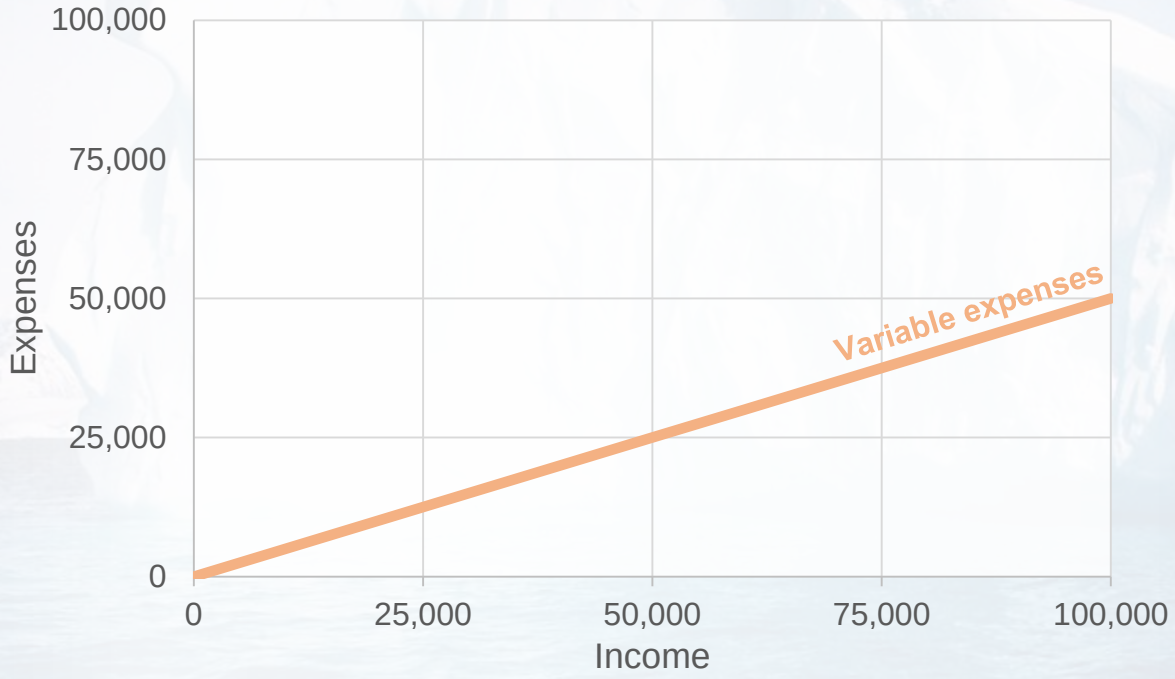
Example: As income rises by $1 then variable expenses rise by $0.50

