

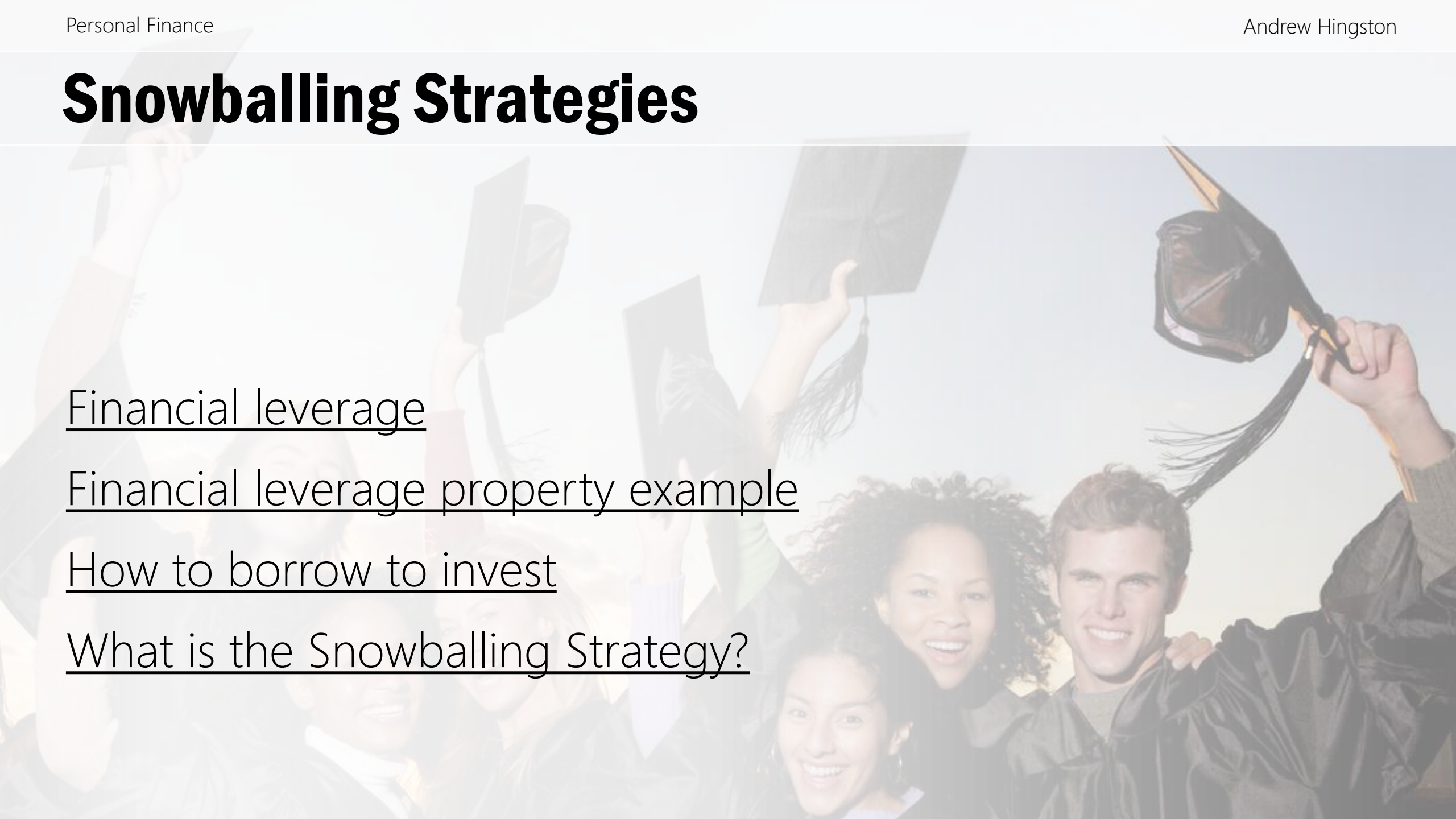
# Snowballing Strategies

Financial leverage

Financial leverage property example

How to borrow to invest

What is the Snowballing Strategy?



# You need to be able to ...

1. **Identify how borrowing money can significantly affect the returns and risk of an investment.**
2. **Explain how positive and negative gearing is different from positive and negative cash-flow**
3. **Identify the main ways to borrow funds to make an investment.**
4. **Calculate an LVR and explain how movements in an investment may trigger a 'margin call'**
5. **Explain the 5 stages associated with the Snowballing Strategy**
6. **Identify why the Snowballing Strategy is better than the default choice (no strategy) used by most people**



# Financial leverage





# Think and discuss

## Scenario 1

You invest \$100,000 of your own wealth into a property. How would your wealth change over 1 year if that property returned 10% compared to 0%?

## Scenario 2

What about if you borrowed an extra \$400,000 at 5% and invested \$500,000 into a property. How would your wealth change over 1 year if that property returned 10% compared to 0%?

# What is financial leverage?

**Financial leverage = Borrowing money to invest**

Using both your wealth (equity) and debt (loan) to buy assets (investments)

