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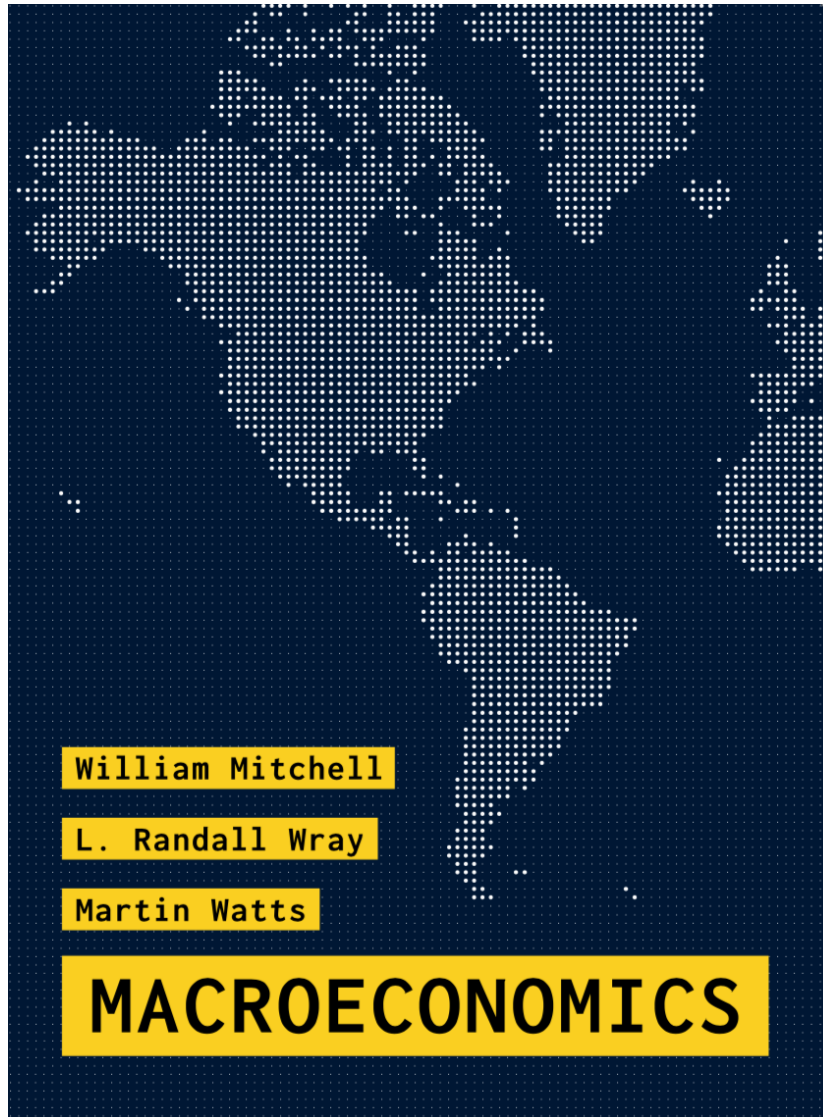**Centre of Full Employment and Equity**

Teach-In Module 1:
Basic macroeconomic concepts

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University of Helsinki, Finland

Chapters 1 to 7

Fallacy of composition

- Mainstream macroeconomics founded on so-called microfoundations.

- Keynes showed the transition from micro to macro was invalid – fallacy of composition.

- Reasoning at the individual level doesn't translate to reasoning at the aggregate level.