Some technical terms used by economists

Marginal Propensity to Consume (MPC) = 0.5

Marginal Propensity to Save (MPS) = 1 – MPC = 0.5

Variable expenses



Variable expenses do rise with income over 1 year

Variable expenses per dollar of income = Slope

Slope = Marginal Propensity to Consume (MPC) = 0.5

1 – Slope = Marginal Propensity to Save (MPS) = 1 – MPC = 0.5

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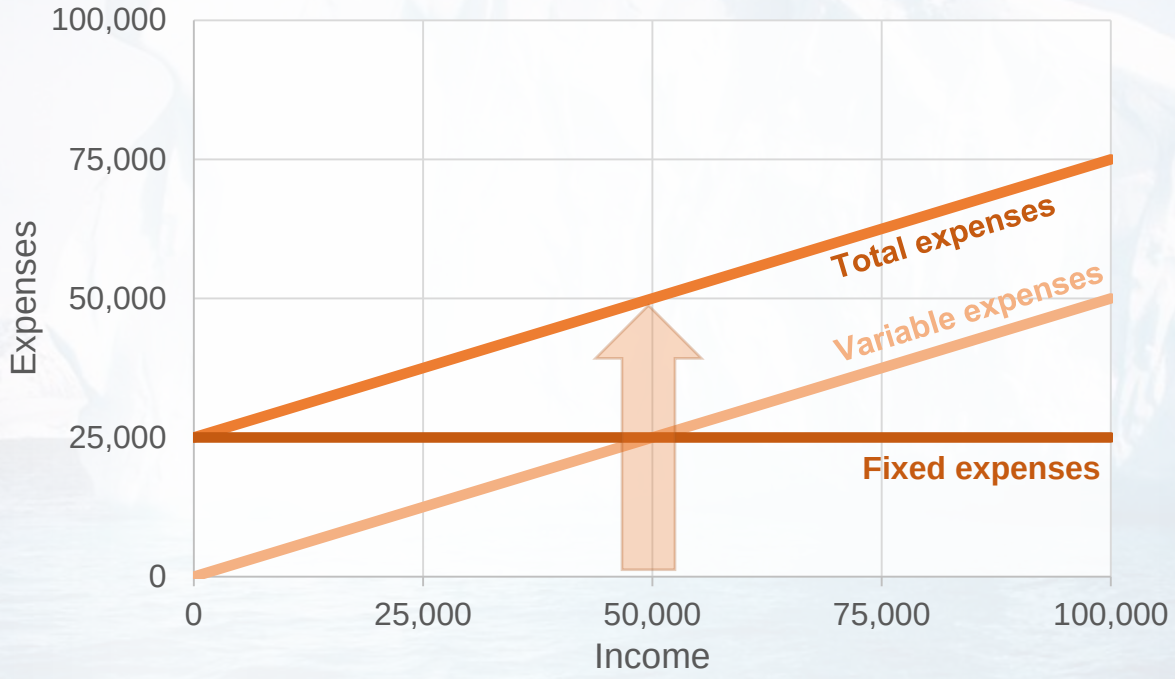
Total expenses



Total expenses = Fixed expenses + Variable expenses

Fixed expenses = Intercept of vertical axis = 25,000

Variable expense per dollar of income = Slope = MPC = 0.5

Total expenses = 25,000 + 0.5 × Income

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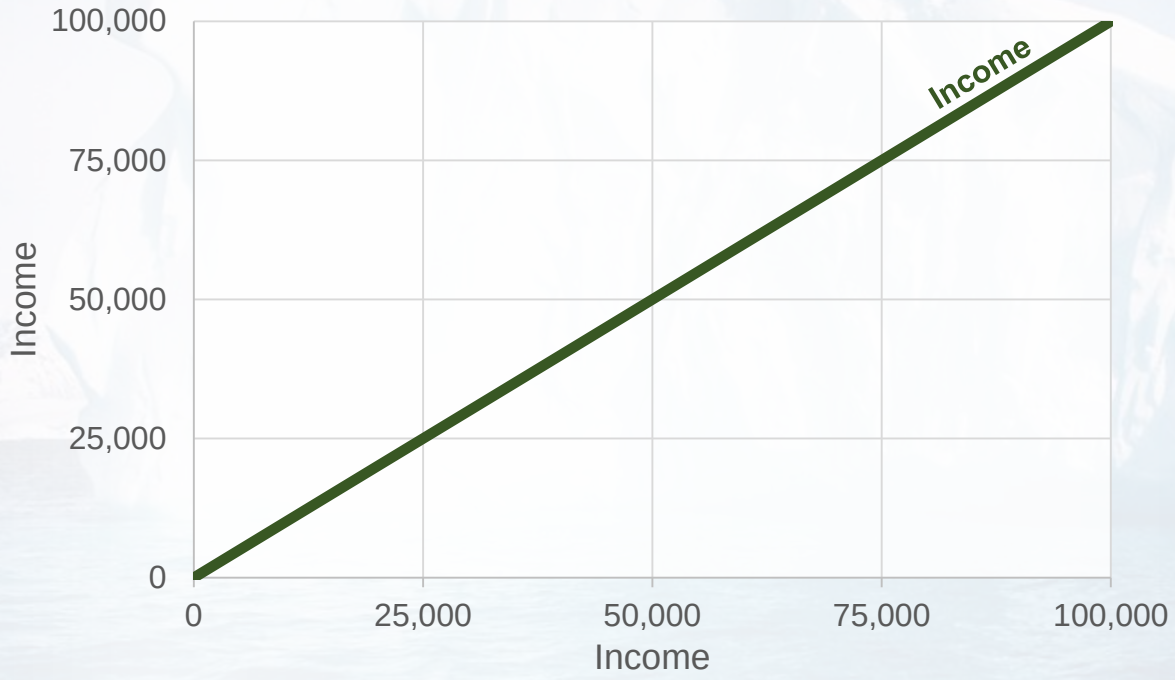
Income