**Also called 'gearing'**

**Magnifies both expected return and risk**

**Must invest in quality assets**

Expected return of asset > Interest rate on loan

**Must have very long-term time horizon**

Preferably 10+ years

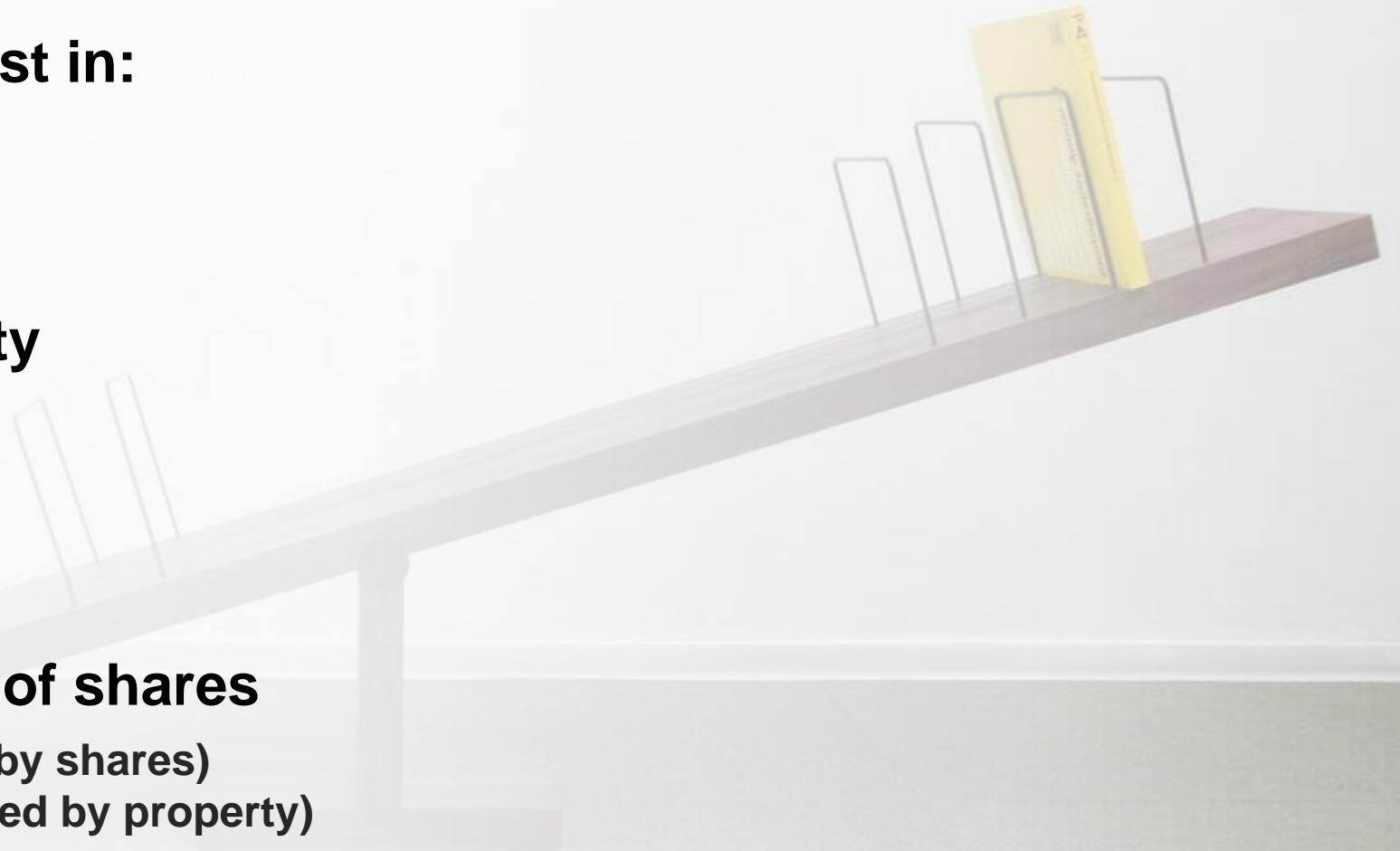


"Give me a lever long enough and a fulcrum on which to place it, and I shall move the world." Archimedes (3<sup>rd</sup> century BC)

# Leveraged investments

## Borrowing money to invest in:

1. **Your first home**  
with a home loan
2. **An investment property**  
with an investment loan
3. **Your education**  
with a student loan
4. **A diversified portfolio of shares**  
with a margin loan (secured by shares)  
or an investment loan (secured by property)



# **For whom is leveraging appropriate?**

**Anyone who wants to buy a home!**

**Low risk with your personal income**

**Long-term investment time horizon (10+ years)**

**Maintain an adequate 'cash buffer'**

**Able to avoid dumb investment decisions**

**High levels of self-control to avoid speculation**

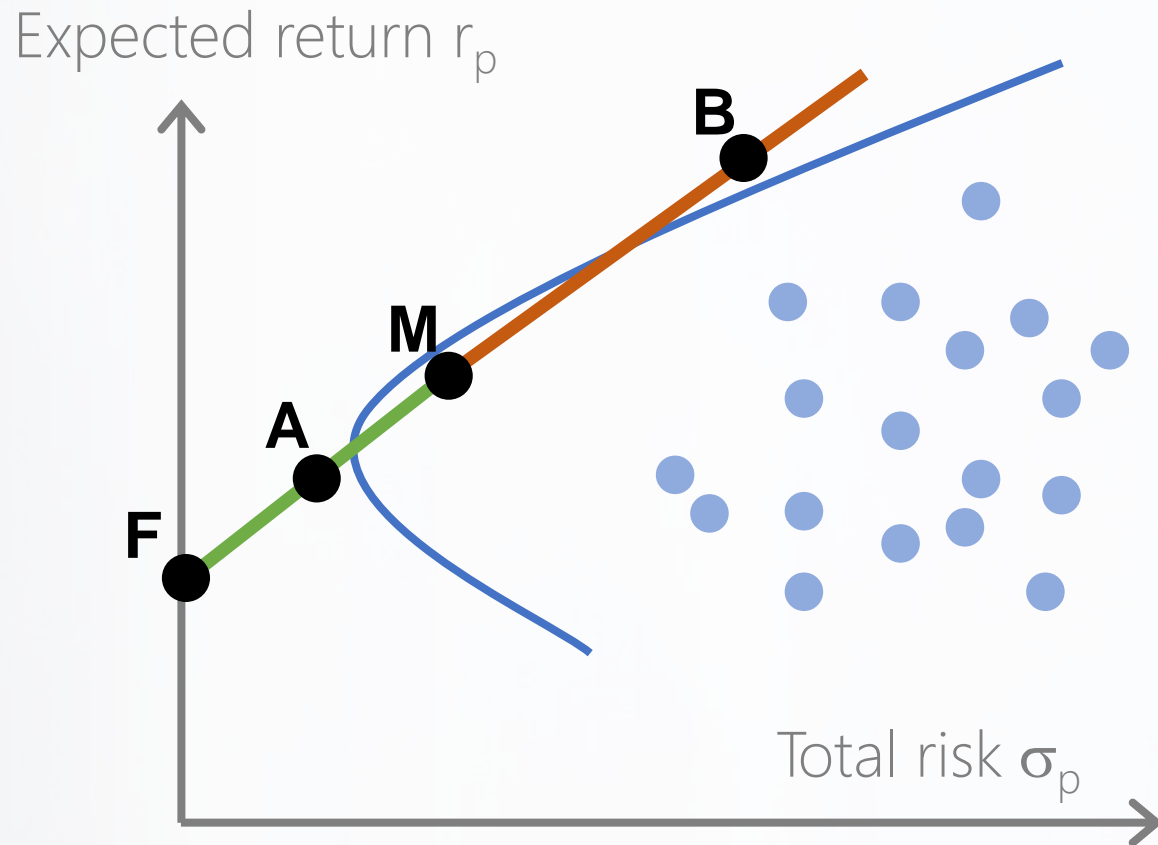
**Higher personal income tax rate bracket**

**Investors who would like to achieve above average returns without resorting to speculation**





# Recap: If you are willing to borrow to invest ...



**Investing \$1,000**

**(F) \$1,000 in Fixed Interest**

**(M) \$1,000 in Market Index**

**(A) \$500 in Fixed Interest  
\$500 in Market Index**

**(B) Borrow \$1,000 at Fixed rate  
Invest \$2,000 in Market Index**

The technical name for this line is the 'Capital Market Line'



# Positive vs negative gearing

## Tax implications of financial leveraged investment

### Positive gearing

**Assessable income (rent or dividends) > Allowable deductions (interest and costs)**  
**Increases personal income tax (in many countries)**

### Negative gearing

**Assessable income (rent or dividends) < Allowable deductions (interest and costs)**  
**Decreases personal income tax**

### Warning

Too many people focus on tax implications of investment  
... and end up choosing dumb investments!