- Examples:
  - Paradox of thrift.
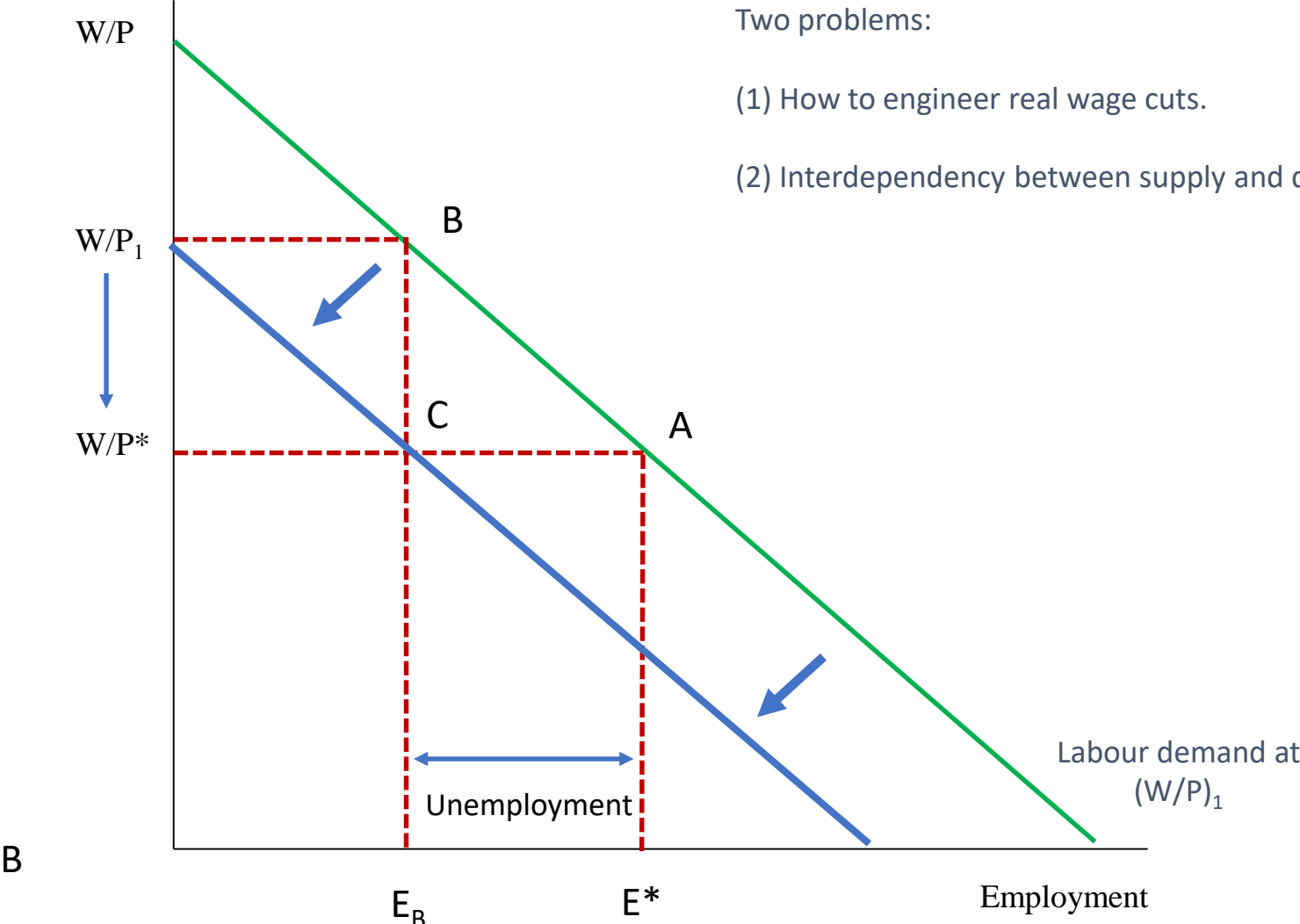 - Wage cut solutions for unemployment.