Income is easy to plot

Horizontal and vertical axis are the same

As income increases by $1 then income increases by $1

… so it is a 45° line from the origin (0,0)

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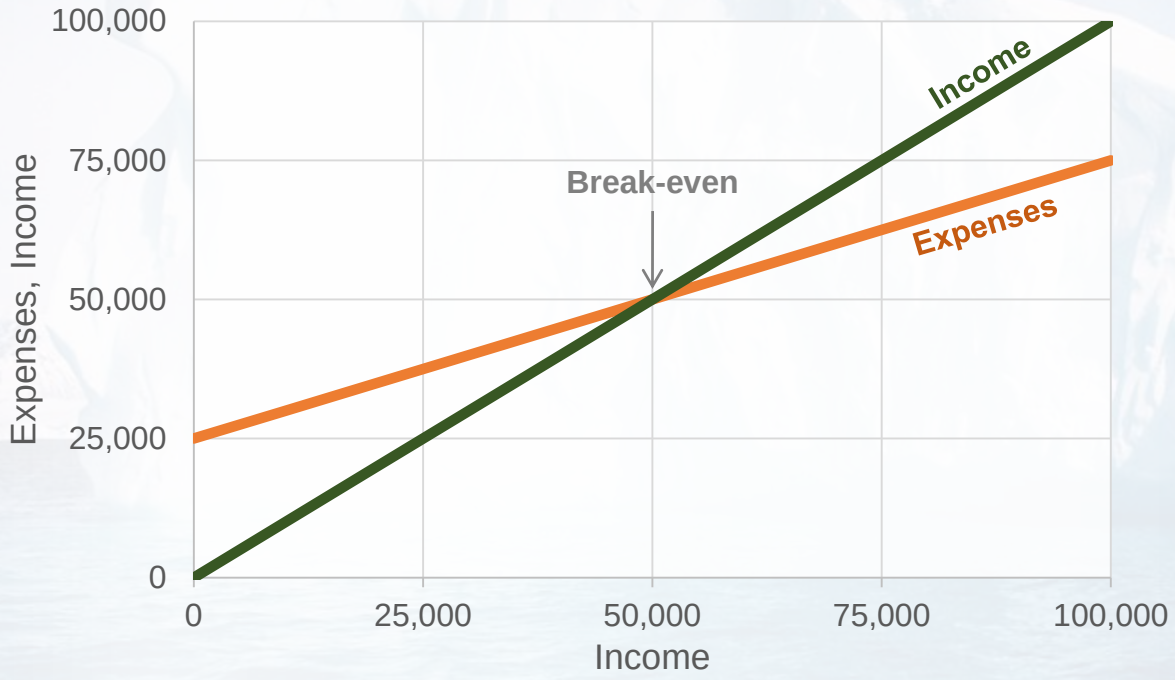
Break-even point