# Positive vs negative cash flow

## Cash flow implications of financial leveraged investment

### Positive cash flow

Cash inflow (rent or dividends) > Cash outflow (interest and costs)

Increases cash flow (your pie) and flexibility

### Negative cash flow

Cash inflow (rent or dividends) < Cash outflow (interest and costs)

Decreases cash flow (your pie) and flexibility

**Not necessarily same as positive or negative gearing due to depreciation and accrued expenses**

**A nice situation is negatively geared but positive cash flow!**



# Financial leverage property example



# Investing with no financial leverage

**Your starting equity (wealth) is \$100,000**

**You have no debt**

**You invest \$100,000 into a property (asset)**

|           |         |            |         |
|-----------|---------|------------|---------|
| Asset (A) | 100,000 | Debt (D)   | 0       |
|           |         | Equity (E) | 100,000 |
| Value (V) | 100,000 | Value (V)  | 100,000 |

**What is your Return on Equity over 1 year if:**

- a) The property returns 10% (Return on Assets)**
- b) The property returns 0%**



# Return on Assets of 10%

$$\Delta \text{ Equity} = \text{Return on Assets} \times \text{Assets}$$

$$= 0.10 \times 100,000$$

$$= 10,000$$

$$\text{Return on Equity} = \Delta \text{ Equity} / \text{Equity}$$

$$= 10,000 / 100,000$$

$$= 10\%$$

|            |         |            |         |
|------------|---------|------------|---------|
| Assets (A) | 100,000 | Debt (D)   | 0       |
|            |         | Equity (E) | 100,000 |
| Value (V)  | 100,000 | Value (V)  | 100,000 |



|            |         |            |         |
|------------|---------|------------|---------|
| Assets (A) | 110,000 | Debt (D)   | 0       |
|            |         | Equity (E) | 110,000 |
| Value (V)  | 110,000 | Value (V)  | 110,000 |

# Return on Assets of 0%

$$\begin{aligned}\Delta \text{ Equity} &= \text{Return on Assets} \times \text{Assets} \\ &= 0 \times 500,000 \\ &= 0\end{aligned}$$

$$\begin{aligned}\text{Return on Equity} &= \Delta \text{ Equity} / \text{Equity} \\ &= 0 / 100,000 \\ &= 0\%\end{aligned}$$

|            |         |            |         |
|------------|---------|------------|---------|
| Assets (A) | 100,000 | Debt (D)   | 0       |
|            |         | Equity (E) | 100,000 |
| Value (V)  | 100,000 | Value (V)  | 100,000 |



|            |         |            |         |
|------------|---------|------------|---------|
| Assets (A) | 100,000 | Debt (D)   | 0       |
|            |         | Equity (E) | 100,000 |
| Value (V)  | 100,000 | Value (V)  | 100,000 |

# Summary

| Return on Assets | +10%     | 0%  |
|------------------|----------|-----|
| Change in Equity | \$10,000 | \$0 |
| Return on Equity | 10%      | 0%  |

When there is no financial leverage

... Return on Equity = Return on Assets

# Investing with financial leverage

**Your starting equity (wealth) is \$100,000**

**You borrow \$400,000 at 5% interest rate**

**Paid yearly to simplify our numbers**

**You invest \$500,000 into a property (asset)**

**What is your Return on Equity over 1 year if:**

- a) The property returns 10% (Return on Assets)**
- b) The property returns 0%**

|           |         |            |         |
|-----------|---------|------------|---------|
| Asset (A) | 500,000 | Debt (D)   | 400,000 |
|           |         | Equity (E) | 100,000 |
| Value (V) | 500,000 | Value (V)  | 500,000 |



# Return on Assets of 10% with leverage

$$\begin{aligned}\Delta \text{ Equity} &= \text{Return on Assets} \times \text{Asset} - \text{Interest rate} \times \text{Debt} \\ &= 0.10 \times 500,000 - 0.05 \times 400,000 \\ &= 30,000\end{aligned}$$

$$\begin{aligned}\text{Return on Equity} &= \Delta \text{ Equity} / \text{Equity} \\ &= 30,000 / 100,000 \\ &= 30\%\end{aligned}$$

|            |         |            |         |
|------------|---------|------------|---------|
| Assets (A) | 500,000 | Debt (D)   | 400,000 |
|            |         | Equity (E) | 100,000 |
| Value (V)  | 500,000 | Value (V)  | 500,000 |



|            |         |            |         |
|------------|---------|------------|---------|
| Assets (A) | 530,000 | Debt (D)   | 400,000 |
|            |         | Equity (E) | 130,000 |
| Value (V)  | 530,000 | Value (V)  | 530,000 |

# Return on Assets of 0% with leverage

$$\begin{aligned}\Delta \text{ Equity} &= \text{Return on Assets} \times \text{Asset} - \text{Interest rate} \times \text{Debt} \\ &= 0.00 \times 500,000 - 0.05 \times 400,000 \\ &= -20,000\end{aligned}$$

$$\begin{aligned}\text{Return on Equity} &= \Delta \text{ Equity} / \text{Equity} \\ &= -20,000 / 100,000 \\ &= -20\%\end{aligned}$$

|            |         |            |         |
|------------|---------|------------|---------|
| Assets (A) | 500,000 | Debt (D)   | 400,000 |
|            |         | Equity (E) | 100,000 |
| Value (V)  | 500,000 | Value (V)  | 500,000 |



|            |         |            |         |
|------------|---------|------------|---------|
| Assets (A) | 480,000 | Debt (D)   | 400,000 |
|            |         | Equity (E) | 80,000  |
| Value (V)  | 480,000 | Value (V)  | 480,000 |

# Summary with leverage

| Return on Assets                 | +10%     | 0%        |
|----------------------------------|----------|-----------|
| Change in Equity                 | \$10,000 | \$0       |
| Return on Equity (\$100,000)     | 10%      | 0%        |
| Change in Equity (with Leverage) | \$30,000 | -\$20,000 |
| Return on Equity (with Leverage) | 30%      | -20%      |

