

# TASK 2 WHAT TYPE OF TAX IS THIS?

## Worksheet

**Focus: Economics**  
**Opportunities: Mathematics**

### YOU WILL:

- ▶ calculate the ART in a range of scenarios
- ▶ distinguish between different types of taxes
- ▶ use evidence to draw conclusions on tax types
- ▶ identify arguments for and against the claim that GST is a regressive tax
- ▶ propose changes to GST to make it a more progressive tax
- ▶ make a reasoned judgement on the type of taxation system used in Australia

### YOU WILL NEED:

- ▶ *Fact sheet: What other taxes do I have to pay?*
- ▶ A calculator or spreadsheet

### Types of tax

It is difficult to know if taxation is proportional, regressive or progressive without calculating the average rate of tax (ART) paid by individuals. The following shows the relationship between tax models and the ART.

- ▶ Progressive – ART is higher for higher income earners
- ▶ Proportional – ART is constant regardless of income
- ▶ Regressive – ART is lower for higher income earners

The ART is calculated as total tax paid divided by income.

$$\text{Average rate of tax (\%)} = \frac{\text{Total tax paid}}{\text{income}}$$

## CALCULATE

1. For each income in the table below, calculate the average rate of tax paid. Decide if the tax is proportional, regressive or progressive and predict the impact of the tax on the degree of inequality in income distribution.

Annual income	Tax 1 (amount of tax paid)	ART	Tax 2 (amount of tax paid)	ART	Tax 3 (amount of tax paid)	ART
\$60,000	\$10,000		\$4,000		\$8,000	
\$120,000	\$20,000		\$12,000		\$6,000	
Type of tax:						
Effect on income distribution						

### Income tax

A marginal tax rate (MTR) is the amount of tax paid on an additional dollar of income. In Australia, the marginal tax rate for an individual increases as income rises. The tax rates for 2018-19 are shown below:

Current taxable income threshold range	Tax rate MTR
0 - \$18,200	0%
\$18,201 - \$37,000	19%
\$37,001 - \$90,000	32.5%
\$90,001 - \$180,000	37%
\$180,001 +	45%

So, if you earn \$30,000, your marginal rate of tax is 19%, and every part of your income above \$18,200 will be taxed at 19%. However, this doesn't make your average rate of tax 19%. Your average rate of tax (ART) is the proportion of total income earned that is paid in tax. Consider the following:

- ▶ Your income is \$30,000. The first \$18,200 is not taxed, and the remaining 11,800 of your income is taxed at the MTR of 19%. The total tax paid is:
  - ▶ \$18,200 = 0 tax
  - ▶ \$11,800 - 19% = \$2,242

Your average rate of tax (ART) is:

$$\frac{\text{Total tax paid}}{\text{income}} \times 100$$

or

$$\frac{2,242}{30,000} \times 100 = 7.47\%$$

## APPLY YOUR KNOWLEDGE

2. For each of the incomes in Table 1, use the 2017-18 tax rates to calculate:
  - a. The total tax paid
  - b. The average rate of tax (the proportion of total income earned that is paid in tax)

**Table 1: Progressive tax system (Australia)**

Net income	Income tax paid	Average rate of tax (%)
6,000		
35,000		
50,000		
85,000		
120,000		
185,000		
250,000		
500,000		
1,000,000		

3. Explain why income tax is a progressive tax.

### Capital gains tax

If you sell a capital asset, such as real estate or shares, you usually make a capital gain or a capital loss. This is the difference between what it cost you to acquire the asset and what you receive when you dispose of it.

You need to report capital gains and losses in your income tax return and pay tax on your capital gains.

4. For each income in the table below, calculate the total tax and the average rate of tax paid in 2016-17 before and after the capital gain. The following assumptions have been made:
- Each citizen made a net capital gain of \$20,000
  - Each citizen owned the asset for less than 12 months
  - Each citizen is a resident for taxation purposes.
- Tip: To calculate tax paid, use the simple tax calculator on the ATO website at <https://www.ato.gov.au/Calculators-and-tools/Host/?anchor=STC&anchor=STC#STC/questions>.

Income before capital gain	Tax paid	ART	Income after capital gain	Tax paid	ART	% change in the rate of tax
\$10,000			\$30,000			
\$50,000			\$70,000			
\$200,000			\$220,000			

5. Decide if capital gains tax is progressive, proportional or regressive.

### Goods and services tax

The goods and services tax (GST) is regarded as a proportional tax, as it is a fixed rate of tax (currently 10%) imposed on most (but not all) goods and services regardless of income. Imagine two citizens made the same purchasing decisions, for example, they both purchased the same mobile phone. The amount of GST paid by both citizens is the same, regardless of their income. In this respect, GST is a proportional tax.

However, some argue that GST is in fact a regressive tax, as the GST paid by low income earners represents a higher proportion of their income than that of high income earners.

6. Imagine that in the following scenarios, each citizen spent \$5,500 per year of goods and services that attract GST. Calculate the tax paid and average rate of tax paid by each citizen.

Income	Annual purchases on goods and services with GST	GST paid (11% of purchases)	ART
\$10,000	\$5,500	\$500	
\$50,000	\$5,500	\$500	
\$200,000	\$5,500	\$500	

7. Provide arguments for and against the claim that GST is a regressive tax. Use statistics to justify your response.
8. You have been asked to submit a proposal to the treasurer on how to make GST a more progressive tax (ie high income earners pay proportionately more of their income on GST than low income earners). Select a total of six goods or services you would tax to make the GST more progressive. Examples include holidays, bank service fees. Justify your selection to the class.

# MAKE REASONED DECISIONS

9. Using the information and statistics in this worksheet together with the table below, make a reasoned judgement on whether Australia's taxation system, on balance, is proportional, progressive or regressive.

**GST paid as a percentage of average weekly household gross income per income quintile (2009-2010).**

	Income quintile				
	Lowest	Second	Third	Fourth	Highest
GST paid (\$)	48	48	60	71	99
Taxes on income (\$)	38	87	168	288	745
Net Income (\$)	652	994	1,346	1,753	3,009
GST ART	7.36	4.83	4.46	4.05	3.29
Income tax ART	5.83	8.75	12.48	16.43	24.76
Total ART (GST and income tax)	13.19	13.58	16.94	20.48	28.05

Source: ABS Series 65370DO001-200910