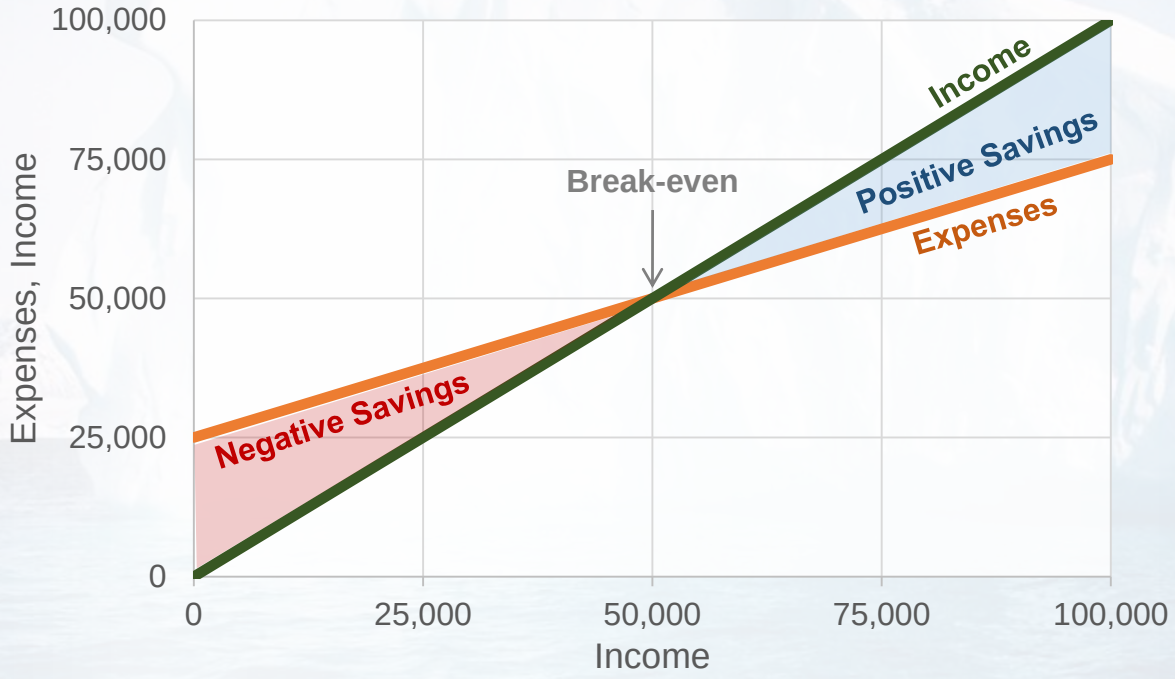
Break-even point is when income = expenses

Amount saved = 0 at this point

Break-even income = Fixed expenses ÷ (1 – Slope)

25,000 ÷ (1 – 0.5) = 50,000

Amount saved



Amount saved = Income – Expenses

Positive Savings when Expenses < Income

Negative Savings when Expenses > Income

Q3: Fixed and variable expenses

a) **Identify your main three fixed expenses and your main three variable expenses. How do you think these will be different in 5 years?**

b) **David has fixed expenses of $10,000 and spends $0.75 of each dollar earned. Calculate his break-even level of income.**

c) **Identify three ways to reduce your fixed or variable expenses without changing happiness**

d) **Identify three ways to adjust your fixed or variable expenses to increase happiness without changing total expenses**

Go to Answer

Savings risk

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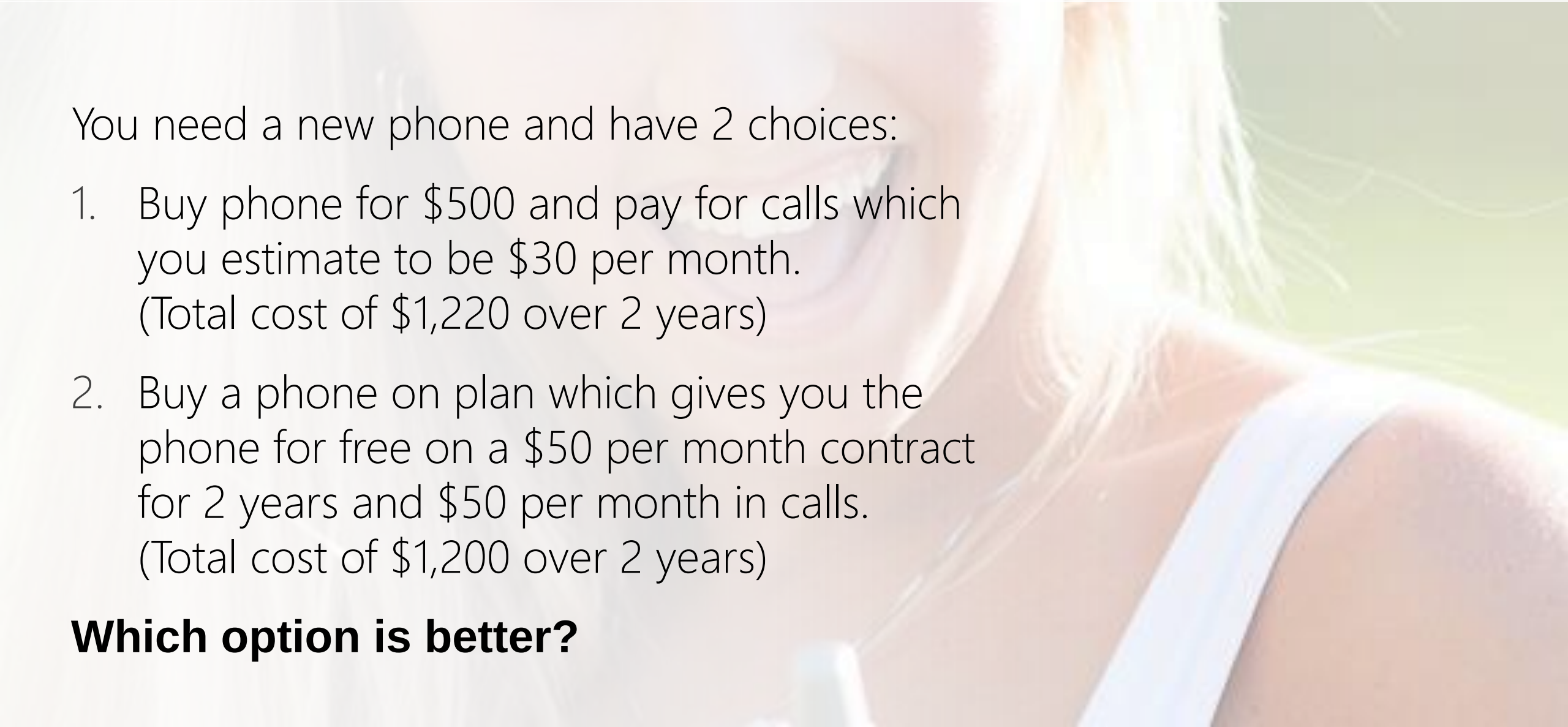
Think and discuss