**When there is financial leverage**

**... Return on Equity  $\neq$  Return on Assets**

**Financial leverage magnifies total risk (and systematic risk)**

**... magnifies gains if things go well ... magnifies losses if things go badly**

# 2 measures of financial leverage

|                        |                  |                        |                  |
|------------------------|------------------|------------------------|------------------|
| Asset (A)              | \$500,000        | Debt (D) (Loan)        | \$400,000        |
|                        |                  | Equity (E) (Wealth)    | \$100,000        |
| <b>Total value (V)</b> | <b>\$500,000</b> | <b>Total value (V)</b> | <b>\$500,000</b> |

**Loan to value ratio (LVR)  
or Debt ratio**  $= \frac{D}{V} = \frac{400,000}{500,000} = 0.8$

**Debt to equity ratio (D/E)**  $= \frac{D}{E} = \frac{400,000}{100,000} = 4$



# How to borrow to invest



# Recap: Leveraged investments

## Borrowing money to invest in:

1. **Your first home**  
with a home loan
2. **An investment property**  
with an investment loan
3. **Your education**  
with a student loan
4. **A diversified portfolio of shares**  
with a margin loan (secured by shares)  
or an investment loan (secured by property)



# **Best to leverage with ...**

**Investment loan using property as collateral. Why?**

- 1. Low interest rates (compared to other loans)**
- 2. No margin calls (more on this later)**
- 3. Banks prefer property as collateral**
- 4. Easy to obtain if you have paid off some of the mortgage and property has gone up in value**

But if investments go badly and you cannot make loan repayments ... then you could lose your house!

# What if you don't have property?

**You want to borrow invest in shares but don't have property?**

**Use CFDs, Futures or derivatives? **NO!****

**Consider using a margin loan**

**... but be conservative please!**





# What is a margin loan?

**Different from an investment loan that has property as collateral. Why?**

- 1. Uses the shares as collateral on the loan**
- 2. Offered by banks through brokers**
- 3. Much higher interest rates (than loan with property as collateral)**
- 4. Subject to a 'margin call' if the shares drop in value**
- 5. Flexible payment options such as 'capitalizing interest'**  
Interest just gets added to principal outstanding on the loan and isn't paid
- 6. Can be very easy to obtain if you have a good income**

# Capitalizing interest

**You don't pay the interest on the loan**

**The interest is just added to the principal outstanding**

**If asset return > interest rate then LVR will fall**

**LVR = Loan to Value Ratio = Debt / Asset**

**In some countries interest is still an allowable deduction**

**But ... not actually paying the interest from cash-flow**

**So negatively geared (reduces tax)**

**... but positive cash flow (increases cash)**

# The dreaded 'margin call'

**A margin call is when the bank asks you to pay off a significant amount of your margin loan within 24 hours.**

**This occurs when the shares used as collateral have fallen in value.**

**If LVR rises above threshold then need to pay down debt**

**Recall ...  $LVR = Debt / Assets$**

**If you don't, then broker will sell Assets**

**This occurs during a crash ... you lose a LOT of equity!**

**Best protection is to keep your LVR low and keep a 'buffer' in redraw in your home loan!**

# What is a safe LVR?

**Many diversified share funds have LVR threshold of about 75%**

Which usually means a margin call at  $\text{LVR} = 75\% + 5\% = 80\%$

**You need to be able to handle a 50% fall in market values**

Most sharemarket crashes are about 30% ... the worst are about 50% in developed markets

**If prior to fall in market prices**

Value of investments (assets) = 100,000

Value of margin loan (debt) = 40,000 (LVR = 40%)

**If the assets fall in value by 50%**

Value of investments (assets) = 50,000

Value of margin loan (debt) = 40,000 (LVR = 80%)

Only just on the threshold of a margin call

# LVR robustness

**How much can the value of your share portfolio fall by based on a starting LVR and a margin call at 80%?**

Note that market fell 50% in 2008-09 global financial crisis

| LVR | Market Fall |
|-----|-------------|
| 70% | 12.5%       |
| 60% | 25%         |
| 50% | 37.5%       |
| 40% | 50%         |
| 30% | 62.5%       |

# Remember

**Investments loans are preferred to margin loans**

**Positive cash flow is preferred to negative gearing**

**Have you considered the costs of financial distress?**

What if you lose your job for a significant period (in a recession)

How would you meet a significant margin call

**Do you have the self control to avoid speculation?**

Speculation = picking stocks and timing the market

**Are you investing with a very long-term time horizon (10+ years)?**

**Are you familiar with the tax implications?**



# What is the Snowballing Strategy?



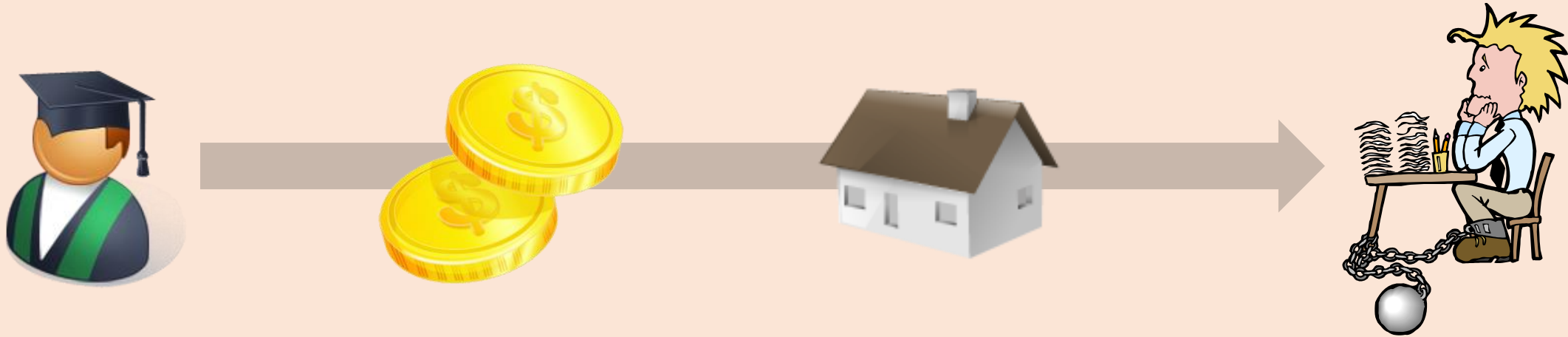
# What is the snowball?

