

Economics for Non-Economists

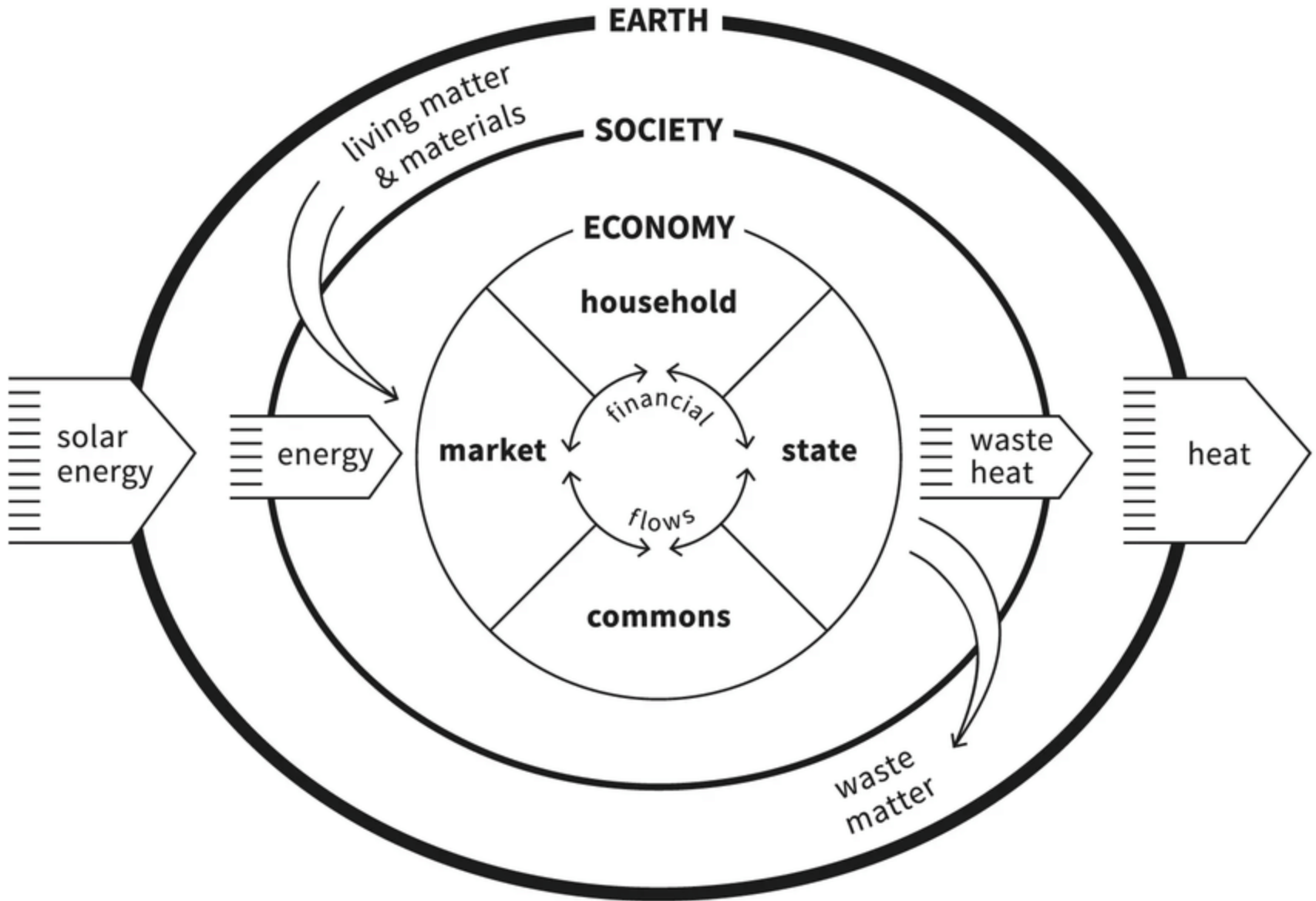
***Open-Economy Macroeconomics –
Concepts, Measures, Models***

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Topics for this lecture

- Conceptualising the macroeconomy
- GDP identities – macroeconomics accounting
- Macroeconomic fluctuations
- Production function
- Economic growth, unemployment, inflation
- Open-economy concepts and issues



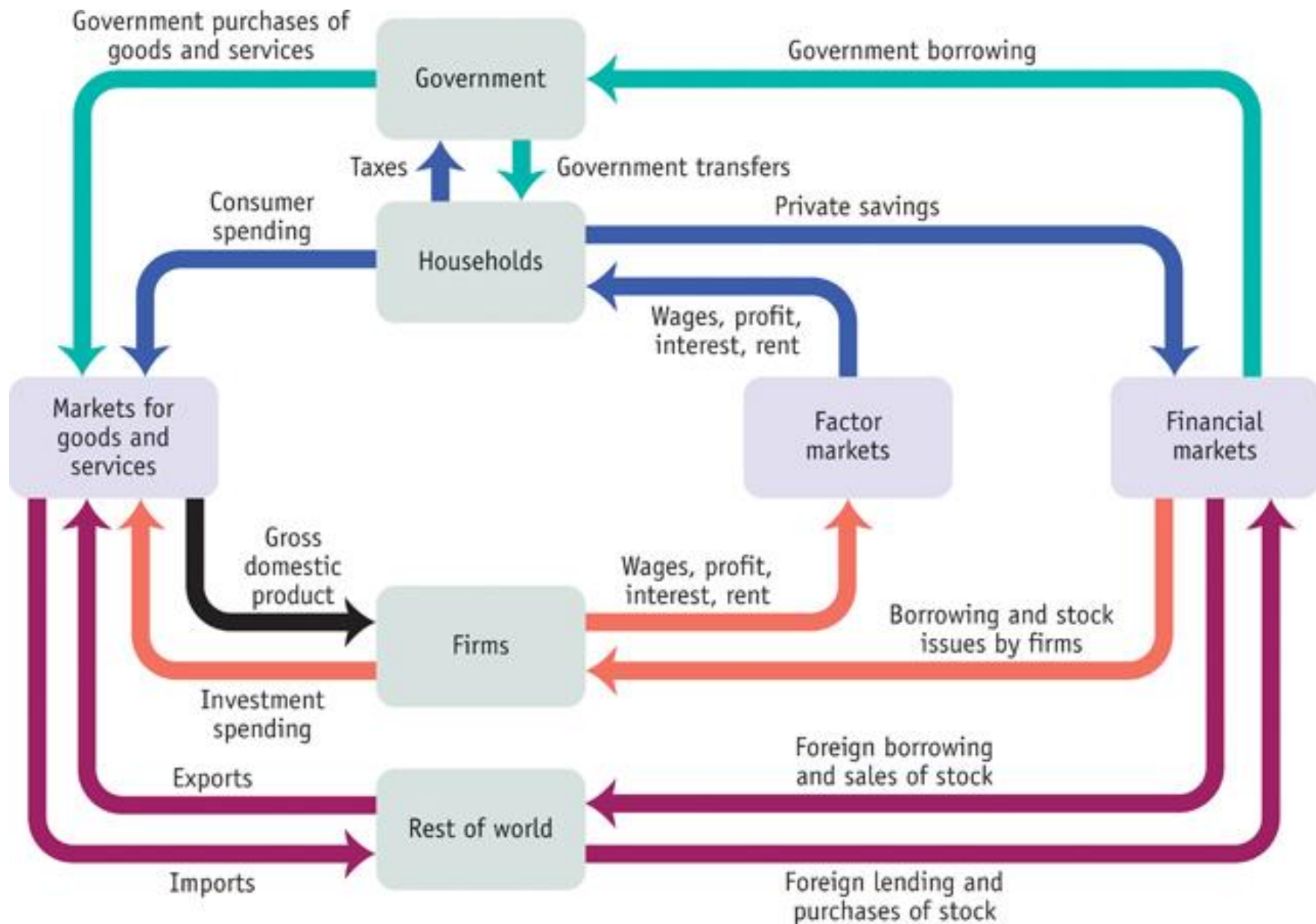
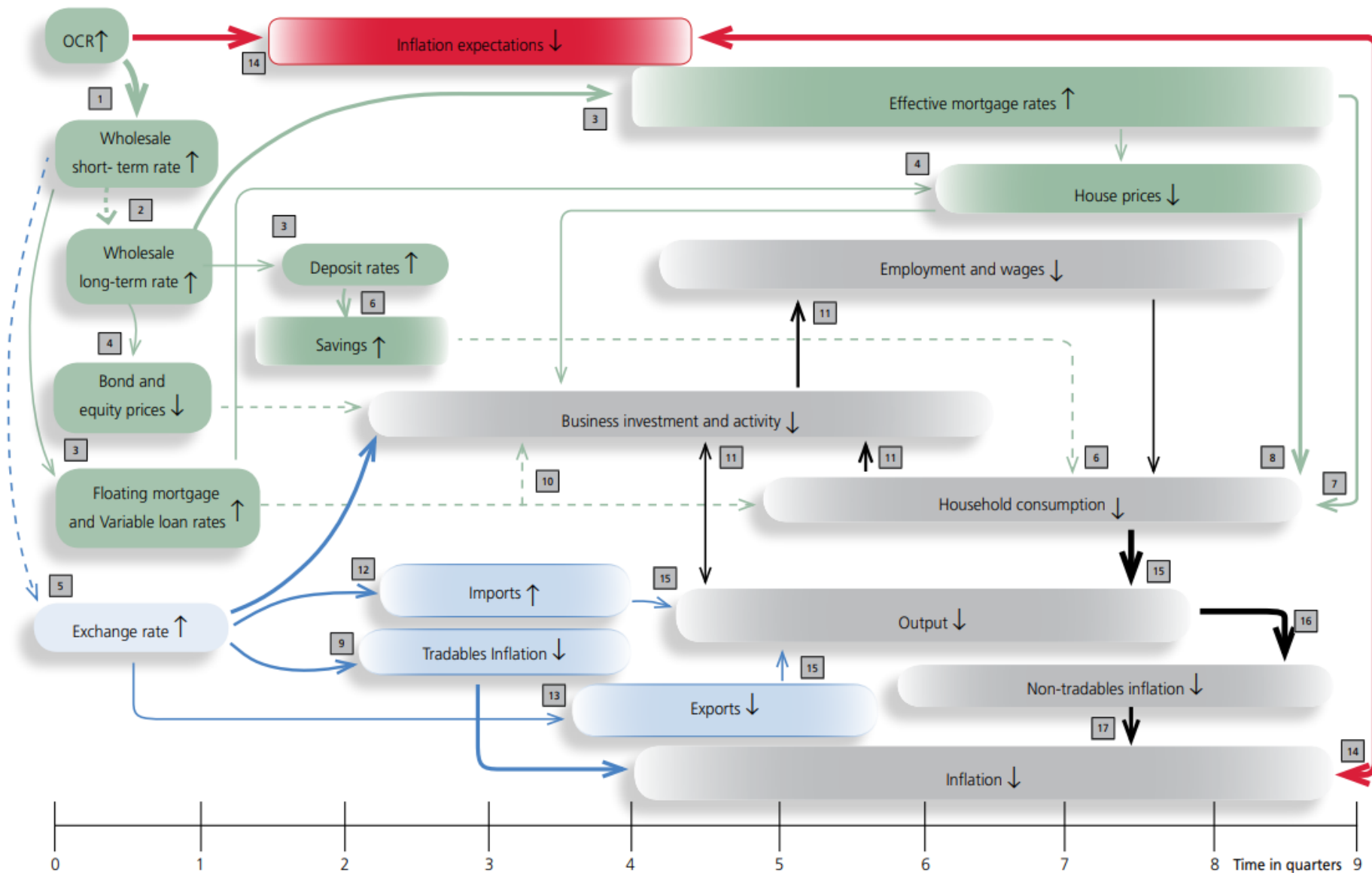
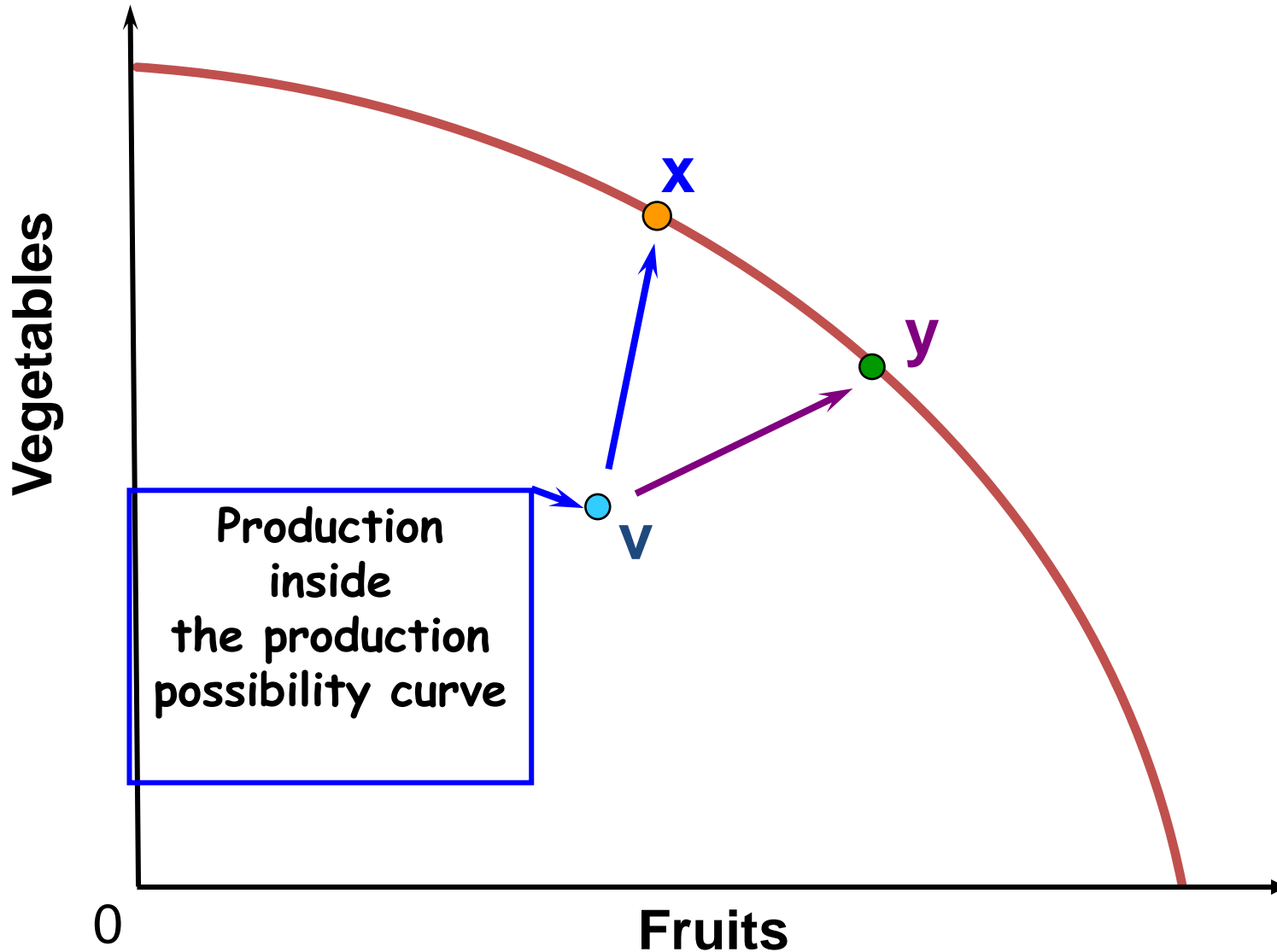