You need a new phone and have 2 choices:

1. Buy phone for $500 and pay for calls which you estimate to be $30 per month.
   (Total cost of $1,220 over 2 years)
2. Buy a phone on plan which gives you the phone for free on a $50 per month contract for 2 years and $50 per month in calls.
   (Total cost of $1,200 over 2 years)

Which option is better?

4 people ... 4 situations

1. **Susan the student**

   Low fixed (12,500) and low variable expenses (MPC=0.5)

2. **Edward the extravagant**

   High fixed (25,000) and high variable expenses (MPC=0.75)

3. **Fiona the flexible**

   Low fixed (12,500) and high variable expenses (MPC=0.75)

4. **Richard the rigid**

   High fixed (25,000) and low variable expenses (MPC=0.5)

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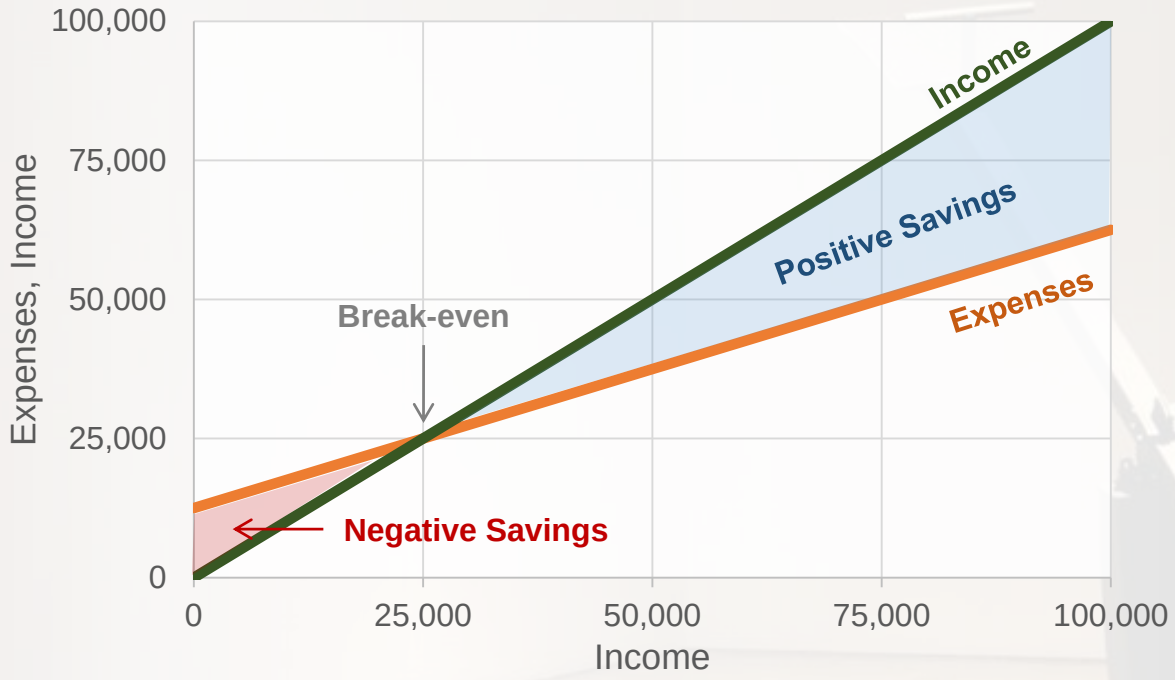
1. Susan the Student