It is the **amount saved** each month

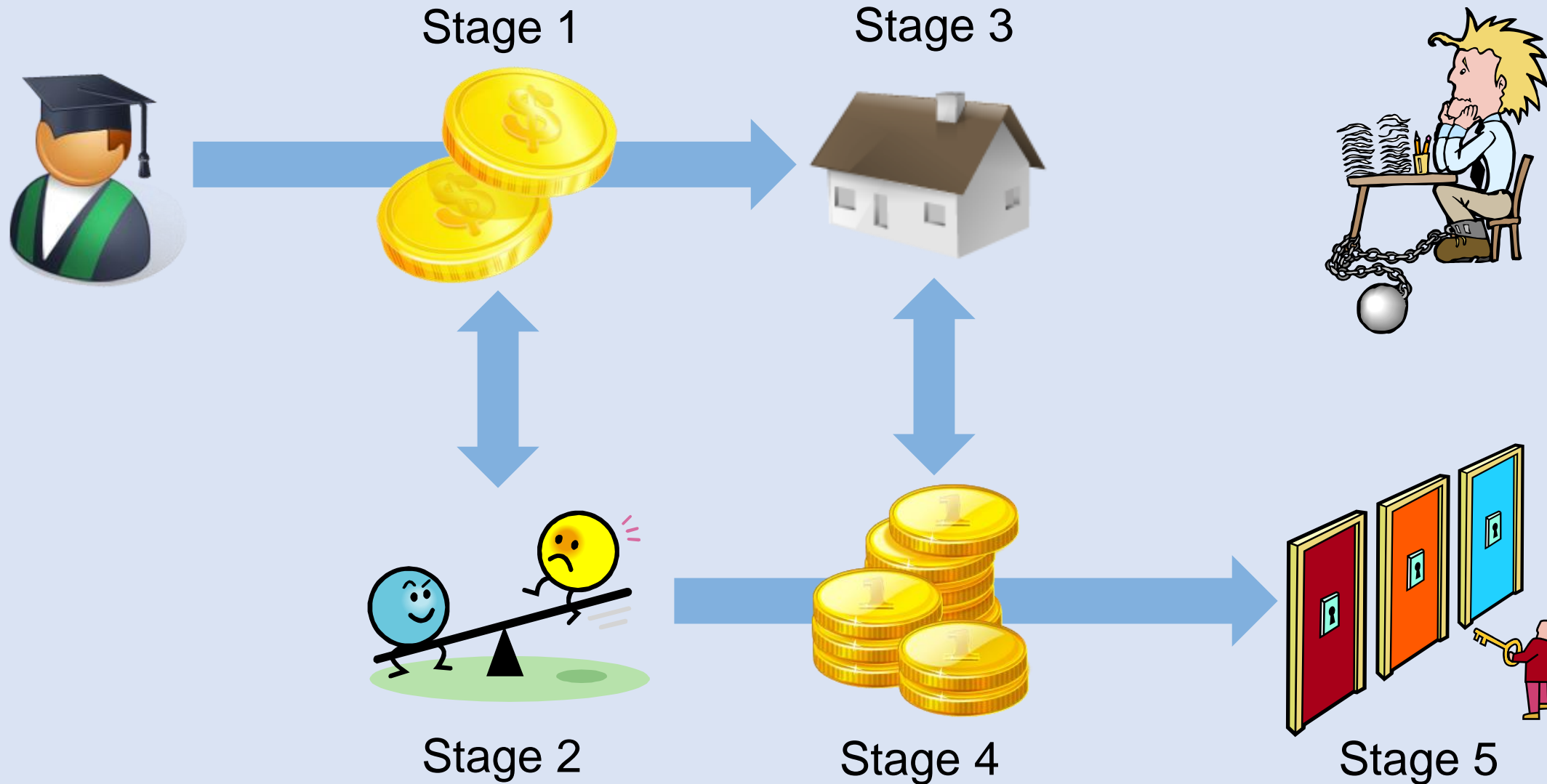
Amount saved = Income – Expenses



# This is what most people do ...



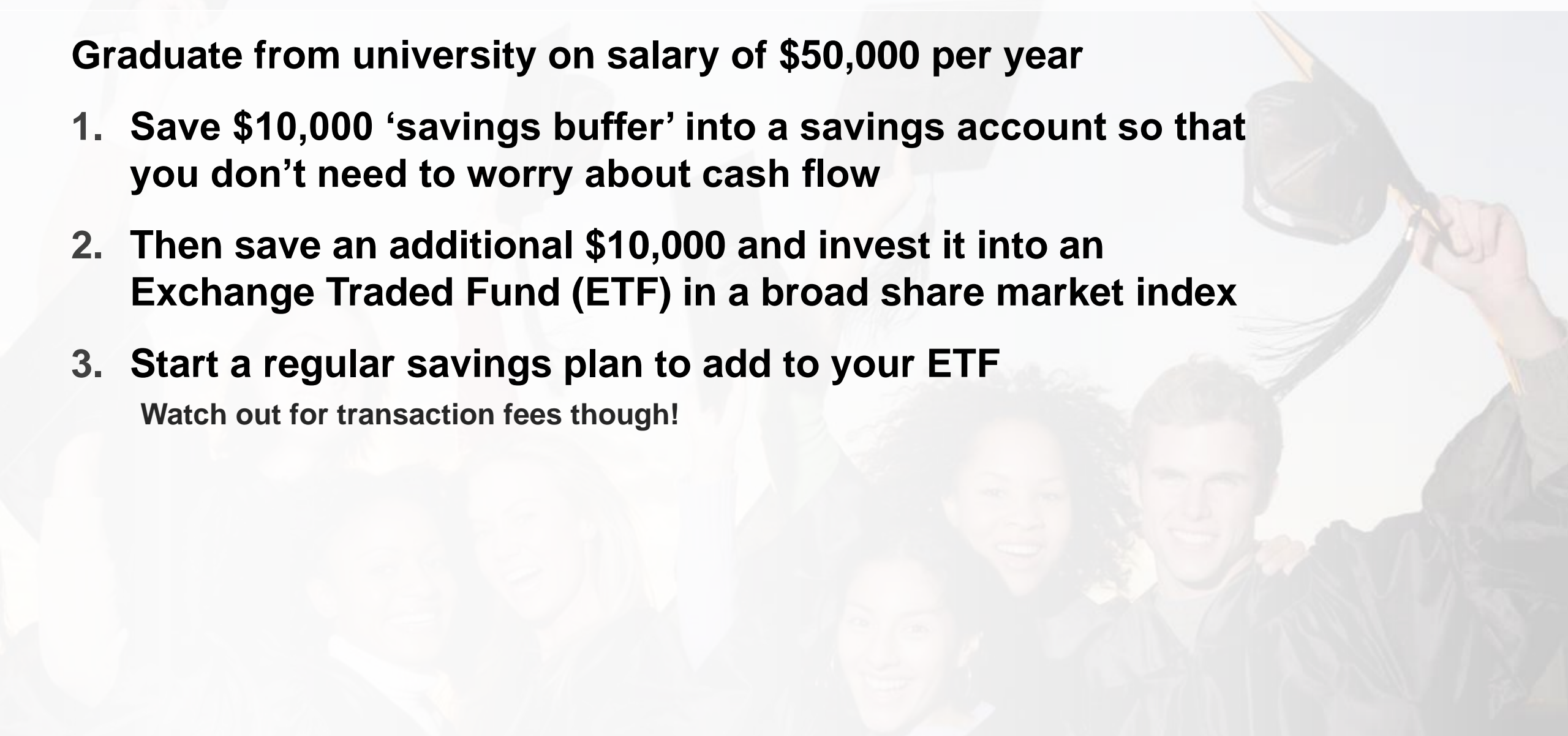
# This is the Snowballing Strategy ...



