THE UNIVERSITY OF MELBOURNE

Melbourne Veterinary School

Care of self and others
Personal financial management

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VETS30030 / VETS90122

Intended learning outcomes – Personal financial management

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Faculty of Veterinary and Agricultural Sciences

1. Interpret a cash-flow budget in order to monitor personal finances and diagnose behaviours that undermine financial security

2. Explain and apply the principle of compounding in order to maximise savings and minimise debt

3. Demonstrate an understanding of financial strategies to assess and manage debt in order to return to financial security

4. Demonstrate an understanding of saving and investing strategies on a limited budget, as well as the benefits of setting up one low-cost superannuation fund, in order to increase financial security

Compounding

‘Compound interest is the eighth wonder of the world. **He who understands it, earns it**; he who doesn’t, pays it.’

Albert Einstein

- Works in your favour with savings and against you in debt
- Interest rates are the cost of borrowing money.
- Depositing money in the bank is similar to lending money to the bank and so you receive interest on the amount you deposit
- Taking a loan from the bank means you pay the interest

Types of interest

- Simple interest
- Interest only accrues on the principal amount that is invested or borrowed. Often the interest will accrue annually but can be more frequent.
- Example: A person invested $200 at a simple interest rate of 5% for 2 years in an account where interest accrues annually
- Year 1 interest: $200 x 5/100 = $10
- Year 2 interest: $200 x 5/100 = $10
- Total interest over 2 years = 10 + 10 = $20

- If you continued for 10 years, they would end up with $300, i.e. earning $100 interest

Types of interest

- Compound interest
- Interest accrues on the principal amount that is invested or borrowed **AND** on interest previously earned. Often the interest will accrue annually but can be more frequent.
- Example: A person invested $200 at a compound interest rate of 3% for 2 years in an account where interest accrues annually
- Year 1 interest: $200 x 5/100 = $10
- Year 2 interest: $210 x 5/100 = $10.50
- Total interest over 2 years = 10 + 10.50 = $20.50

- If you continued for 10 years, they would end up with $325.78, i.e. earning $126 interest

Simple vs compound interest

Simple interest

Year	Interest	Total Interest	Balance
May 2023	--	--	$200.00
2023	$5.83	$5.83	$205.83
2024	$10.00	$15.83	$215.83
2025	$10.00	$25.83	$225.83
2026	$10.00	$35.83	$235.83
2027	$10.00	$45.83	$245.83
2028	$10.00	$55.83	$255.83
2029	$10.00	$65.83	$265.83
2030	$10.00	$75.83	$275.83
2031	$10.00	$85.83	$285.83
2032	$10.00	$95.83	$295.83
2033	**$4.17**	**$100.00**	**$300.00**

Compound interest

Year	Interest	Accrued Interest	Balance
0	–	–	**$200.00**
1	$10.00	$10.00	**$210.00**
2	$10.50	$20.50	**$220.50**
3	$11.02	$31.52	**$231.52**
4	$11.58	$43.10	**$243.10**
5	$12.16	$55.26	**$255.26**
6	$12.76	$68.02	**$268.02**
7	$13.40	$81.42	**$281.42**
8	$14.07	$95.49	**$295.49**
9	$14.77	$110.27	**$310.27**
10	**$15.51**	**$125.78**	**$325.78**

https://www.thecalculatorsite.com/finance/calculators/compoundinterestcalculator.php

Compounding magnifies the effect of higher interest rates

Simple Interest Projection 5 %

Final balance
$300.00

Initial balance
$200.00

Interest accrued
$100.00

Monthly interest
$0.83

Projection for 10 years 5 %

Future investment value
$325.78

Initial balance
$200.00

Total interest earned
$125.78

Interest rate (yearly)
5%

Simple Interest Projection 6.5 %

Final balance
$330.00

Initial balance
$200.00

Interest accrued
$130.00

Monthly interest
$1.08

Projection for 10 years 6.5 %

Future investment value
$375.43

Initial balance
$200.00

Total interest earned
$175.43

Interest rate (yearly)
6.5%

Compound interest and debt

https://www.thecalculatorsite.com/finance/calculators/loancalculator.php

$5000 car loan at 5% interest compounding monthly

Monthly payment **$94.36**	Total interest paid **$661.37**
Number of payments **60**	Total to be repaid **$5,661.37**

Monthly payment (including additional) **$199.36**	Total interest paid **$292.11**
Number of payments **27**	Total to be repaid **$5,292.11**

Take home messages

Compound interest helps you maximise your savings

Compounding is applied in debt repayments