Figure 1

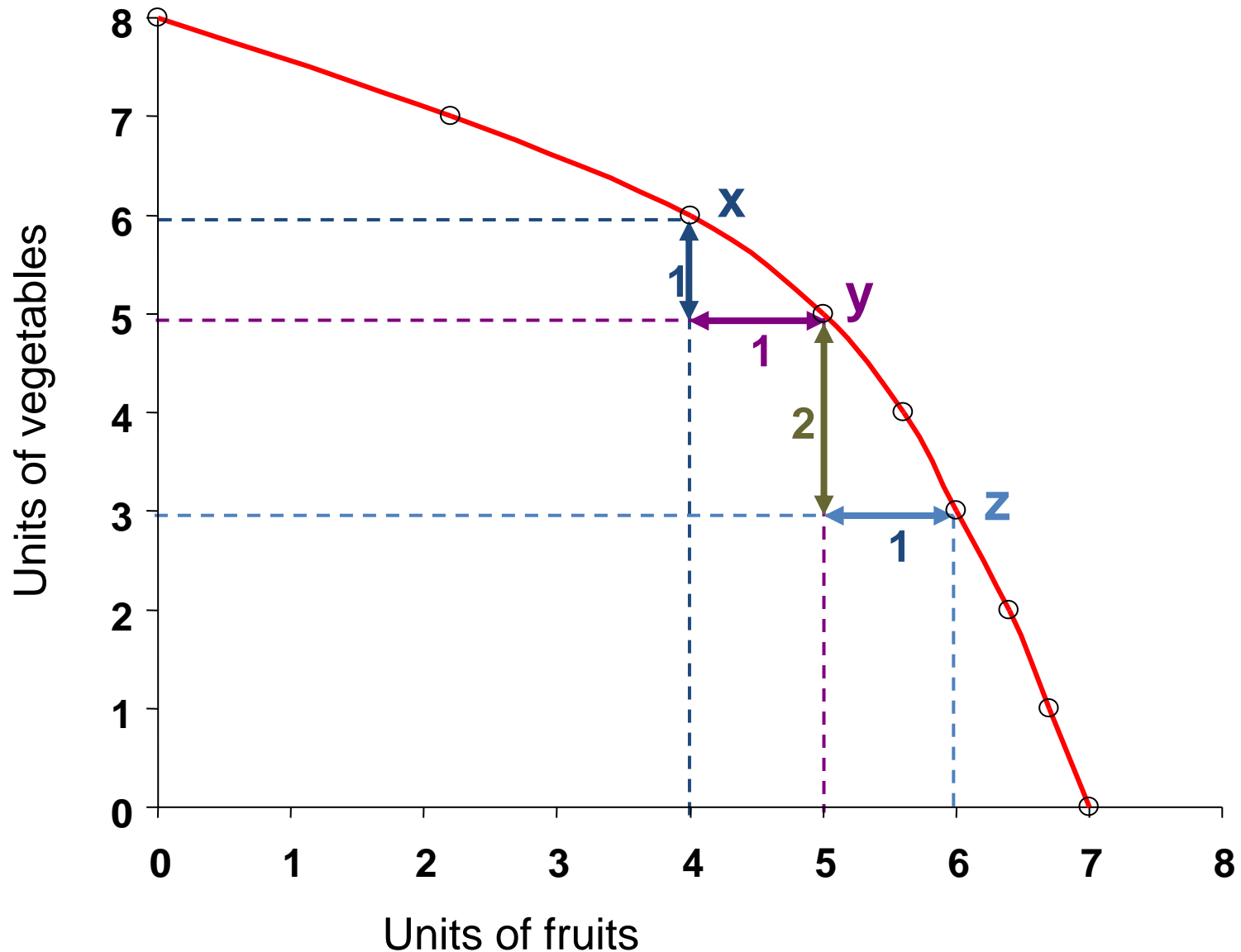
The transmission mechanism of New Zealand monetary policy

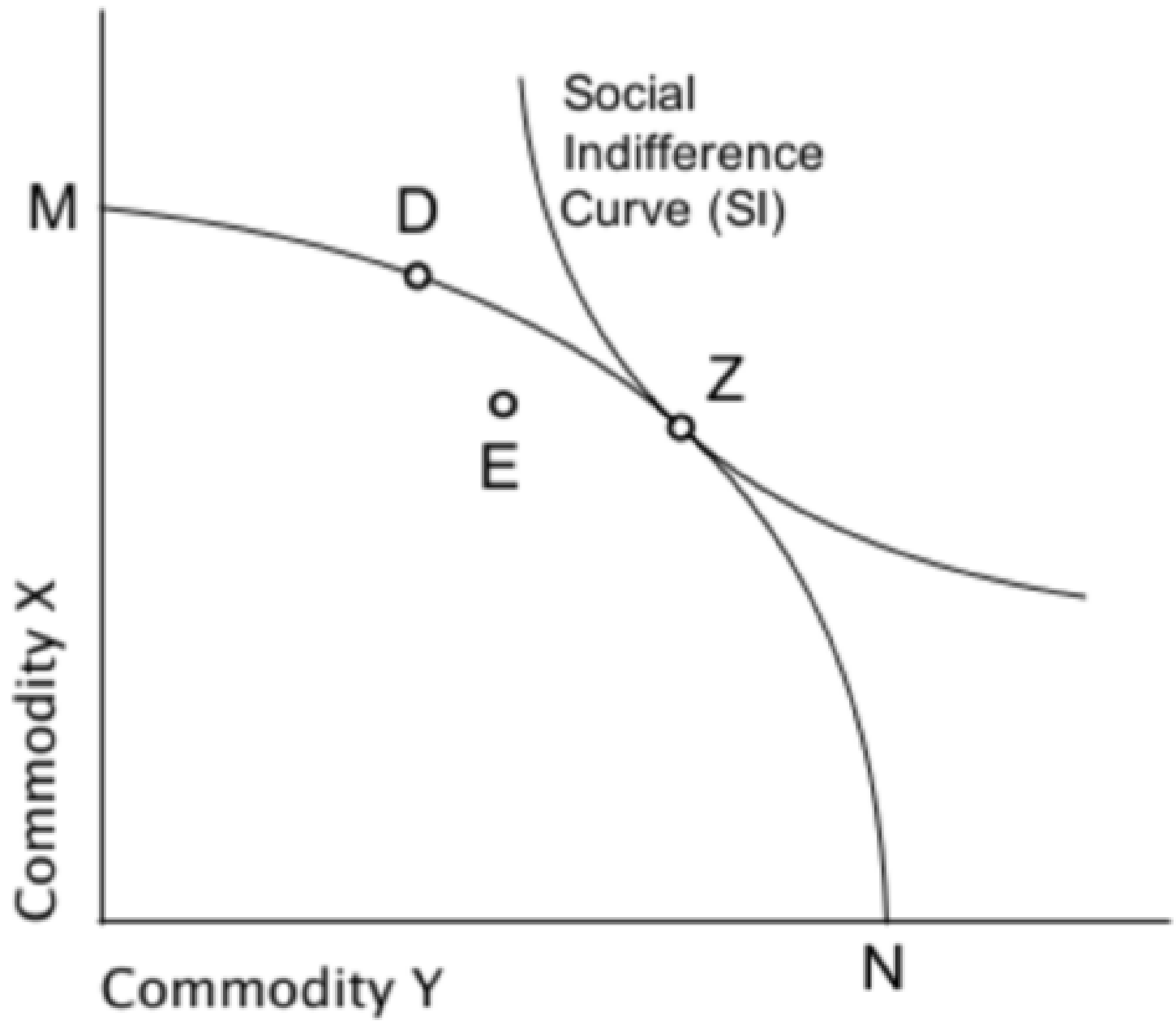


Production Possibility Curve



Increasing Opportunity Costs





Macroeconomic Accounting

GDP Identities

- **(Real) GDP comprises the output (and trade) of goods made for**
 - Consumption (cars, dentists)
 - Investment (business vehicles, machinery, houses, roads)
 - Government consumption (education, defense, medical services, NOT transfers)
 - Exports (dairy, tourism, anything sold to non-residents)
- *The D “Domestic” means it is economic activity taking place in the country no matter whether the company or worker is local or foreign*

- **We can examine local production of goods.....**

$$Y = C^L + I^L + G^L + X^L$$

(C^L means “locally produced consumption goods” etc)

.....or we can examine local “absorption” and subtract the component that is imported

$$Y = (C - C^M) + (I - I^M) + (G - G^M) + (X - X^M)$$

(C^M means “imported consumption goods” etc)

Rearranging all the imports into one category, M

$$Y = C + I + G + (X - M)$$

This is an identity: GDP is defined as being equal to these different types of use or ‘absorption’ categories.

Expenditure on gross domestic product – annual values

Component	Year ended March						
	2016	2017	2018	2019	2020	2021	
	\$(million)						
Household final consumption expenditure	133,532	142,321	149,485	156,287	160,777	159,657	
Non-profit organisations serving households	2,717	2,775	2,803	2,720	2,772	2,916	
Private consumption expenditure	136,257	145,108	152,304	159,018	163,558	162,483	
Central government expenditure	37,904	38,687	39,930	41,457	44,061	46,809	
Local government expenditure	5,130	5,306	5,567	5,707	5,959	6,341	
General government expenditure	43,033	43,989	45,490	47,160	50,021	53,151	
Gross fixed capital formation	55,846	57,250	61,394	64,880	65,718	62,636	
Change in inventories	688	878	1,438	1,223	-68	-485	
Gross capital formation	55,189	56,888	61,690	64,816	64,071	60,594	
Gross national expenditure	234,203	245,671	259,150	270,640	277,309	275,981	
Exports of goods and services	67,525	68,624	71,107	73,447	73,249	61,623	
Less imports of goods and services	73,854	77,993	84,043	87,722	88,737	74,320	
Expenditure on gross domestic product	228,240	236,903	247,336	257,566	262,910	261,964	

Other definitions – Current Account (CA)

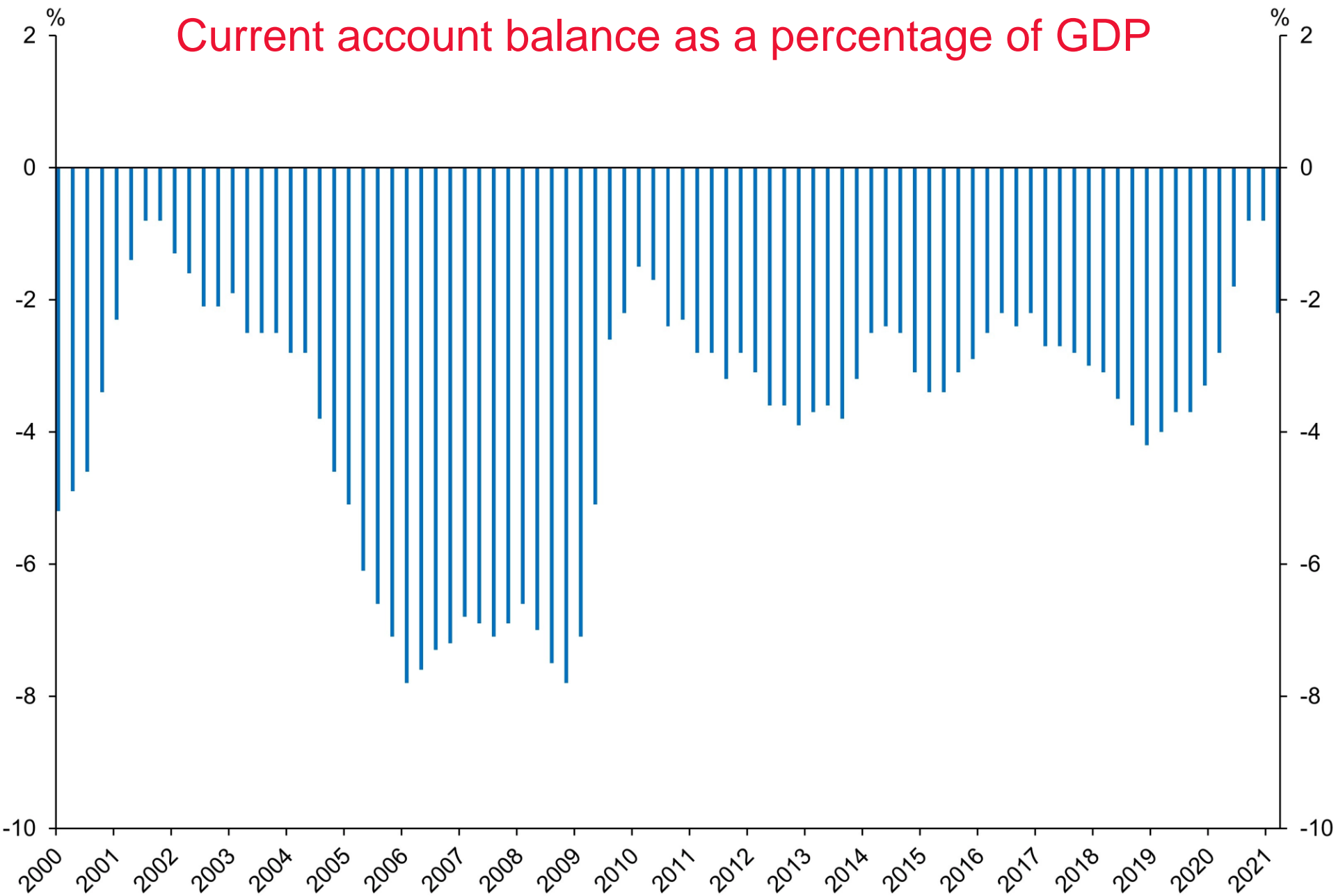
Current account = net exports + net foreign income

$$CA = (X-M) + nfi$$

Net foreign income includes:

- Earnings by NZ people temporarily working overseas (e.g. shearers) minus the earnings of foreigners working temporarily in New Zealand (e.g. foreign fruit pickers)
- Earnings of NZ companies overseas minus earnings of foreign companies in NZ
- Dividends and interest earned by NZ owners of overseas companies minus dividends and interest earned by foreigners owning NZ assets

Current account balance as a percentage of GDP

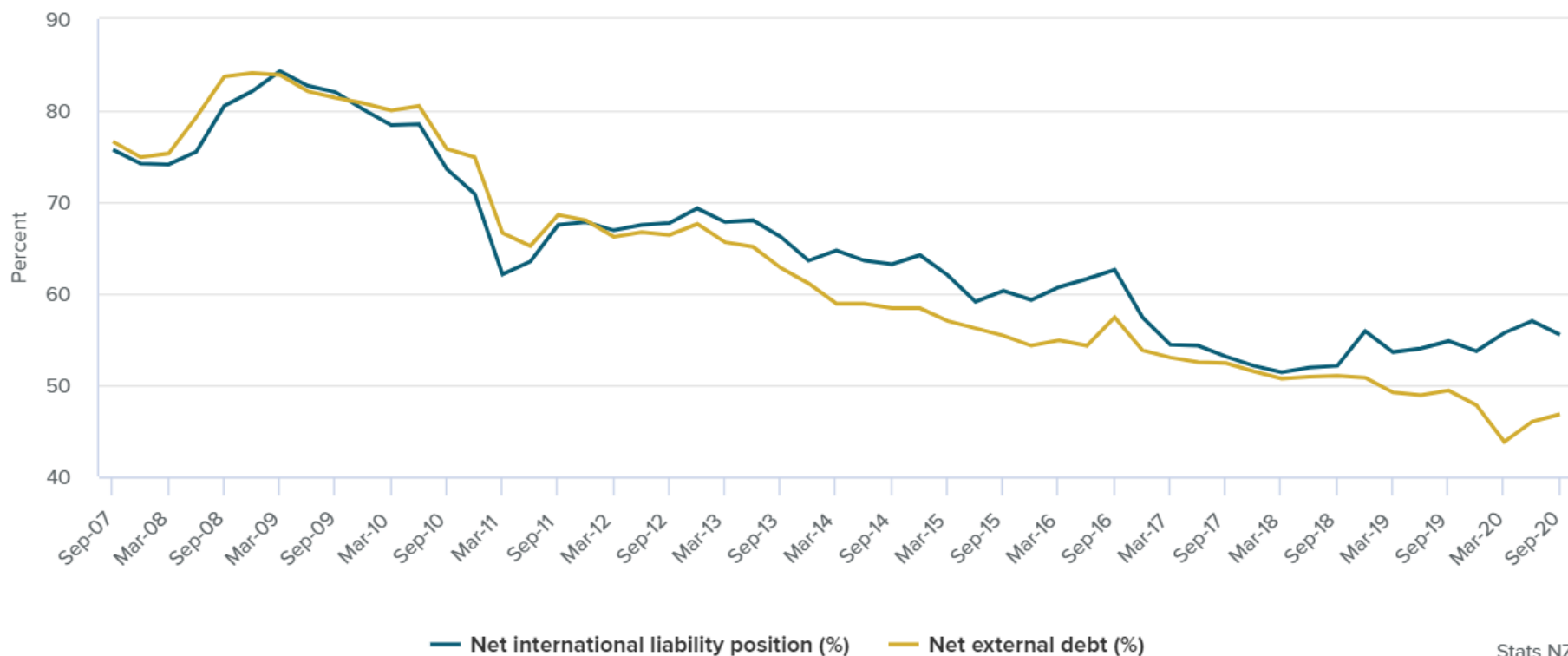


Source: Stats NZ

GRAPH

TABLE

Key ratio to GDP, year ended in quarter, September 2007–September 2020



Stats NZ

Other definitions – Balance of Payments (BoP)

If countries existed in isolation, they would have to finance their investment needs using their own savings. If this were the case, they could not spend more than they earned in a year, and all their income would have to be spent domestically. Domestic expenditure would have to equal domestic income.

In reality, we see lending and borrowing across borders, between individuals, Financial institutions, companies, and governments.

A country can spend more than it earns by borrowing from abroad. Similarly a Country can decide not to use its savings to finance domestic investment, and instead lend it abroad and earn a return on these foreign loans. In this case, its savings will Exceed domestic investment, or (equivalently) its income will be higher than its expenditure.

A **Balance of Payment Account** records all payment transactions between the home country and the rest of the world and is divided into two parts: the current account and the capital and financial account.

Balance of Payments = **CA + capital and financial account**

Balance of Payments - main components									
		Jun 2019	Sep 2019	Dec 2019	Mar 2020	Jun 2020	Sep 2020	Dec 2020	Mar 2021
Current account balance		-1,471	-6,651	-2,845	1,903	1,863	-3,620	-2,590	-2,895
Goods balance		910	-3,472	-1,496	1,094	3,799	-1,249	-446	-342
Goods exports (fob)		16,220	13,380	15,773	15,544	15,795	13,067	15,181	14,461
Goods imports (fob)		15,309	16,852	17,270	14,449	11,996	14,316	15,628	14,802
Services balance		290	-876	532	2,635	-356	-554	-718	-635
Services exports		6,089	5,490	6,722	7,989	3,549	3,379	3,365	3,324
Services imports		5,799	6,366	6,189	5,354	3,905	3,932	4,083	3,959
Primary income balance		-2,407	-2,141	-1,810	-1,718	-1,238	-1,551	-1,270	-1,678
Primary income inflow		2,365	2,284	2,167	2,069	2,085	2,239	2,470	2,369
Primary income outflow		4,771	4,426	3,977	3,787	3,323	3,790	3,739	4,047
Secondary income balance		-265	-162	-70	-109	-342	-267	-156	-240
Secondary income inflow		706	580	722	702	660	477	508	446
Secondary income outflow		971	742	792	811	1,002	743	664	686
Capital account balance		-12	91	-3	-23	-18	-21	13	-4
Capital account inflow		1	113	0	3	2	11	27	3
Capital account outflow		12	22	3	26	20	31	15	8
Financial account balance		221	5,550	1,479	-7,869	4,039	4,142	5,681	-2,424
New Zealand investment abroad		-2,472	-1,539	-2,711	10,249	-8,953	-10,254	922	-1,240
Direct investment assets		-1,526	-352	719	478	180	-93	608	436
Portfolio investment assets		1,206	1,708	2,861	-11,743	10,837	6,624	9,572	2,403
Financial derivative assets		-1,226	-991	-2,555	-1,457	-5,453	-3,139	-6,305	-2,244
Other investment assets		-1,756	-701	-1,969	12,491	-10,048	-2,615	-1,224	-937
Reserve assets		829	-1,202	-1,768	10,480	-4,469	-11,030	-1,728	-897
Foreign investment in New Zealand		-2,251	4,011	-1,232	2,380	-4,913	-6,112	6,602	-3,664
Direct investment liabilities		4,752	701	140	1,359	759	1,508	2,661	1,906
Portfolio investment liabilities		-6,233	7,167	-922	5,361	-5,258	-3,188	2,777	4,123
Financial derivative liabilities		-1,481	-1,381	-1,364	-4,730	-1,213	-1,254	-1,228	-1,811
Other investment liabilities		711	-2,476	915	390	799	-3,178	2,393	-7,881
Net errors and omissions		1,262	1,010	1,368	5,989	-5,884	-501	-3,103	5,324

(3) Alternative definition of income

All domestic output becomes a gross income (wages, interest or profits)

- Some of these incomes are earned by non-residents (eg profits of foreign companies) and local incomes are supplemented by income earned by Nzers abroad.
- Income = income from local production + net foreign income

$$\text{National Income} = Y + nfi$$

(4) Private saving

All income is either consumed, saved, or paid in taxes.

Hence

$$(Y + nfi) = C + S + T$$

or $Y = C + S + T - nfi$

We can rearrange this to produce an equation for private saving:

$$S = Y + nfi - C - T$$

(5a) National saving

National saving = private saving plus the government surplus

$$\text{National Saving} = S + (T-G)$$

We can rearrange this and get a very useful alternative formula:

Note $S = (Y + nfi - C - T)$

$$\begin{aligned} Y + nfi &= C + I + G + X - M + nfi \\ &= C + I + G + CA \end{aligned}$$

Hence $S = (C + I + G + CA) - C - T$

and

$$\begin{aligned} \text{National Saving} &= [C + I + G + CA - C - T] + (T - G) \\ &= I + CA \end{aligned}$$

$$= Y + nfi - C - G$$

Note what this means for saving:

1. National savings is private saving plus government saving:

$$\text{National Saving} = S + (T - G)$$

$$= I + \text{current account (CA)}$$

National saving equals investment plus the current account surplus (if you export more than you import, part of your saving comprises the foreign assets you have accumulated)

2. Private saving is after tax income that is not consumed:

$$S = (Y + nfi) - T - C$$

It is also equal to national saving – government saving:

$$S = I + \text{current account} - (T - G)$$

These are identities. They hold at all times in all economies.

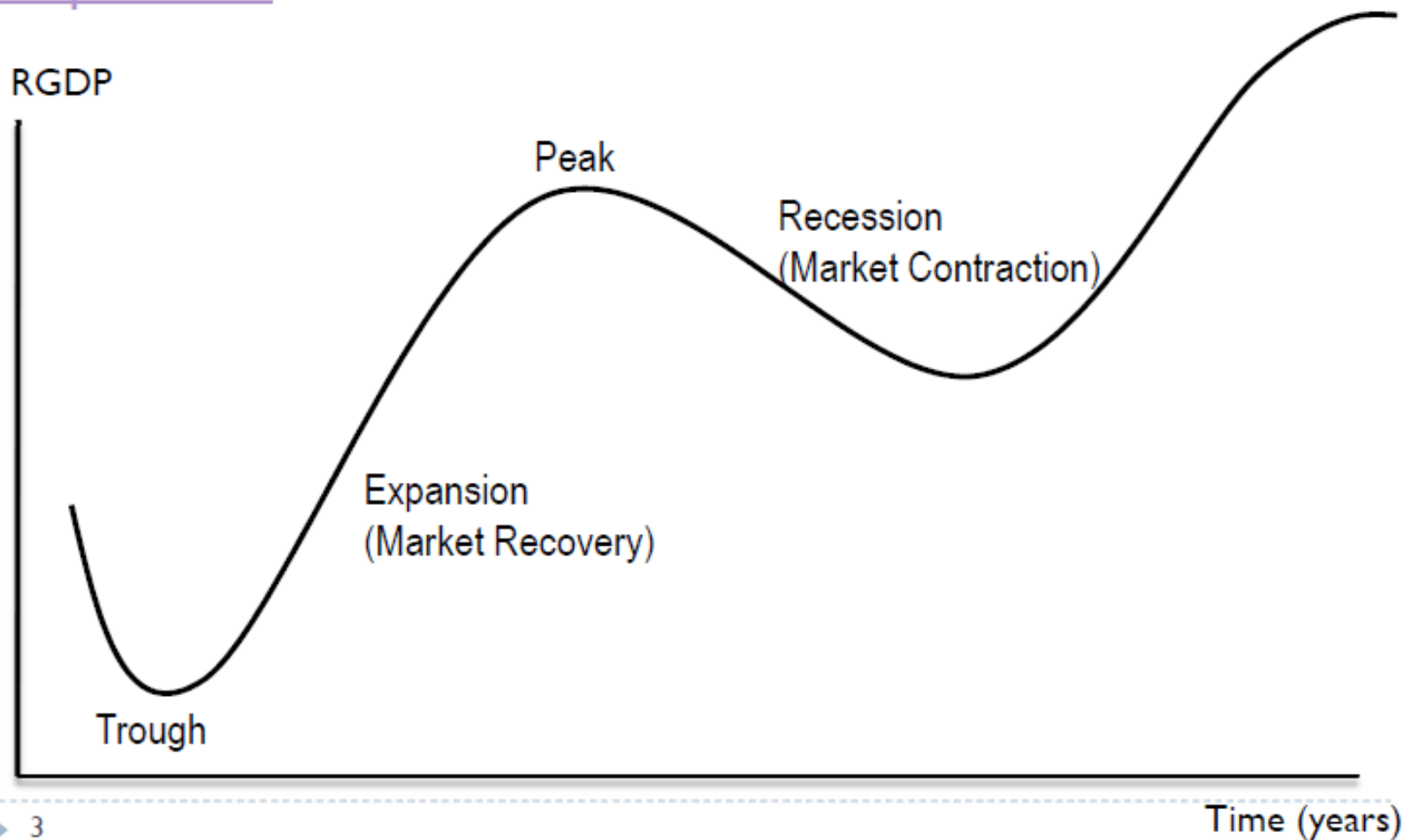
The easiest way to remember these identities is to remember 5 things