# Stage 1: Save hard

**Graduate from university on salary of \$50,000 per year**

- 1. Save \$10,000 'savings buffer' into a savings account so that you don't need to worry about cash flow**
- 2. Then save an additional \$10,000 and invest it into an Exchange Traded Fund (ETF) in a broad share market index**
- 3. Start a regular savings plan to add to your ETF**  
Watch out for transaction fees though!





# **Stage 2: Add a little financial leverage**

**After ETF investment has grown to \$20,000**

- 1. Seek tax advice on margin loan in your country**
- 2. Apply for margin loan with LVR of 40%**
- 3. Consider capitalizing your interest**
- 4. Keep saving more money into ETF**
- 5. Keep increasing margin loan to maintain LVR of 40%**

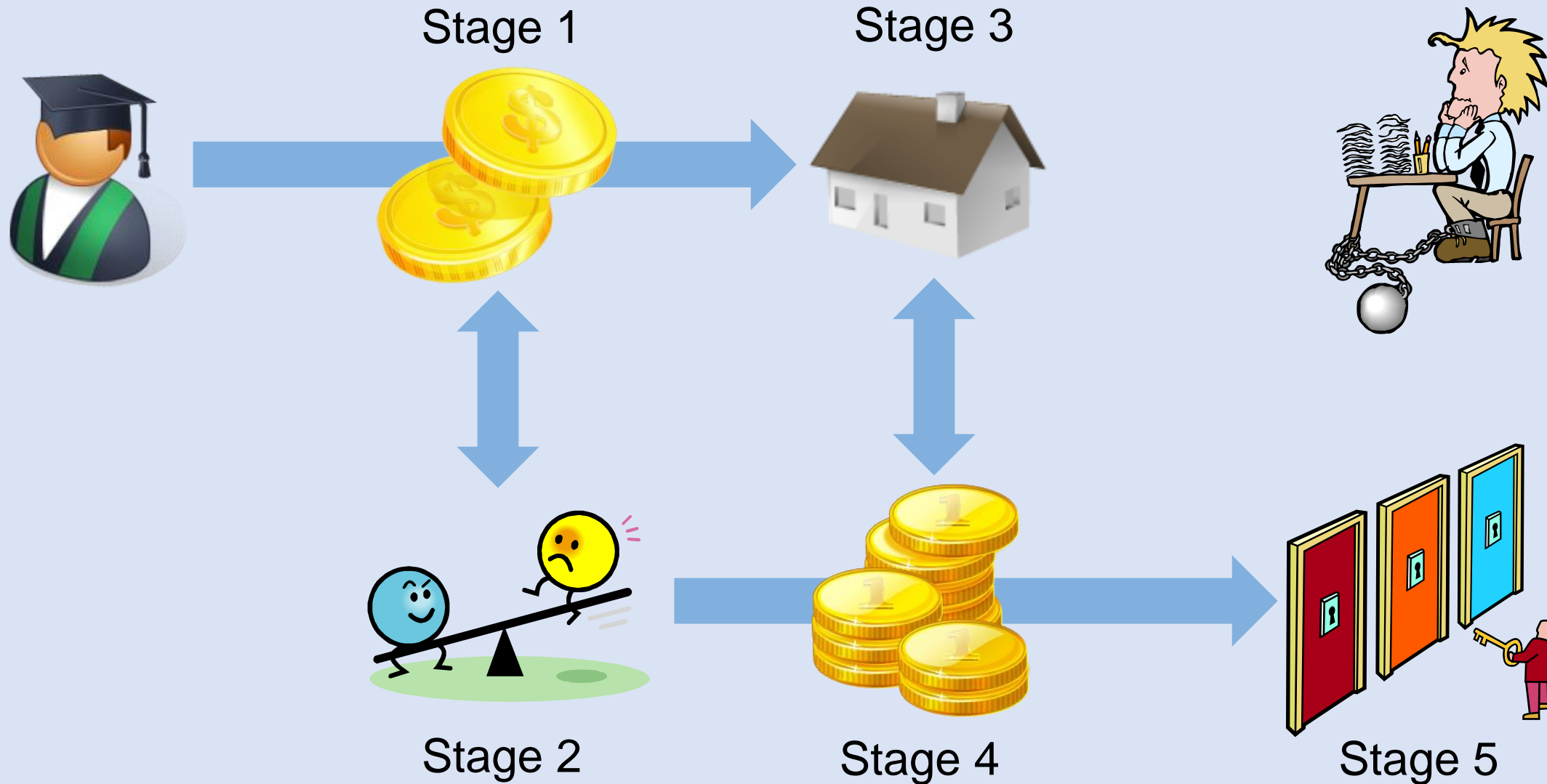
**Aim to gradually build ETF until it is worth \$100,000**

**With a margin loan of \$40,000 so your equity is \$60,000**





# This is the Snowballing Strategy ...



# Stage 3: Buy your first property

**Buy 2 bedroom apartment to live in for \$300,000**

**Consider applying with 'parent guarantee' if that is an option**

**No deposit required**

**Rent out one room to a nice person who will pay rent on time**

| Cash flow                             | \$ per year    |
|---------------------------------------|----------------|
| Home loan                             | -26,000        |
| Rent out room                         | +8,000         |
| Distributions from ETF (5%)           | +5,000         |
| Interest on margin loan (capitalized) | 0              |
| <b>Net cash flow</b>                  | <b>-13,000</b> |