Low fixed (12,500) and low variable expenses (MPC=0.5)

High positive savings at higher income

Low negative savings at lower income

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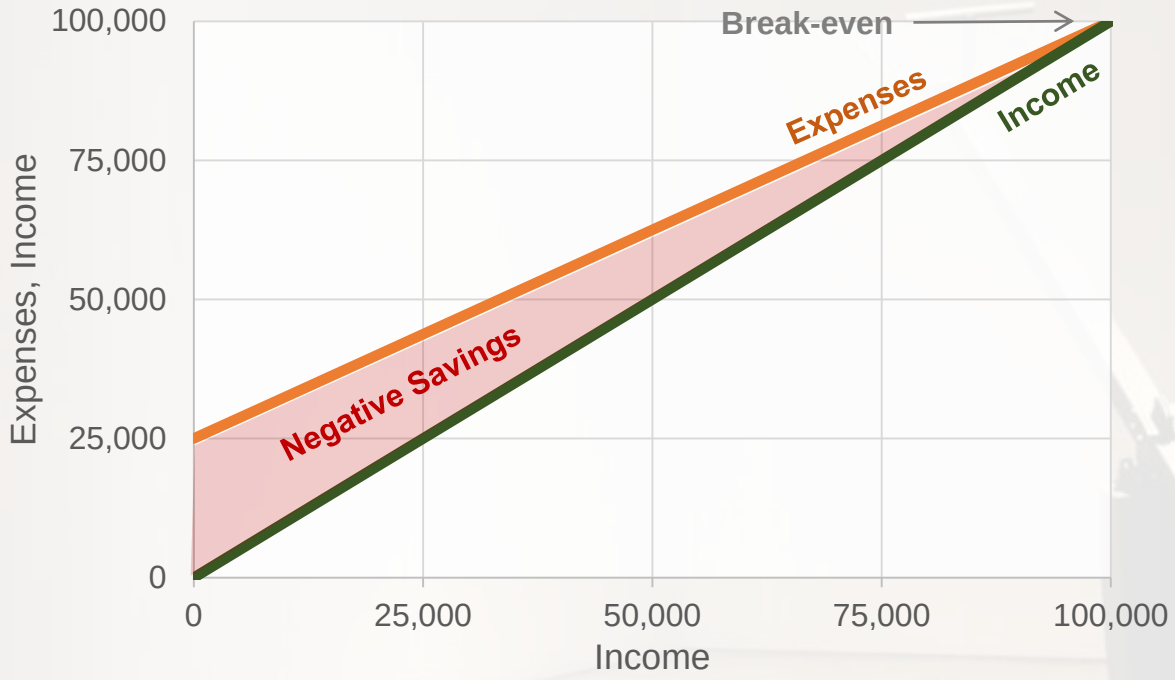
2. Edward the Extravagant



High fixed (25,000) and high variable expenses (MPC=0.75)