1. $Y = C + I + G + (X - M)$
2. Government surplus = $T - G$
3. Current account = $X - M + nfi$
4. National saving = $I + CA$
5. Private saving = National Saving – Government surplus = $I + CA - (T - G)$

Macroeconomic Fluctuations: Recessions and Expansions

Recessions and Expansions

Gapminder



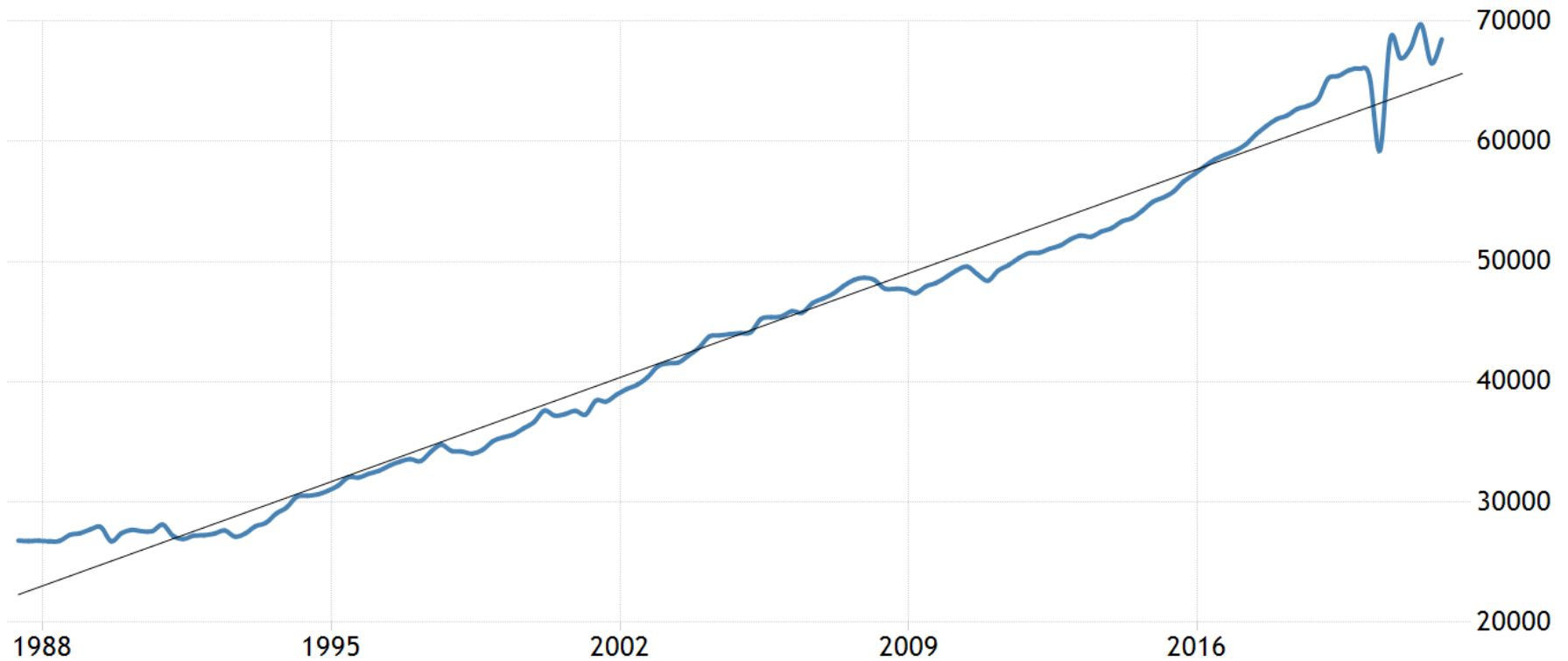
Recessions and Expansions

- **A recession is:**
 - The period between a peak and a trough
 - “Two quarters of negative growth in real GDP”
 - A period when the economy grows at a rate significantly below normal
 - Output falls and unemployment rises in many sectors
- Because of labour force growth and technical change, GDP can increase even though “it feels like a recession.”
 - a “growth recession” is when GDP grows but GDP per capita falls and unemployment rises
 - In US NBER experts formally determine recession start and end dates
- **A deep, long recession is often called a “depression”**

Recessions and Expansions

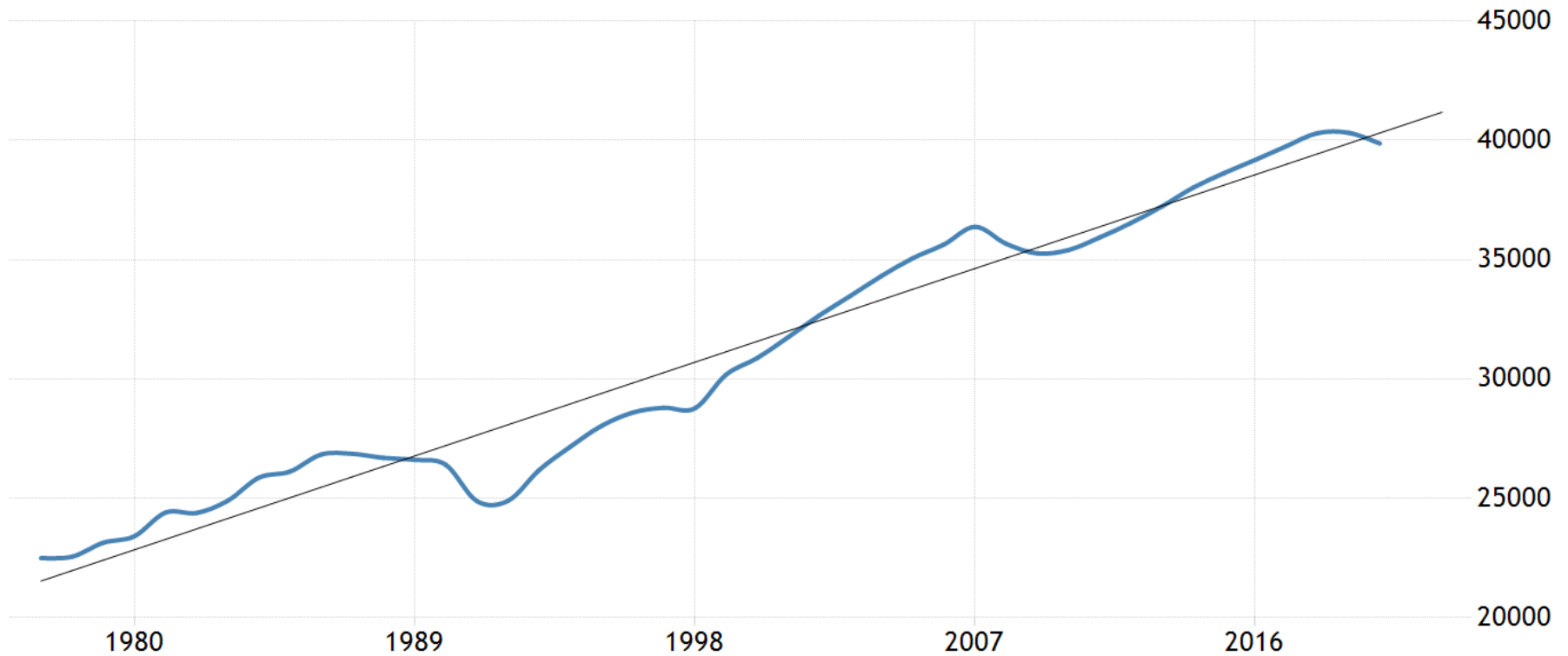
- An **expansion** is:
 - A period when the economy grows at a rate significantly above normal
 - The period between a trough and a peak
- A strong, long expansion is often called a “boom”

NZ RGDP 1991 – 2021 - level data



TRADINGECONOMICS.COM | STATISTICS NEW ZEALAND

NZ RGDP per capita - level data



TRADINGECONOMICS.COM | WORLD BANK

Some Stylised Facts About Short-term Economic Fluctuations

1. Economic fluctuations (business cycles) are irregular in length and severity
2. Most macroeconomic quantities (e.g., Y , C , I , M) fluctuate together
3. As output falls, unemployment rises

Some Facts About Short-term Economic Fluctuations - continued

4. Industries that produce *durable* goods are more affected than *nondurable & service* industries.
 - Durables – cars, houses
 - Builders and manufacturing workers worst affected by recessions
 - Non-durables – food, teaching services

5. Recessions are usually followed by a decline in inflation and many have been preceded by an increase in inflation.
 - Recessions often caused by monetary tightening at the end of an expansion

Production Function

Production functions

- Output is made by combining
 - K: Capital goods (tools, buildings, machinery)
 - H: Human skill (talent, dexterity, education)
 - L: labour (number hours worked)
 - Land
 - N: Natural Resources
 - A: technology and management

Combining function

Average skill
level or number
of units of a
particular skill

$$Y = A \times F(K, H, L, N)$$

Amount of
natural
resources
used.

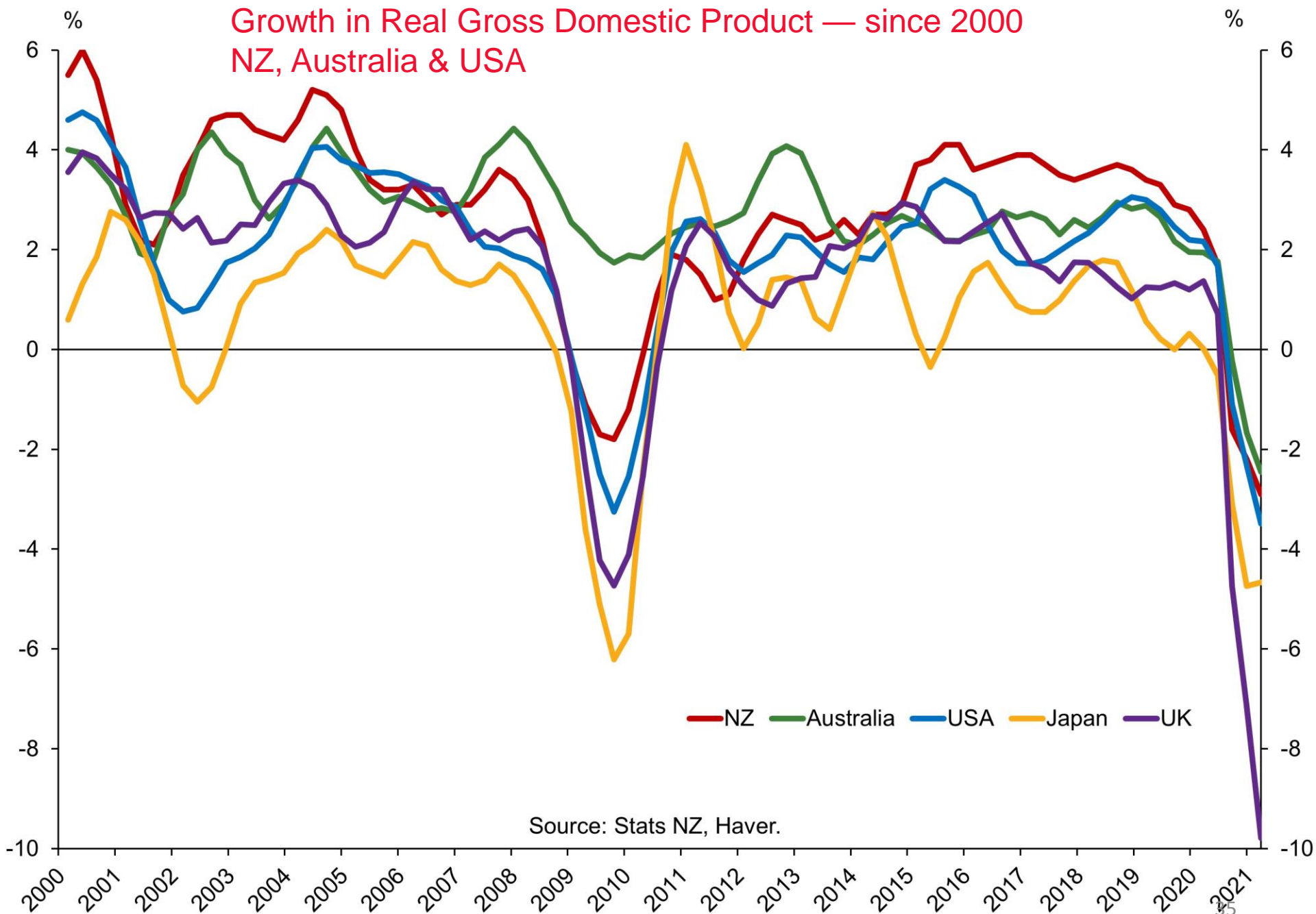
Technology:
number of units
made with 1 of
each input

Number of units
of capital

Number
days
worked

Economic Growth

Growth in Real Gross Domestic Product — since 2000 NZ, Australia & USA



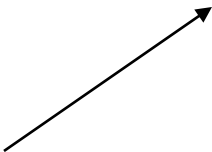
Source: Stats NZ, Haver.