# Stage 4: Continue building your portfolio

## Continue adding savings to your ETF investments

Better to do this than pay down mortgage since it is positive cash flow

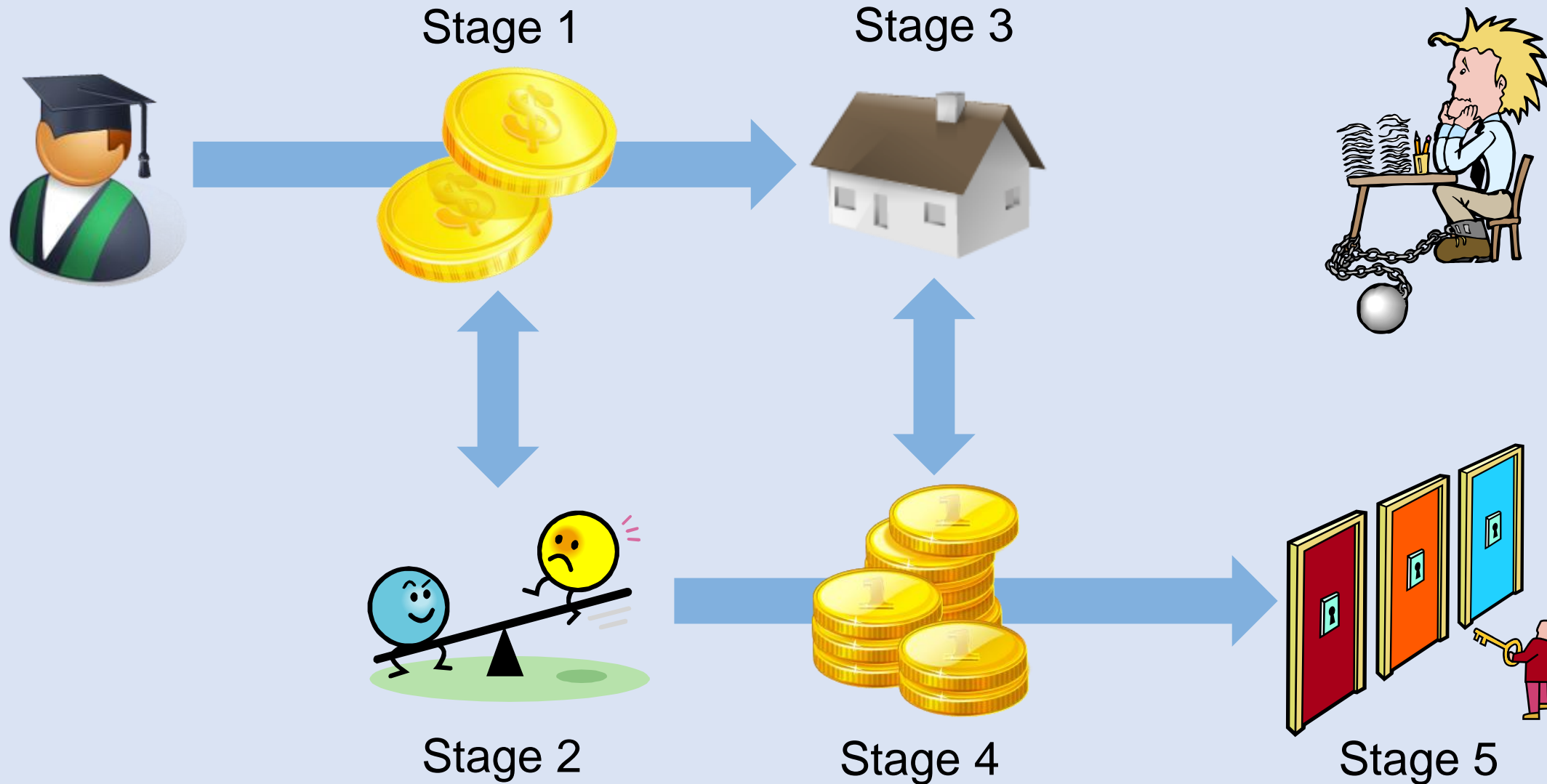
## Aim to build ETF investment to \$300,000

LVR is 40% so Margin Loan is 120,000 and your Equity is \$180,000

5% distributions now = \$15,000

| Cash flow                             | \$ per year |
|---------------------------------------|-------------|
| Home loan                             | -26,000     |
| Rent out room (increased)             | +11,000     |
| Distributions from ETF (5%)           | +15,000     |
| Interest on margin loan (capitalized) | 0           |
| <b>Net cash flow</b>                  | <b>0</b>    |