Low positive savings at higher income

High negative savings at lower income

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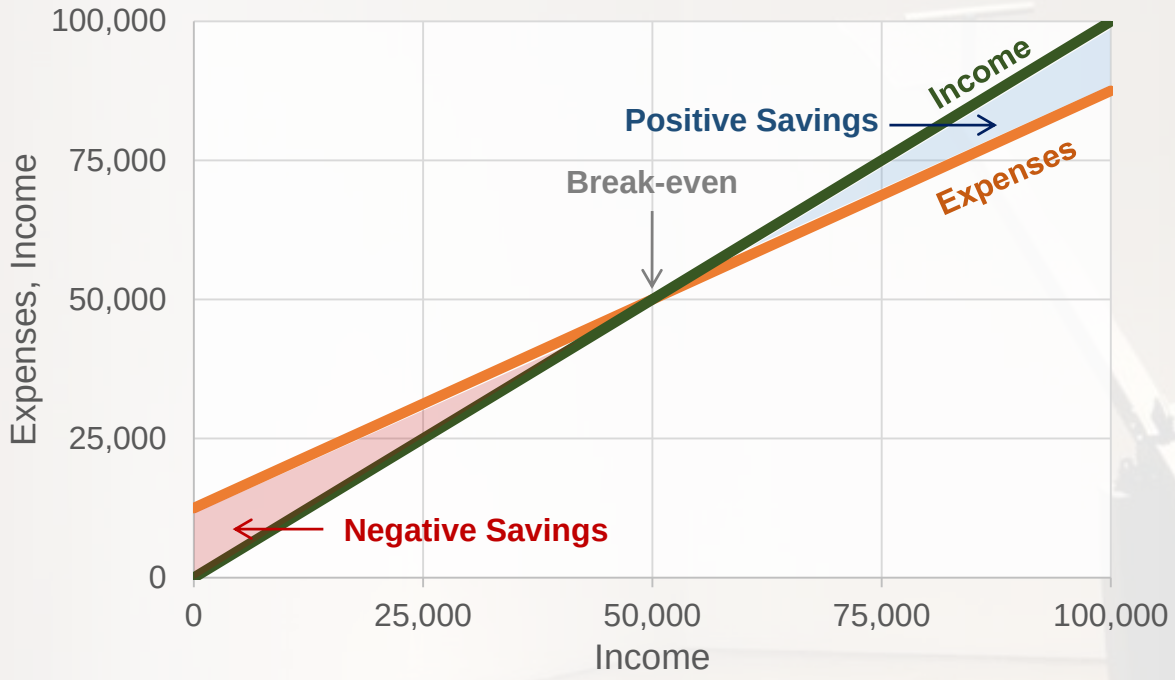
3. Fiona the Flexible



Low fixed (12,500) and high variable expenses (MPC=0.75)

Low positive savings at higher income

Low negative savings at lower income

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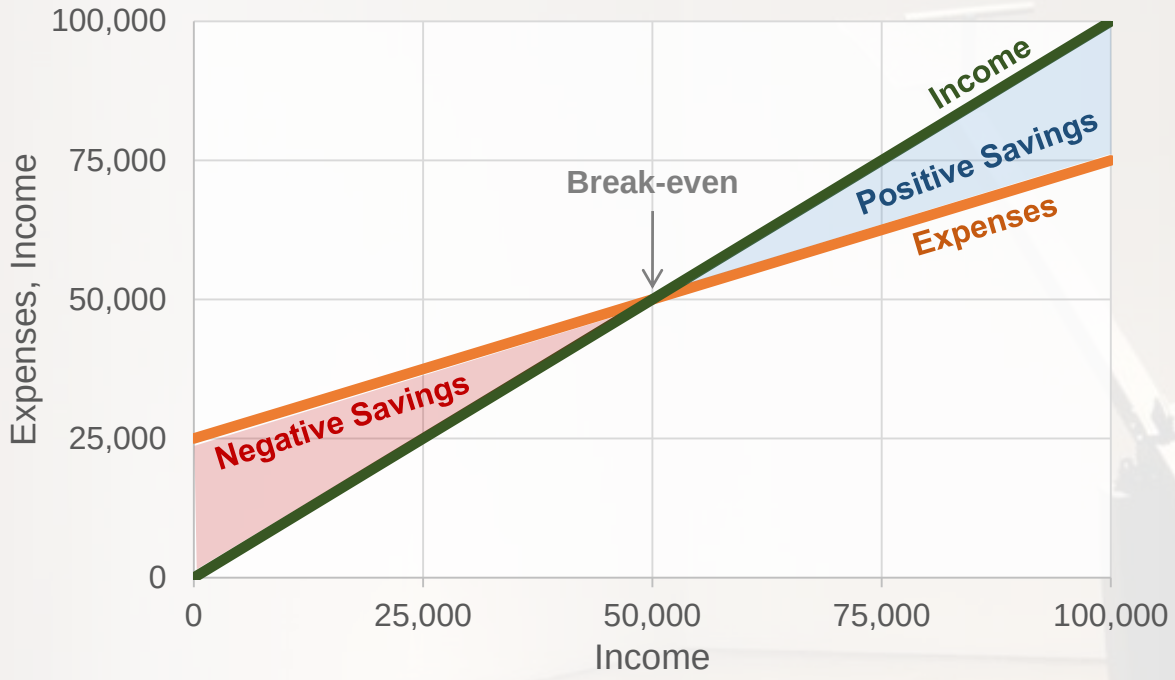
4. Richard the Rigid