Can wage cuts increase employment?
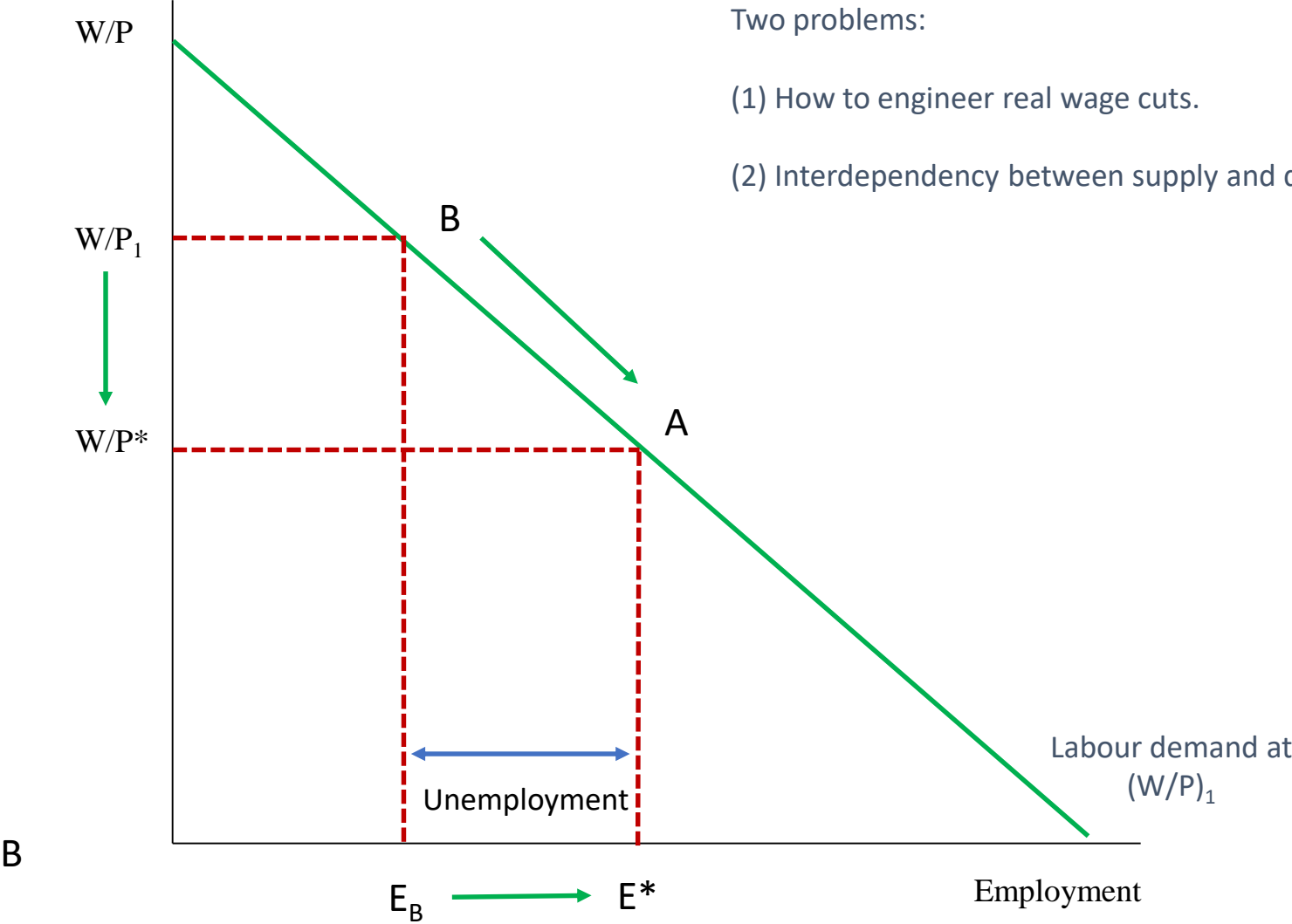
Two problems:

(1) How to engineer real wage cuts.

(2) Interdependency between supply and demand

Can wage cuts increase employment?

Two problems:

(1) How to engineer real wage cuts.

(2) Interdependency between supply and demand

Labour demand at $(W/P)_1$

Unemployment

W/P

W/P_1

W/P^*

B

C

A

B

E_B

E^*

Employment

Basic macroeconomic measurement …

- The National Accounts is used to measure economic activity.