# This is the Snowballing Strategy ...



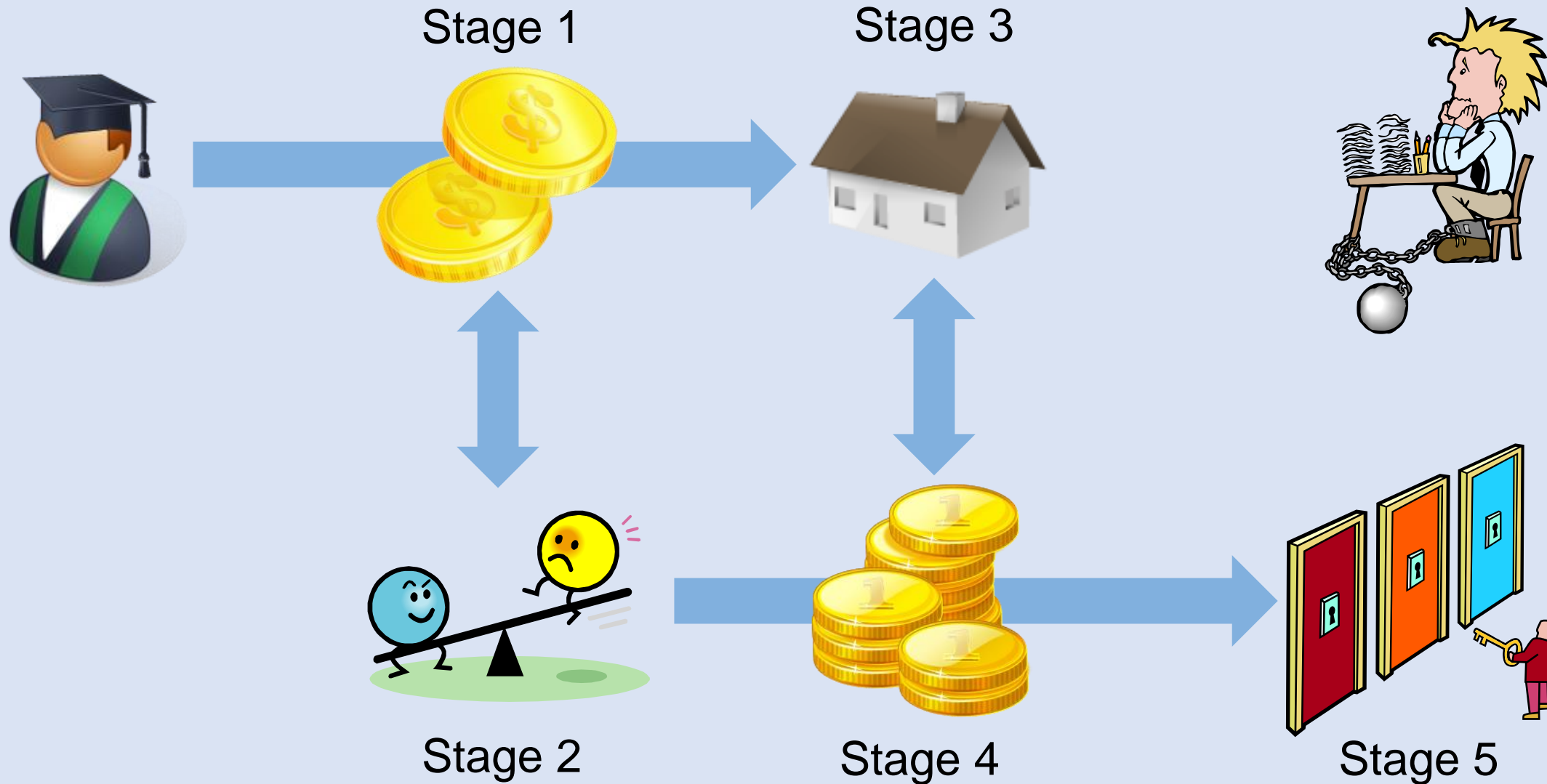
# **Stage 5: Now you have choice**

**You will now have a higher salary and no 'net' mortgage payments so now ...**

- 1. Make extra repayments into your mortgage and pay it off completely within 5 years, and/or**
- 2. Obtain an 'investment loan' with your house as collateral and use that to pay off your margin loan. Then continue adding savings to ETF investments and go for 'financial independence', and/or**
- 3. Consider upgrading your property to buy a 4 bedroom house in a nice suburb for family reasons, and/or**
- 4. Improving your lifestyle ... buy a sports car, go on nice holidays, renovate your property ...**



# This is the Snowballing Strategy ...





# **Make it your own**

**This is a generic strategy**

**It won't suit you**

**You need to research it**

**... customize it**

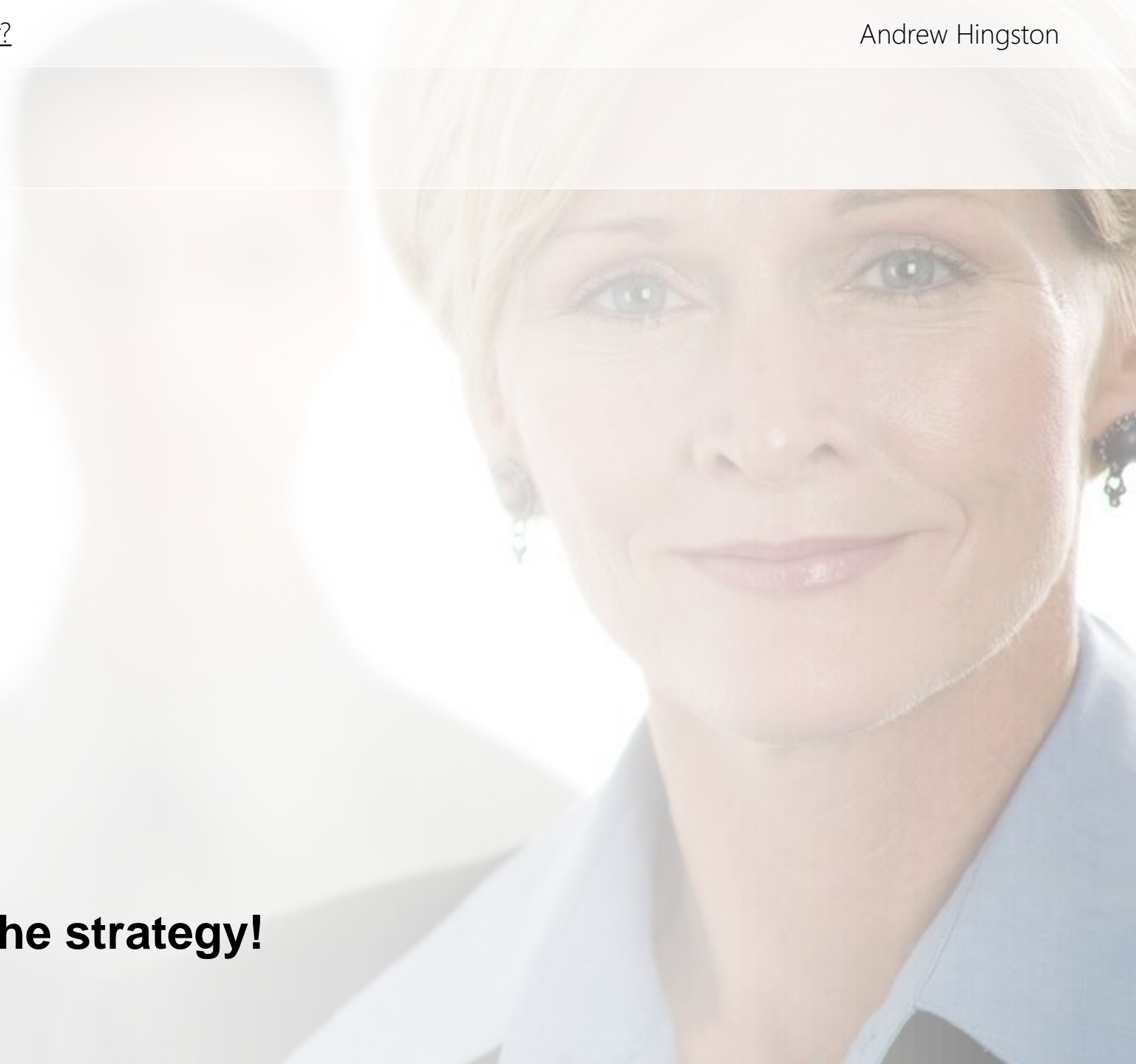
**... localize it**

**... make it your own**

**... read widely**

**... seek advice when needed**

**Then implement and stick to the strategy!**



# You need to be able to ...

1. **Identify how borrowing money can significantly affect the returns and risk of an investment.**
2. **Explain how positive and negative gearing is different from positive and negative cash-flow**
3. **Identify the main ways to borrow funds to make an investment.**
4. **Calculate an LVR and explain how movements in an investment may trigger a 'margin call'**
5. **Explain the 5 stages associated with the Snowballing Strategy**
6. **Identify why the Snowballing Strategy is better than the default choice (no strategy) used by most people**