Growth accounting – Solow (1956)

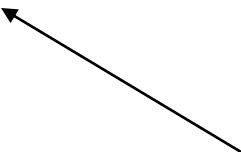
- The technique used to work out the contribution of technology and capital was worked out by Solow in 1956.
- He used a production function approach to calculate the percentage in US output growth that could be caused by capital, additional hours (...) and technology

Growth accounting – Solow (1956)

$$\% \Delta Y = \% \Delta A + \alpha_K \% \Delta K + \alpha_H \% \Delta H + \alpha_L \% \Delta L$$



α_K = fraction of income
earned by capital = 0.35



α_L = fraction of income earned by
labour = 0.65

In per worker terms

$$\% \Delta(Y / L) = \% \Delta A + \alpha_K \% \Delta(K / L) + \alpha_H \% \Delta(H / L)$$

Growth accounting – Solow (1956)

We don't know how to estimate A properly, so we reverse the equation to calculate the “Solow residual”

$$\% \Delta A = \% \Delta Y - \alpha_K \% \Delta K - \alpha_H \% \Delta H - \alpha_L \% \Delta L$$

Solow estimated this for the US, 1910 – 1949.

	GDP	K	L	GDP/L	K/L	Estimate A
1910	\$40.2 b	\$146 b	64.6 b hrs	\$0.62 /hr	\$2.06	
1949	\$126 b	\$289 b	99.6 b hrs	\$1.27/hr	\$2.70	
Ratio	3.16	1.98	1.54	2.04	1.31	1.87
Annual % change	2.9%	1.7%	1.1%	1.8%	0.7%	1.6%

Solow, Robert (1957) “Technical Change and the Aggregate Production Function”
Review of Economics and Statistics 312 – 320

$$\% \Delta A = \% \Delta (Y / L) - 0.35 * \% \Delta (K / L) = 1.8 - 0.35 * 0.7 = 1.6\%$$

- Much to everybody's surprise, he found increases in capital per worker were not a big contributor to per capita output – they explained 15% of total growth
- The rest was technology!
- More up-to date estimates include H but basically reaffirm the importance of technology growth

Digression – Technology Growth

There are three aspects to the Solow residual:

1. Pure technology improvement, normally embodied in machines or chemicals or processes
2. Management improvements enabling better use of inputs
3. Economies of specialisation, typically associated with a larger market, experience, and specialised tools.

Digression – Technology Growth

- Pure technology growth can be thought of as the improvement in output produced by one person with one machine because the machine is better.
- Typically, the number of workers engaged producing a particular type of output falls as productivity increases (e.g., the end of farming).
- Typically, the price falls as it becomes easier and easier to make.

Summary

- GDP grows at the sum of the productivity growth rate plus the growth in the labour supply.
- US, UK have grown at 2% per year per worker for a long time
- Most of this is due to an improvement in technology
- K/L ratios have increased only slowly, and K/Y hardly at all

Workers, wages, and unemployment in the modern economy

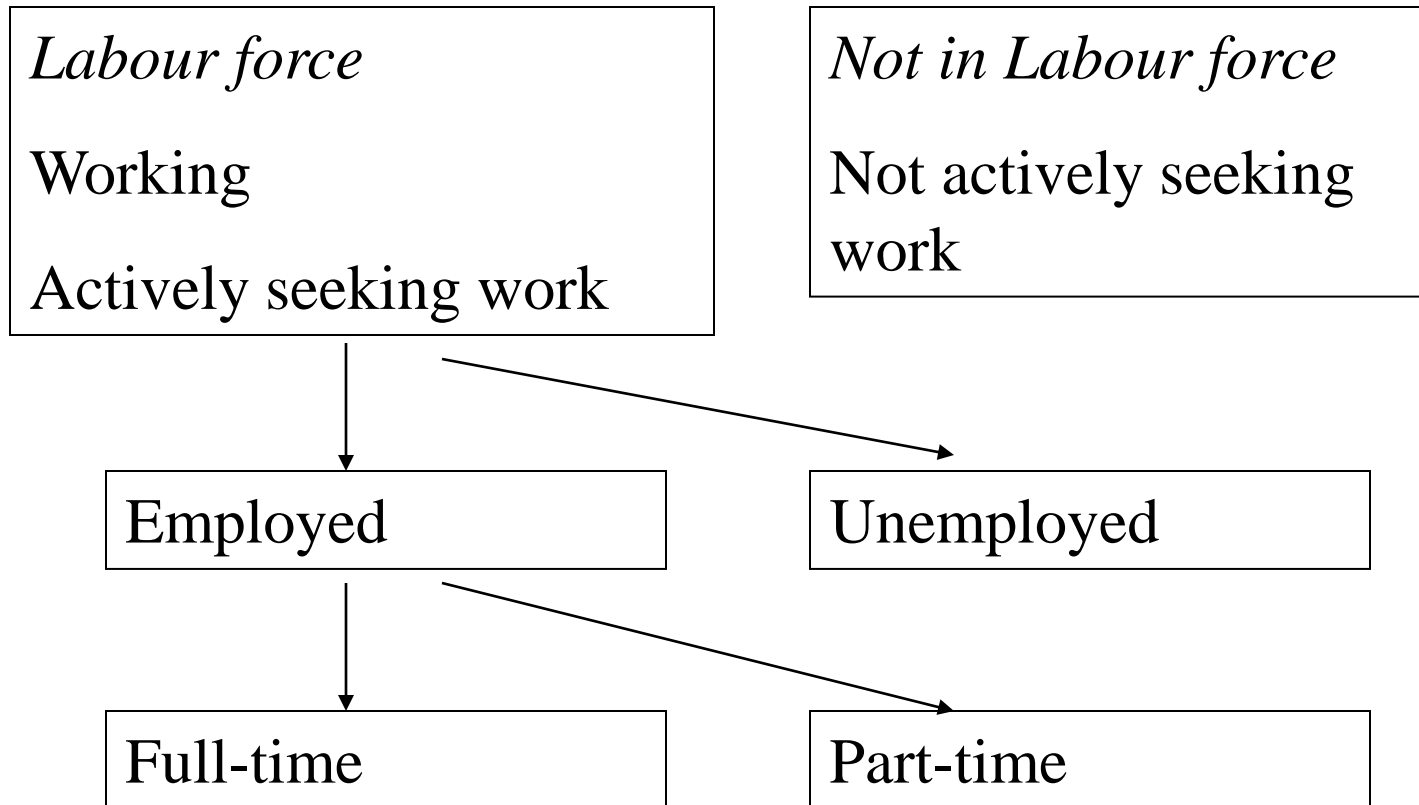
Unemployment definitions

Informally, “Those who would like to be working, but do not have a job”

- at what wage?
- are they looking?

Formally

Split people into the:



- Unemployment rate: % of workforce who are unemployed

$$\text{Unemployment rate} = \frac{\text{Unemployed}}{\text{Labour force}}$$

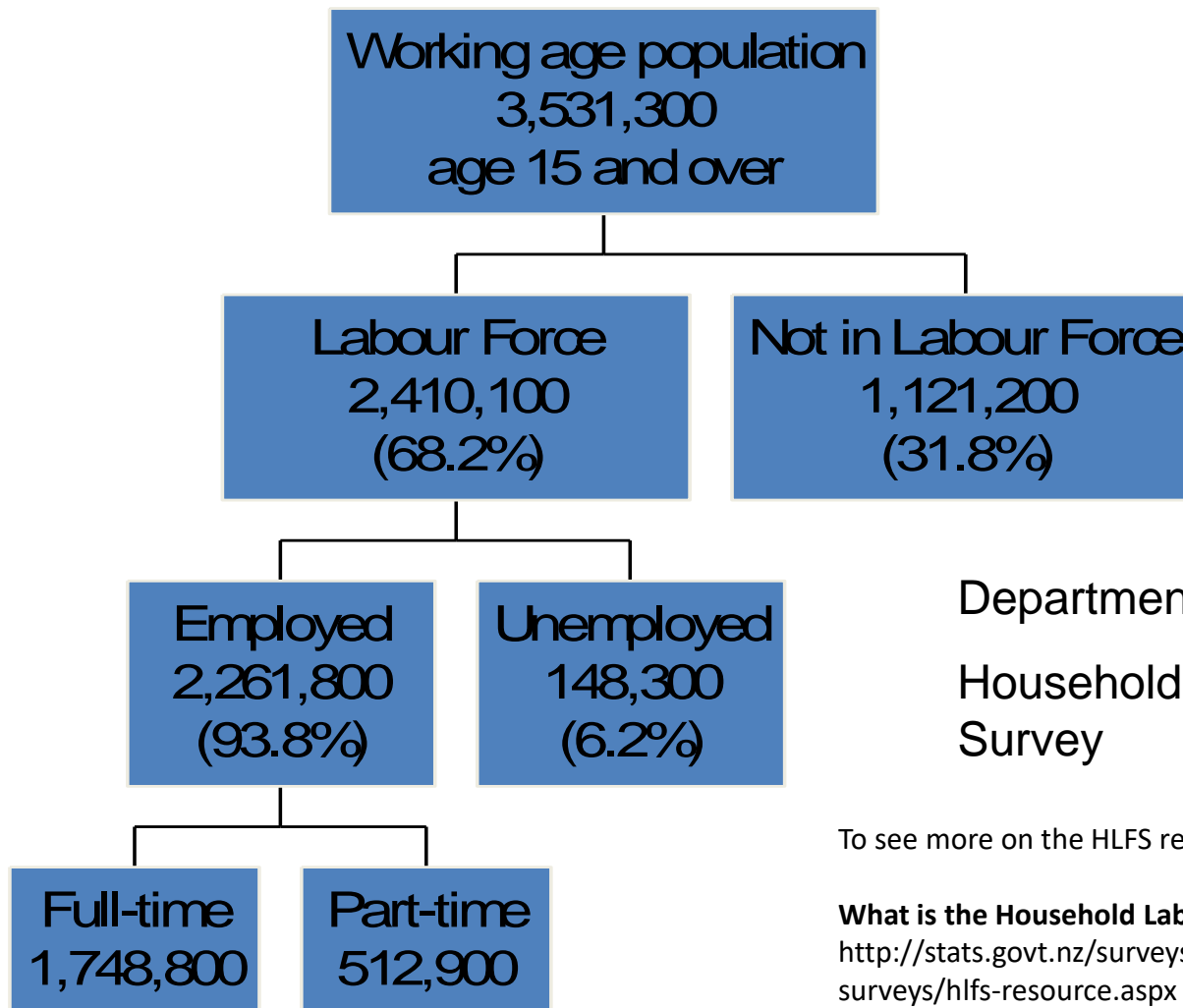
We use a survey to estimate the numbers in each category

Household Labour Force Survey

We can also count the numbers receiving a government benefit

$$\text{Labour-force participation rate} = \frac{\text{Labour force}}{\text{Adult population}} \times 100$$

New Zealand Labour Force Q3 2013



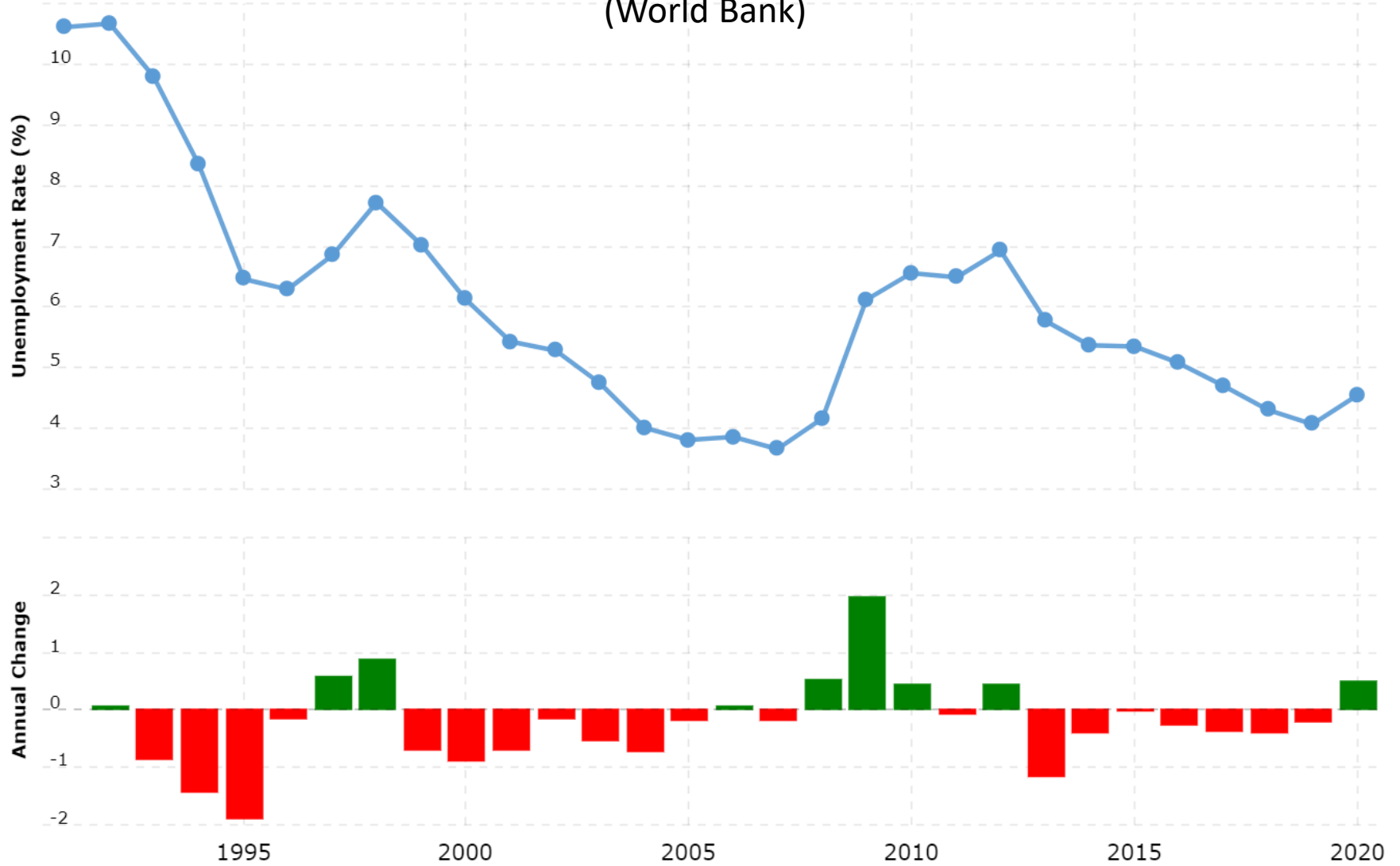
Department of Statistics
Household Labour Force
Survey

To see more on the HLFS refer to :

What is the Household Labour Force Survey?
http://stats.govt.nz/surveys_and_methods/our-surveys/hlfs-resource.aspx

Trends in Unemployment - NZ

(World Bank)



Is unemployment measured correctly?