- Spending sectors:
  - Private domestic (firms –> invest and households -> consume).
  - Government (spending -> current and capital and taxation).
  - External Sector (exports and imports, income flows).

- GDP – market (monetary) value of all final goods and services produced in nation over a given period.

- GDP = Y = C + I + G + (X – M)
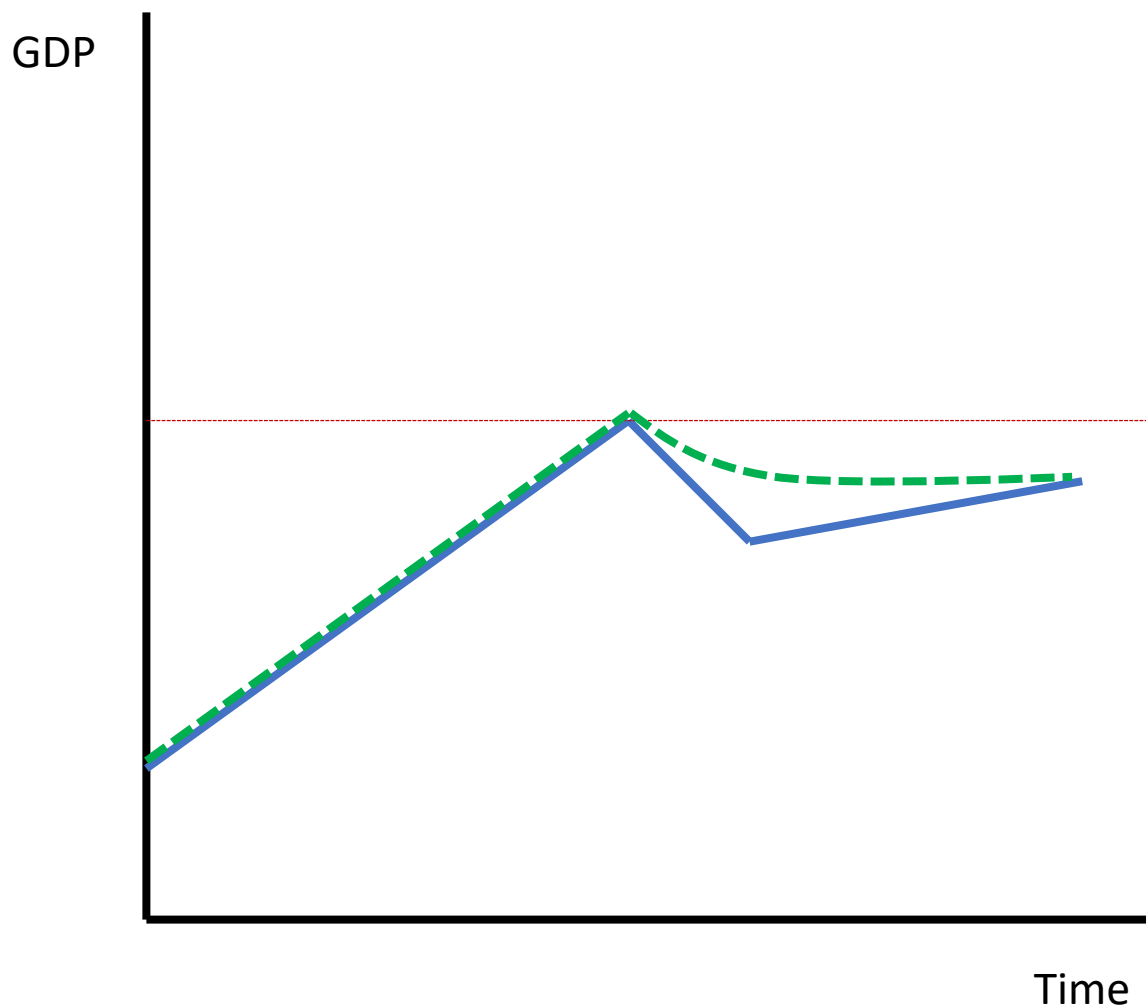
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Basic macroeconomic measurement ...