High fixed (25,000) and low variable expenses (MPC=0.5)

High positive savings at higher income

High negative savings at lower income

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Savings risk

How much savings changes as income changes

Fiona and Richard have same break-even point but …

Fiona the flexible has low savings risk

- Low income = low negative savings
- High income = low positive savings
- Low uncertainty with amount saved

Richard the rigid has high savings risk

- Low income = High negative savings
- High income = High positive savings
- High uncertainty with amount saved

Low risk not necessarily good … it depends on situation

7 implications

1. **Be Susan the Student for 1 year after graduation**
2. **Avoid friendships with Edward the Extravagant**
3. **If income is variable then be like Fiona the Flexible**
4. **If income is certain then be like Richard the Rigid**
5. **Avoid committing to unnecessary fixed expenses**
6. **Avoid spending every dollar of an income increase**
7. **Regularly review fixed and variable expenses**

Q4: Savings risk

a) **Which of the 4 situations is most suitable for:**
   A. **Dual income family with two children at school**
   B. **22 year old university graduate on full-time income**
   C. **30 year old contractor with irregular high-pay work**
   D. **Lazy 20 year old rich kid relying on family money**

b) **Which of the 4 situations is best for you now?**

c) **Which of the 4 situations is best for you in 5 years?**

Go to Answer

You need to be able to …

1. Explain the differences between a balance sheet, income statement and cash flow statement
2. Explain how various transactions affect the amount saved, wealth and cash flow
3. Explain why a budget is important and how to set one
4. Classify expenses as either fixed or variable expenses and to calculate break-even income
5. Identify how different mixes of fixed and variable expenses are suitable to different situations
6. Explain how different mixes of fixed and variable expenses contribute to savings risk

A1: Financial statements

Identify the effects of each transaction on the amount Saved, Wealth and Cash flow

	Transaction	Saved	Wealth	Cash
A	You purchase a cup of coffee for $3	–3	–3	–3
B	You pay $100 in rent for your apartment	–100	–100	–100
C	You receive $200 in income for your work	+200	+200	+200
D	Your computer falls in value by $100 but you do not sell it	–100	–100	0
E	You sell a used computer game for $50 You previously bought it for $80 and treated it as an asset	–30	–30	+50
F	You buy some clothes for $100 on credit card	–100	–100	0
G	You pay your credit card balance of $100	0	0	–100
H	Your property rises in value by $10,000	+10,000	+10,000	0

Go to Question

A3: Fixed and variable expenses

a) **No answer provided.**

b) **Break-even income = Fixed expenses ÷ (1 – Slope)**
= 10,000 ÷ (1 – 0.75)
= 10,000 ÷ 0.25
= 40,000

c) **No answer provided.**

d) **No answer provided.**

Go to Question

A4: Savings risk

a) **The most suitable are:**

A. **4 Richard the Rigid since fixed expenses are often unavoidably high for families with children**

B. **1 Susan the Student since the graduate has the opportunity to keep fixed and variable expenses low and save a lot of money**

C. **3 Fiona the Flexible since their income is variable. They need to keep savings risk low and so should keep fixed expenses low.**

D. **2 Edward the Extravagant … but would probably earn a lot more respect from his parents by being a bit more like Susan the Student for a while!**

b) **No answer provided.**

c) **No answer provided.**

Go to Question