Discouraged workers, people who would like to work but have given up looking for jobs after an unsuccessful search, don't show up in unemployment statistics (but are separately identified by statistic New Zealand).

Other people may claim to be unemployed in order to receive financial assistance, even though they aren't truly looking for work.

Two facts about unemployment

(1) Most people who are unemployed are unemployed for short periods of time.

(2) At any given time, most people who are unemployed have been unemployed for a long time.

- This is not a contradiction: it reflects two types of unemployment affecting, generally two different groups:

- Frictional (typically short term)

- Structural (typically long term)

Three types of unemployment (UE)

Frictional

- short-term UE associated with process of matching workers with jobs

Structural

- long-term and chronic UE that exists even when the economy is producing at a normal rate
- long-term mismatch between jobs available and skill of workers available for work

Cyclical

- extra UE that occurs during periods of recession
- due to business cycle fluctuation: rises during recessions and falls when economy is booming

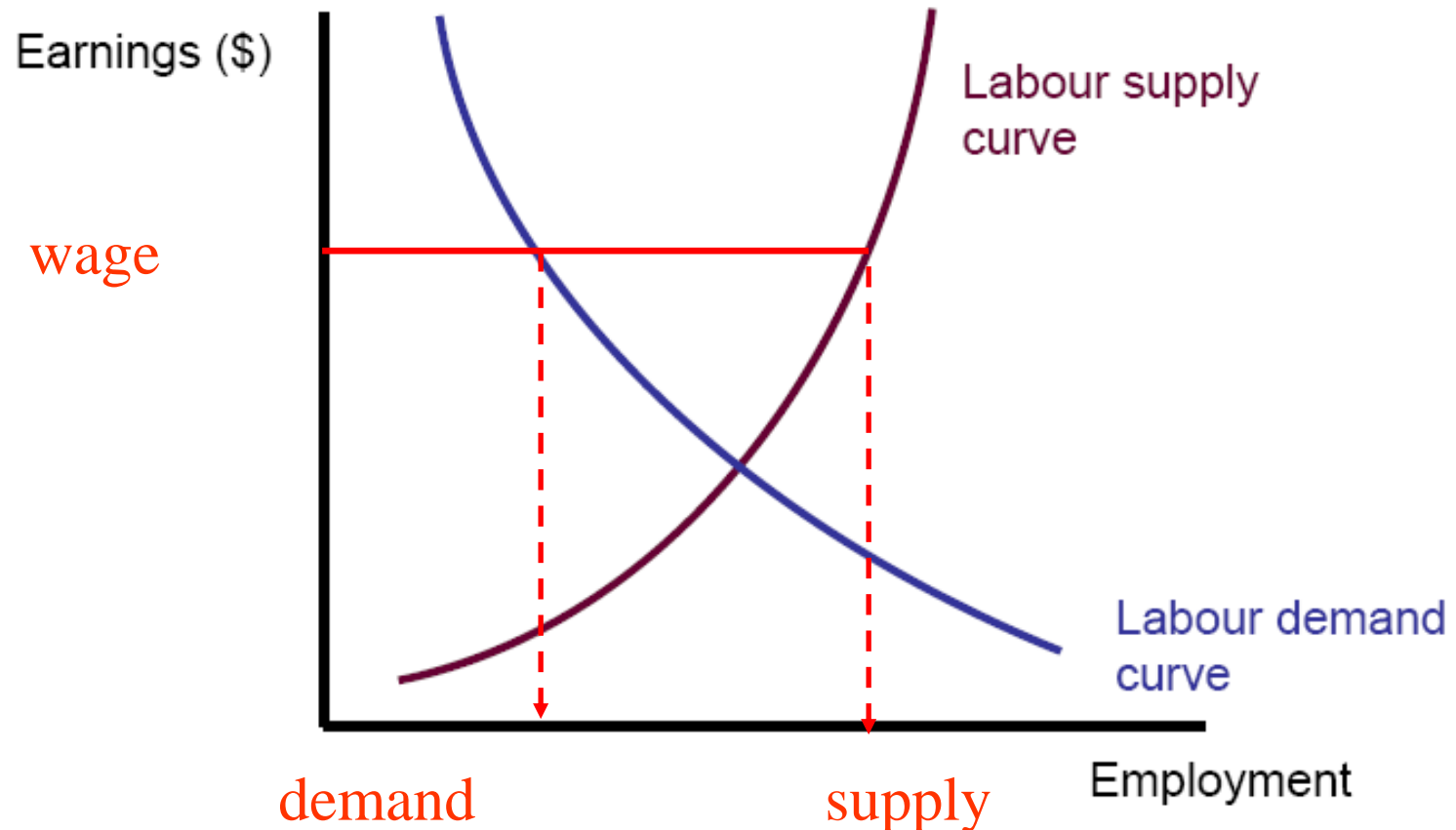
Natural rate of unemployment:

- unemployment that does not go away on its own even in the long run.
- it is the amount of unemployment that the economy normally experiences.
- *Frictional unemployment* is inevitable because the economy is always changing. The changes in the composition of demand among industries or regions are called sectoral shifts.
- As the economy changes it takes time for workers to search for and find jobs in new sectors.

Structural unemployment

- This is the unemployment that occurs when we are *off* the equilibrium point of labour market diagram.

Basics of the labour market



Supply and demand analysis can be used to find the price of labour (real wages) and the quantity (employment)

Cyclical unemployment

- Unemployment rises during recessions and falls during booms (i.e., it moves with the economic cycle).
- This does not need to happen; wages could rise and fall during a recession.
- However, wages are sticky, particularly sticky “downwards”.
- In a recession hiring rates fall and layoff rates rise, so matching takes longer

Spending and Output in the Short Run:
Output fluctuations,
Neoclassical economics
The Keynesian Revolution

Output fluctuations and unemployment

- While output can fluctuate without changes in the unemployment level, in most cases output fluctuations and unemployment fluctuations occur together.
- Economists like to analyse deviations from the full employment level of unemployment and the full employment level of output.
 - These are cyclical unemployment and the output gap

Output Gaps and Cyclical Unemployment

- Potential Output, Y^* (or potential real GDP or full-employment output)
 - The amount of output (real GDP) that an economy can sustainably produce when using its resources, such as capital and labour, at normal rates; ie, if all all resources are employed
 - *Actual* output does not always equal potential output

$$Y_t^* = A_t F(K_t^*, L_t^*)$$

- Economic fluctuations can occur because of
 - changes in potential output or
 - changes in actual output around the potential output level.

Output Gaps and Cyclical Unemployment

Source: Taylor
and Dalziel
(2002)

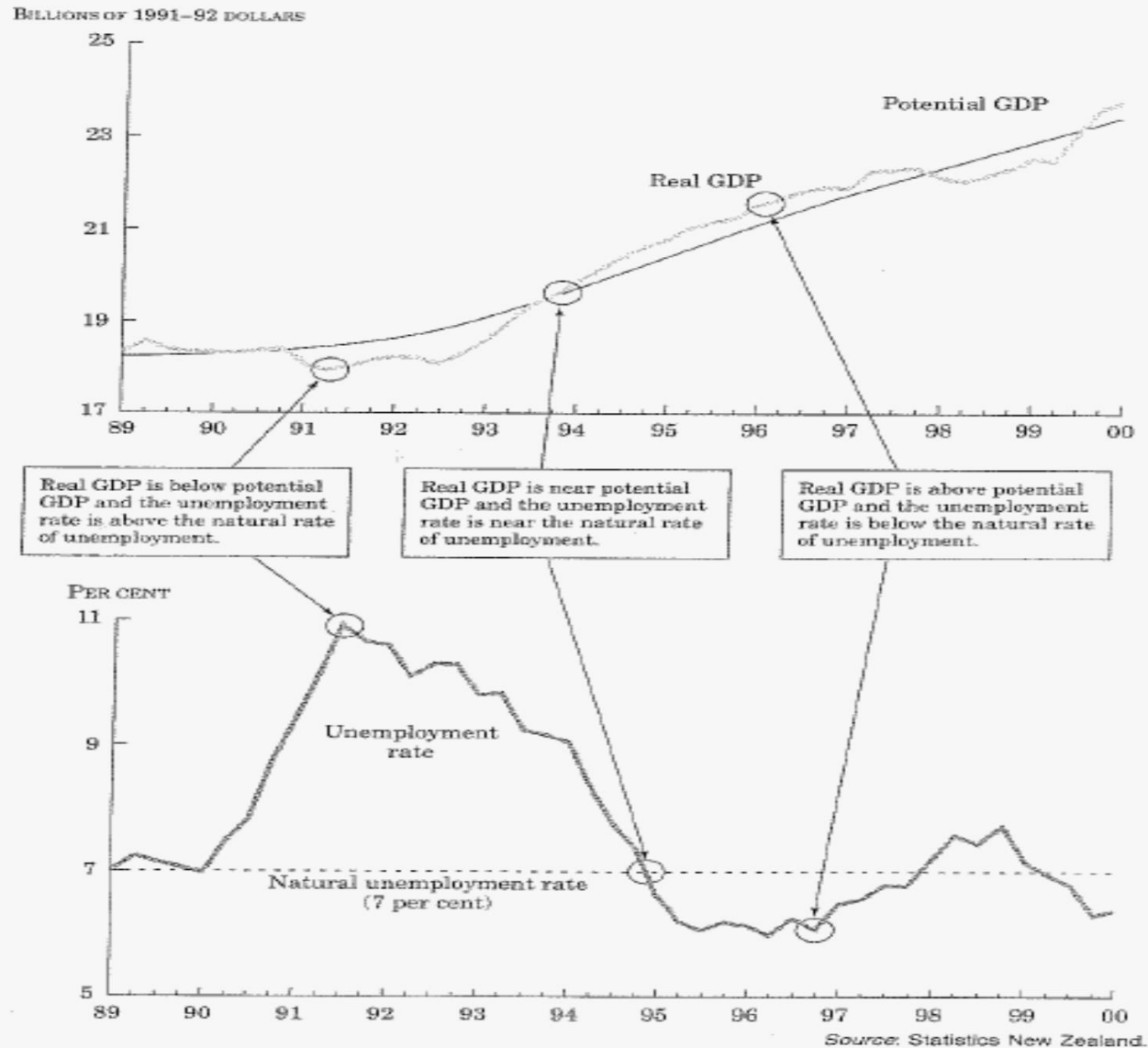
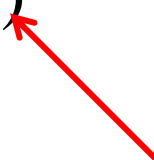


FIGURE 8.1
*Real GDP, potential GDP
and the unemployment rate*
When the real GDP is above
potential GDP, the
unemployment rate is below
the natural rate of
unemployment; and when
real GDP is below potential
GDP, the unemployment
rate is above the natural
rate.

Output Gaps

- Potential output: $Y_t^* = A_t F(K_t^*, L_t^*)$ 

Full employment level
- Output Gap
 - actual output – potential output
 - $Y - Y^*$
- Recessionary Gap
 - $Y^* > Y$
- Expansionary Gap
 - $Y > Y^*$

Output Gaps and Cyclical Unemployment

Source: Taylor
and Dalziel
(2002)