- GDP includes income from national production that goes to foreigners.

- GNP excludes income going to foreigners but includes foreign earnings of resident firms.

- Adding net external income flows (FNI) to trade account (X – M), gives the Current Account balance (CAB).

- So CAB = (X – M) + FNI

- GNP = GDP + FNI

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Basic macroeconomic measurement …

- Real and nominal GDP.

- Nominal GDP is based on current market prices.

- An increase in nominal GDP can be due to:
  - Output increases
  - Price increases
  - Or both

- Real GDP excludes the effect of inflation.

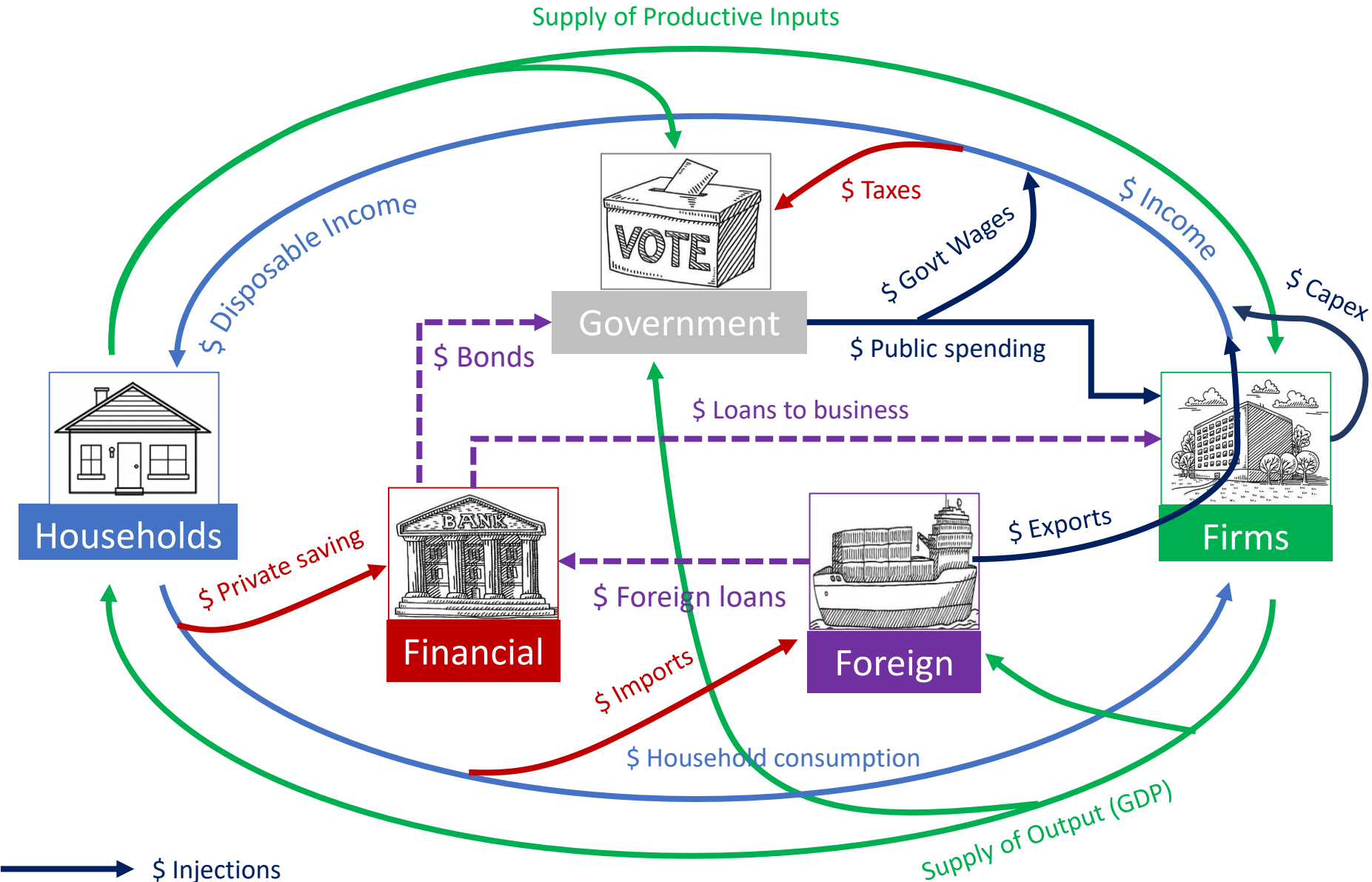- Real GDP shows how much output growth has occurred.