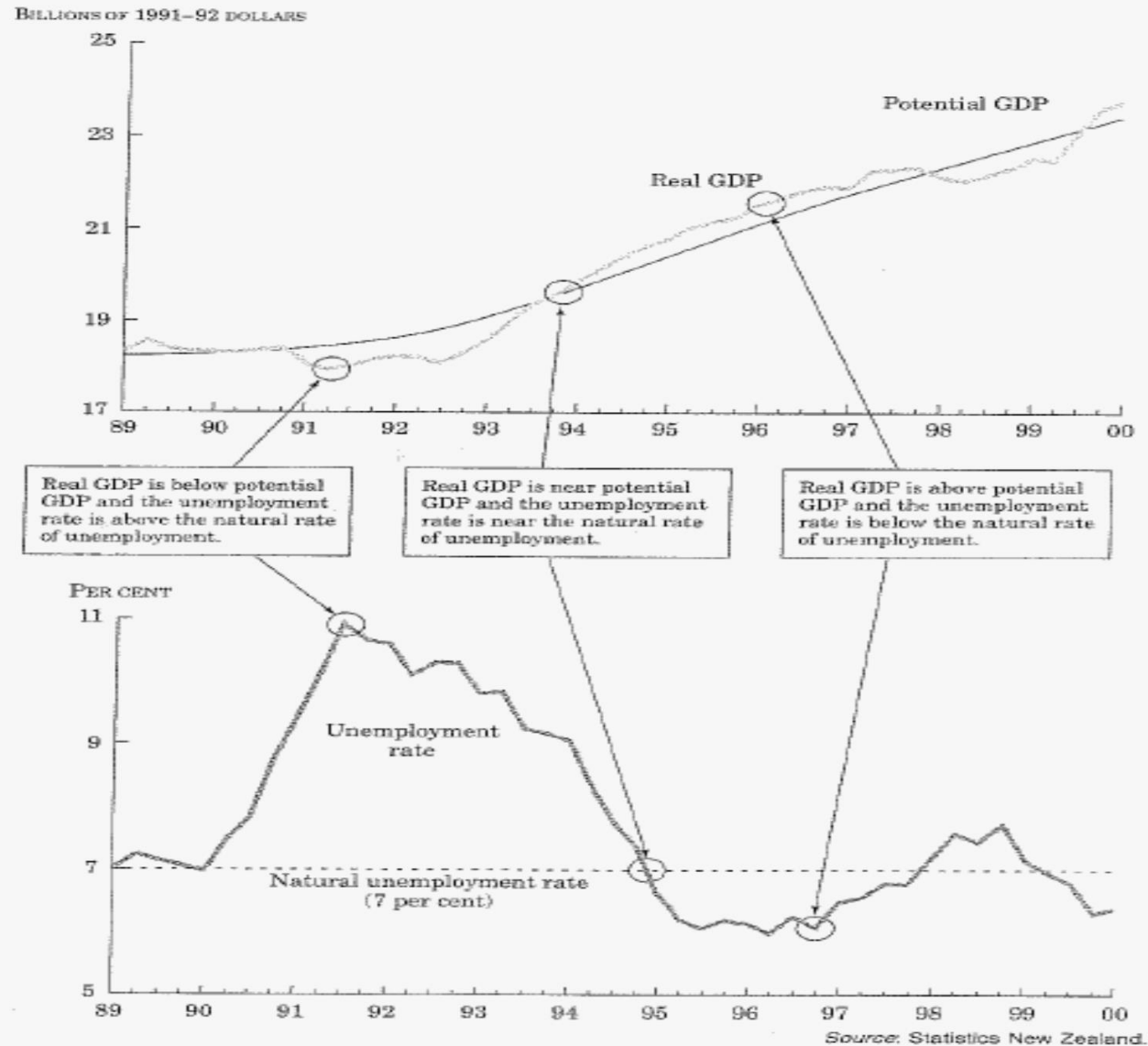


FIGURE 8.1
Real GDP, potential GDP and the unemployment rate
When the real GDP is above potential GDP, the unemployment rate is below the natural rate of unemployment; and when real GDP is below potential GDP, the unemployment rate is above the natural rate.

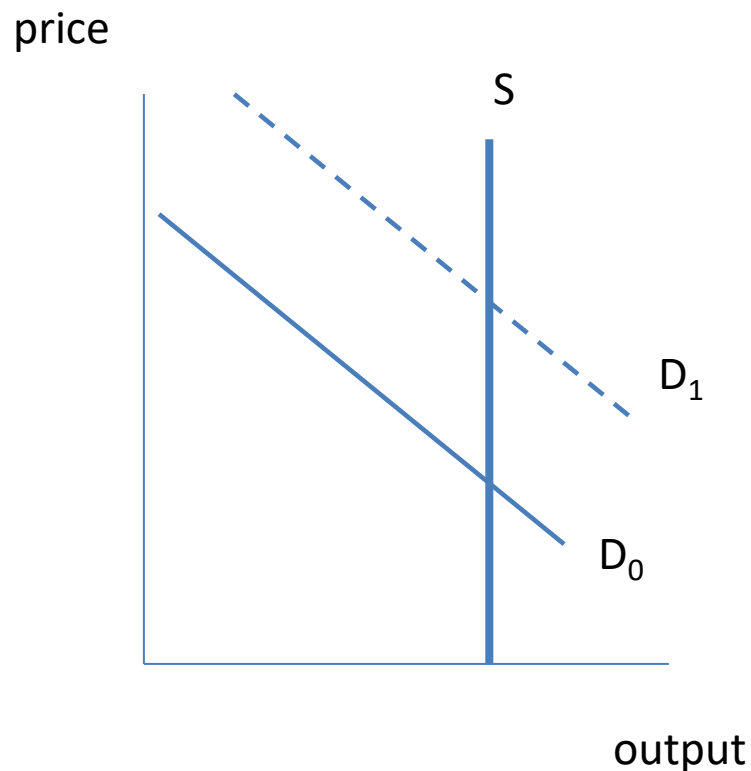
Neoclassical economics

The Keynesian Revolution

Basic approaches to economic “behaviour” : Neoclassical

- There are two basic approaches to macroeconomics
- Neoclassical economics is used to examine the long run. It is a “full employment” model. It basically assumes
 - prices and wages are flexible
 - People choose their long term labour supply and work the amount they want to work
 - Prices adjust so that all goods that are produced are sold.
 - Demand fluctuations change prices, not output.

- Neoclassical
- Output fixed, prices vary

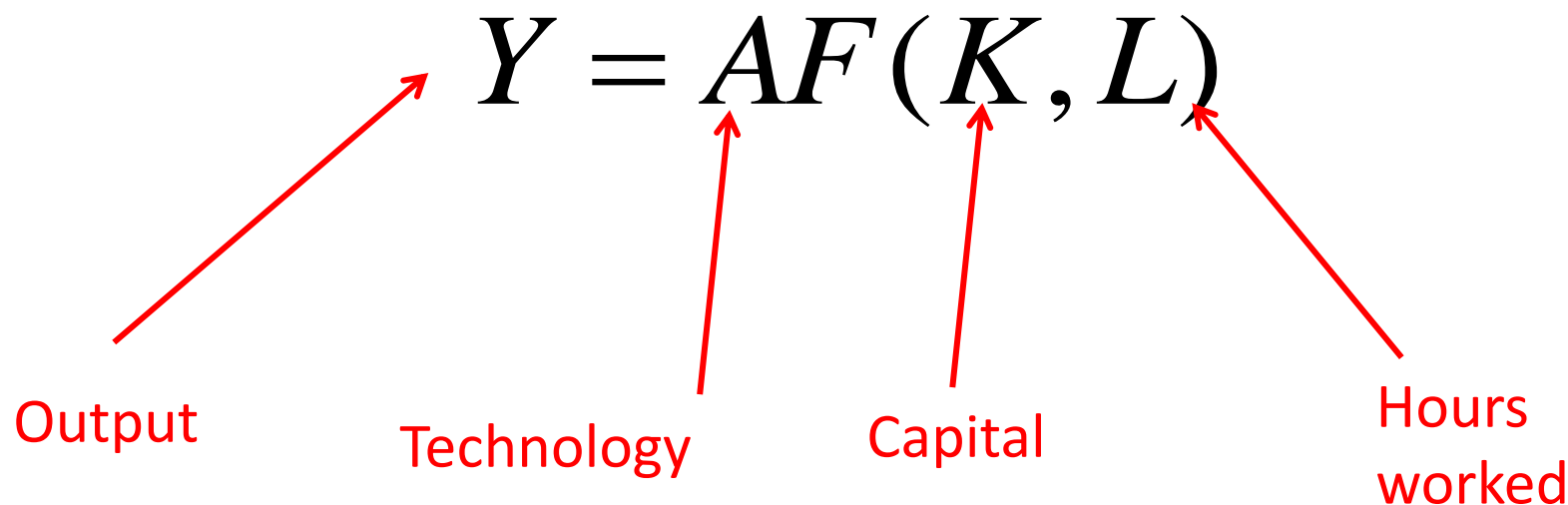


- A good example is a dairy farmer.
- They choose their land, labour, and number of cows
- This determines output irrespective of prices.
- High demand means high prices.

Neoclassical economics

- In this world output is always at “full employment” levels
- Demand fluctuations affect prices, not output
- (Fiscal and monetary policy don’t affect output but do affect prices)
- What if people want to save money, rather than spend it?
 - (a) Savings will be banked and borrowed by someone else
 - (b) we stay at full employment but alter the composition of the goods (more investment goods, fewer consumption goods)

Neoclassical economics revolves around a production function approach



The diagram shows the production function $Y = AF(K, L)$ in black serif font. Four red arrows point from labels below to variables in the equation: from 'Output' to 'Y', from 'Technology' to 'A', from 'Capital' to 'K', and from 'Hours worked' to 'L'.

$$Y = AF(K, L)$$

Output Technology Capital Hours
worked

Output fluctuates with technology, capital equipment, hours worked

Hours may fluctuate as there are good and bad times to work

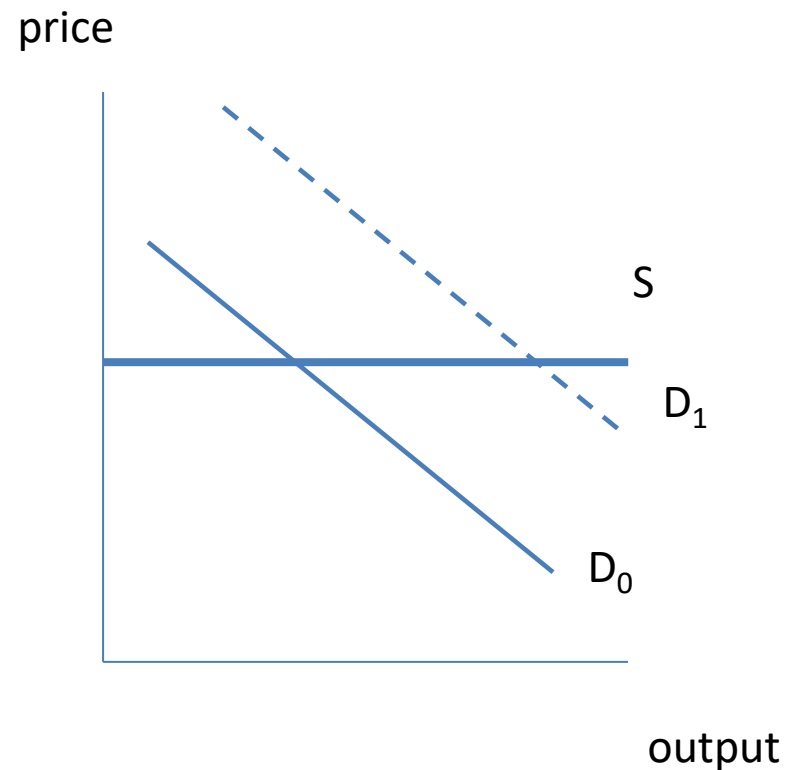
- An influential literature, “Real Business Cycle Models” argues that most fluctuations in the economy can be explained by variations in technology
 - eg 2008 recession started with the drought
 - Eg an improvement in technology leads to a boom in investment as new models replace old models
 - Hours worked and employment falls because it is a good time to take time off when productivity is low
- Technological change can explain some growth fluctuations,
 - but technology unlikely to go backwards
 - The explanation for unemployment seems stretched

Basic approaches to economic “behaviour”: Keynesian

- Keynesian economics is used to examine the short run – to examine fluctuations around the long run.
- It basically assumes
 - prices and wages are fixed in short run (or change only a little)
 - People choose a long term labour supply , but only produce what is demanded and do not work the number of hours they want
 - Demand fluctuations change output, not prices.
 - Output can be away from full employment level

- A good example is a restaurant.
- They set prices and serve everyone who comes through the door
- High demand means high output and employment.
- Low demand means low output and employment.

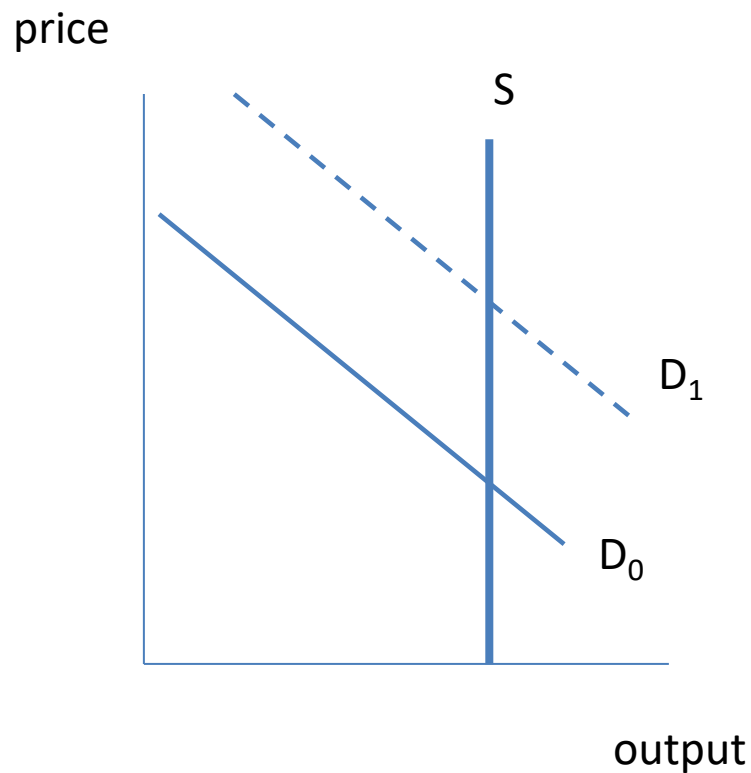
- Keynesian
- Prices fixed, output varies



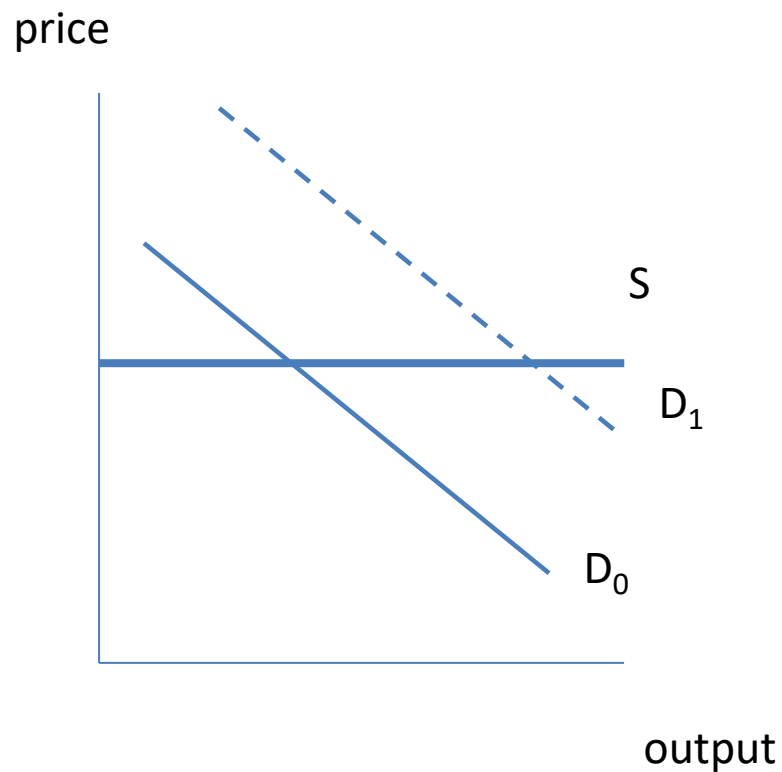
Keynesian economics

- In this world output is not necessarily at “full employment” levels
- Demand fluctuations affect output, not prices
- (Fiscal and monetary policy don’t affect prices but do affect output)
- What if people want to save money, rather than spend it?
 - (a) Consumption falls and demand falls and employment falls and output falls.
 - (b) To the Keynesian economists, there is no reason why the economy should be at full employment level Y^* in the short run

- Neoclassical
- Output fixed, prices vary



- Keynesian
- Prices fixed, output varies



The Keynesian revolution

- The Keynesian Model's Crucial Assumption:
 - In the short run, firms meet the demand for their products at preset prices.
- Spending, in the short run, may not be sufficient to support a normal level of output.
- Therefore, recessionary gaps are caused by insufficient aggregate spending.

The Keynesian revolution

The Keynesian world has four basic characteristics

1. Output does not need to be at the full employment level, and unemployment does not need to be at the natural rate.
 - There are multiple possible equilibria
2. Recessionary gaps are caused by insufficient aggregate spending.
3. Aggregate demand can be manipulated by the government to return the economy to full employment (monetary and fiscal policy)
4. There is a demand multiplier because consumption depends on income

Consumer Spending and the Economy

- Consumption (C) accounts for two thirds of total spending
- The primary determinant of C is disposable income, Y_d or $(Y - T)$
 - T = net taxes
- Consumption Function
 - relationship between consumption spending & disposable income, other things remaining the same

How does consumption depend on income?

- *Permanent Consumption Hypothesis*

- people consume a fraction of lifetime income
- people save most of a temporary income increase
- people consume most of a permanent income increase

- *Keynesian hypothesis*

- people consume a constant fraction of current income
- people save a constant fraction of current income

The Multiplier

- Because consumption increases with income, there is a circular feedback loop that means exogenous increases demand (say changes in G , T , X , M , I) raise income which raises consumption demand, which raises production and income further, which raises consumption.....
 - *The government demands a new road.*
 - *An unemployed builder is hired to build it.*
 - *He spends some of his income on beer at the pub.*
 - *The pub owner serves more drinks, makes more cash, and spends some of it on an underemployed restaurant.*
 - *The restaurant owner buys some clothes.....*

- This means the total increase in output and demand is much higher than the initial increase.
- The ratio of the total increase in output to the initial increase in output is the multiplier.
- It is not magic: it occurs because there are underemployed resources who work more and produce more.

- The size of the multiplier depends on the marginal propensity to consume (c) on local goods and services.
- If c is the fraction of a dollar spent on local goods and services, the multiplier is $1/(1-c)$
- E.g., if $c = 0.8$, the multiplier is $1/(0.2) = 5$ – a huge number

- *The government demands a new road.*
- *An unemployed builder is paid \$1000 to build it.*
- *He spends \$800 his income on beer at the pub.*
- *The pub owner serves more drinks, makes more cash, and spends \$640 some of it on an underemployed restaurant.*
- *The restaurant owner spends \$512 on clothes.....*
- *The total increase is $1000+800+640+512 + 409.60..... = \5000*

- In practice the multiplier is much smaller because the marginal propensity to consume from current income is much smaller than $c = 0.80$
 - People pay tax (33% income tax and 15% GST)
 - They save some – particularly from temporary income
 - They spend a lot on imports
- If the MPC on local goods is 0.25, the multiplier is only $1/(1-0.25) = 1.33$

- The Keynesian multiplier will depend on circumstances particularly whether an income is permanent or temporary
- A temporary tax cut during a recession may be mainly saved and so will have little effect on demand
- A permanent increase in a regional town may lead to extra employment opportunities that attract migrants. (A factory closure can lead to an exodus)

Summary

- The level of output depends on demand
- A decline in exports or investment or government spending reduces demand and will reduce output
- There is a cascading or multiplying effect as the decline in income reduces consumption
- The size of the total decline depends on the multiplier, which depends on the marginal propensity to consume on local production.

Fiscal Stabilisation Policy

- Problem: Recessionary gaps are caused by insufficient spending
 - Keynes: We can fix that! Government can use “expansionary policies” to increase spending
 - Increase G or decrease T
- Problem: Expansionary gaps are caused by too much spending
 - Keynes: We can fix that, too! Government can use “contractionary policies” to decrease spending
 - Decrease G or increase T
- Government can use stabilisation policies to “smooth out” the business cycle.

Taxes, transfers, & aggregate spending

- A tax cut can also be used to close a recessionary gap, but, the tax cut will need to be larger than a spending increase (G) to achieve the same desired change in Y
- *This is because only part of a tax cut is spent, so a \$100 tax cut will have less expansionary effect than \$100 direct increase in expenditure*
- *Transfer payments are considered part of taxes and have the same effect as taxes. When someone is given a transfer-payment, it is assumed only a fraction is spent and some is saved, just as when he/she is given a tax reduction some is saved, and the rest is spent.*

Investment and interest rates

- The government can also change demand by changing interest rates
- Lower interest rates lead to higher investment demand (and often stimulate exports because the exchange rate depreciates)
- Higher interest rates reduce investment demand (and often reduces exports because the exchange rate appreciates)
- Then multiplier effects kick in.

Summary

- In the Keynesian world, prices are fixed and demand fluctuations lead to output fluctuations
- There is a multiplier (though it isn't very big)
- The government can alter its spending or taxes to alter aggregate demand and stabilise the economy
- The government can alter interest rates to alter private investment spending and stabilise the economy
- In the neoclassical world, prices are flexible and this is not necessary as output (but not prices) are stable.

International Economics

International Economics

International Trade

- Trade theory
- Exports
- Imports
- Prices

International Finance

- Exchange rate regimes
- Intertemporal consumption smoothing
- International debt and asset positions
- Interest rates



Trade - basics



- When people specialise, they trade.
 - A Wellington doctor fixes broken heads and buys
 - food from Australia and the Wairarapa,
 - petrol from Dubai,
 - cars from Germany,
 - Italian shoes,
 - French Champagne, Otago pinot noir,
 - and pay taxes to have her kids educated in Wellin_



Trade

- We call a good or service “non-tradeable” if it is only sold to people in the immediate vicinity
- We call a good or service “tradeable” if it is sold to people a long way away.
- The difference is somewhat arbitrary
- A country produces a mix of non-tradeable and tradeable goods.

Trade- basics



- A country's standard of living depends on
 - (i) the productivity of its non-tradeable industries
 - This is exceedingly important as we can't these things from anywhere else. If you have poor productivity in building, pubs, education, medicine, you're basically screwed as you can't import these things.
 - (ii) the productivity *and* the price of its export industries, as this determines how much effort it takes to get the imports you want.
 - If your export sectors are highly productive or the prices of your exports are high relatively to your imports, you do fine. Otherwise, you are also screwed as imports become expensive.



Trade - basics

- The **terms of trade** are the price of a country's exports relative to imports. When these are high, it takes relatively little effort to purchase imports.
- Most people in a country are not exporters. To get imports, they need to sell (directly or indirectly) goods and services to exporters; this provides them with resources (foreign exchange) to purchase imports. Non-traded producers typically do better if exporters do well as they get to sell to wealthier customers and can sell more or charge more.

Trade

- A country will be a good place for exporters to locate if it has a particularly natural advantage or it has good non-tradeable goods and services.
 - Such places will attract highly productive exporters, and this will be a good place to live in (if it has a good non-tradeable sector) as imports can be obtained with relatively little effort.

Commodity vs other exports

Commodity exporters

- Natural advantages
- Little market power – price takers
- Often 1000s of small producers
- Dependent on productivity improvement
- Value capitalised in land

Manufacturing exporters

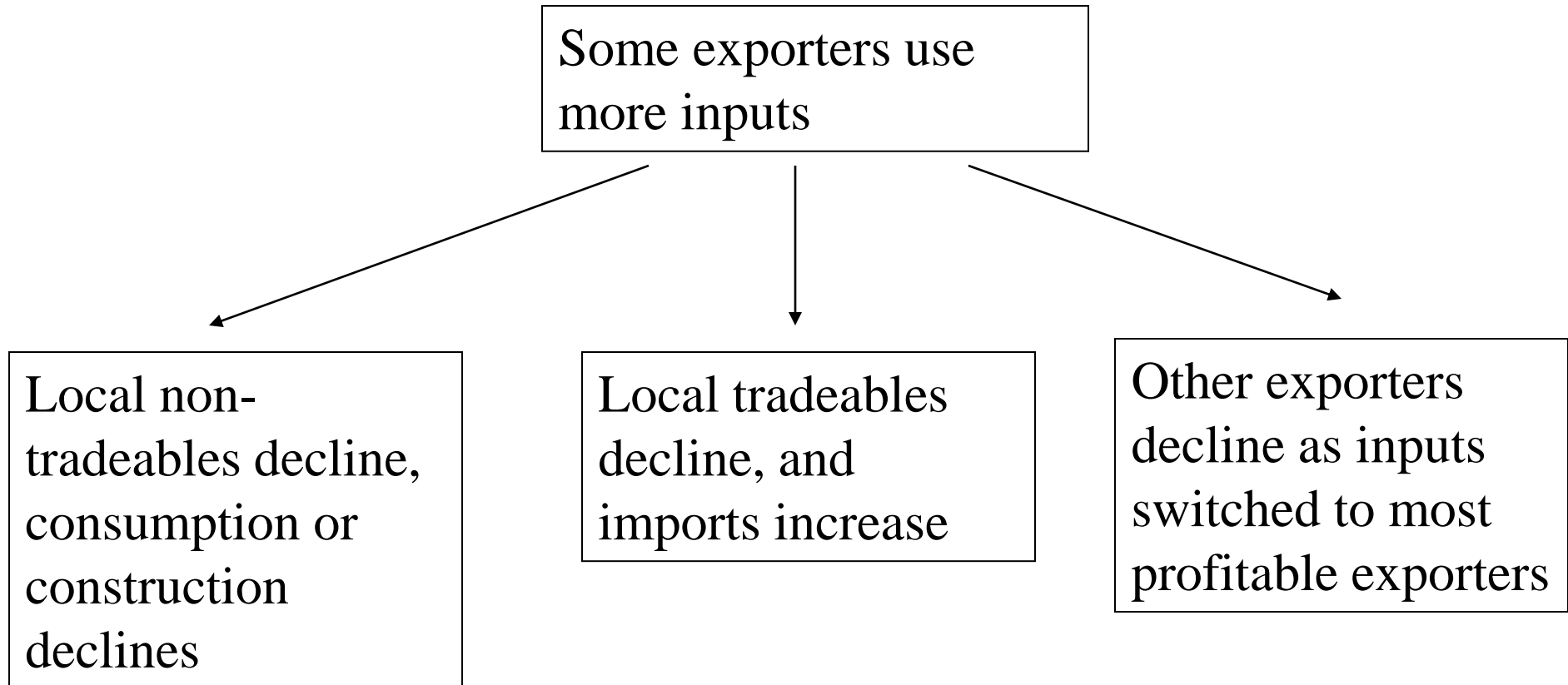
- Typically large, multinational successful firms
- Price makers
- Advantage is technology, marketing, skill
- Part of global production chains
- The best firms in a sector export

Expanding exports

- When a country increases the inputs (capital, labour) used in the export sector, they must come from somewhere:
 - **Labour** is extracted from other sectors, so other sector output must decrease (unless productivity increases)
 - **Capital** can come from domestic or international sources; if the latter, capital used in local production does not need to decrease
 - **Land** is taken from industries producing for domestic production (or “conservation estate”)

- If the resources come from non-tradeable sectors, non-tradeable production and consumption declines.
- If resources come from tradeable sectors, imports can increase when exports increase so consumption and investment do not need to fall.
- Otherwise, resources come from other export sectors, so the expansion of one exporting firm requires the contraction of others.

If some exporters increase....



- Which of these alternatives occurs depends on...
 1. If a country's people wish to alter the intertemporal profile of consumption, it will reduce consumption (increase saving) and switch resources from non-tradeables.
 2. If a country's people wish to improve efficiency and incomes but not reduce consumption, it will switch resources from tradeable sectors, and either import more or substitute one exporter for another
 3. The exchange rate regime

Exchange rate regimes

Fixed

Currency Union

- Use the currency of another country
- No monetary independence (or role for a central bank)
- Europe, French Africa

Fixed

- Own currency
- Central bank will buy and sell at fixed rate and has a stock of foreign currency
- Subject to revaluations
- HK, Saudi

Flexible

Flexible

- Value determined by private markets, although CB can intervene
- Full role for monetary policy
- US, Japan, NZ

- All three exchange rate regimes have worked well in some circumstances, and all three have failed in some circumstances.
- (large) firms in any country deal with some people in their own currency zone, and some people in other currency zones – so in some sense the debate is about the optimal mix of different regimes