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Hysteresis – why recessions should be avoided

GDP

As real GDP
declines,
Potential GDP
also flattens

Time

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┌─────────────┐        ┌──────────────────────┐        ┌─────────────┐
│  Treasury   │◄──────►│   Consolidated       │◄──────►│ Central Bank│
│             │        │   Government Sector  │        │             │
│             │        │                      │        │             │
│             │        │   Issues (spends) fiat│       │             │
│             │        │   currency           │        │             │
└─────────────┘        └──────────────────────┘        └─────────────┘
                                  │
                                  ▼
                       Vertical transactions with
                       non-government creating
                       net financial assets
                                  │
                                  ▼
                        ┌──────────────────┐
                        │ Non-government   │
                        │ sector           │
                        └──────────────────┘
                                  │
                      ┌───────────┴────────────┐
                      │                         │
              ┌───────────────┐         ┌──────────────────┐
              │ Private Sector│         │ Foreign Sector   │
              │               │         │ Imports and      │
              │               │         │ Exports          │
              └───────────────┘         └──────────────────┘
                      │
        ┌─────────────┼─────────────┐
        │             │             │
┌───────────────┐ ┌──────────────┐ ┌──────────────────┐
│ Households    │ │ Business Firms│ │ Banks accept     │
│ consume; save │ │ invest; supply│ │ deposits and     │
│ and supply    │ │ goods and     │ │ supply credit    │
│ productive    │ │ services and  │ │                  │
│ inputs        │ │ demand credit │ │                  │
│               │ │ from banks    │ │                  │
└───────────────┘ └──────────────┘ └──────────────────┘
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Macroeconomic income and Spending flows – injections and leakages

Supply of Productive Inputs

$ Taxes

$ Disposable Income

$ Income

$ Govt Wages

$ Capex

Government

$ Bonds

$ Public spending

$ Loans to business

Households

Financial

$ Private saving

$ Exports

Firms

$ Foreign loans

Foreign

$ Imports

$ Household consumption

Supply of Output (GDP)

→ $ Injections

→ $ Leakages

Expenditure-Income-Output relationship …

- Total income (GDP) = total spending = total output.
- If spending changes so does output and income.
- For GDP to remain constant, total leakages = total injections.
    - T = G
    - T + S = G + I
    - T + S + M = G + I + X
- These leakages are themselves dependent on the level of income (and hence spending).

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The steady state in macroeconomics ...

- Equilibrium (a 'steady-state') - no forces present to change the current level of output and income.

- Not a 'market clearing' state – system has a propensity to be at rest with mass unemployment.

- 'Exogenous' injections needed to disturb the 'rest'.

- Knowledge of the role leakages and injections play in the maintaining equilibrium leads to the expenditure multiplier, a central concept in macroeconomics.

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The multiplier process ...

INJECTION

Rise in Expenditure → **Aggregate Demand Rises**

GDP Rises → **Employment Rises**

Induced Domestic Spending

National Income Rises

Wage and Other Payments

LEAKAGES

Additional Taxes, Saving and Imports
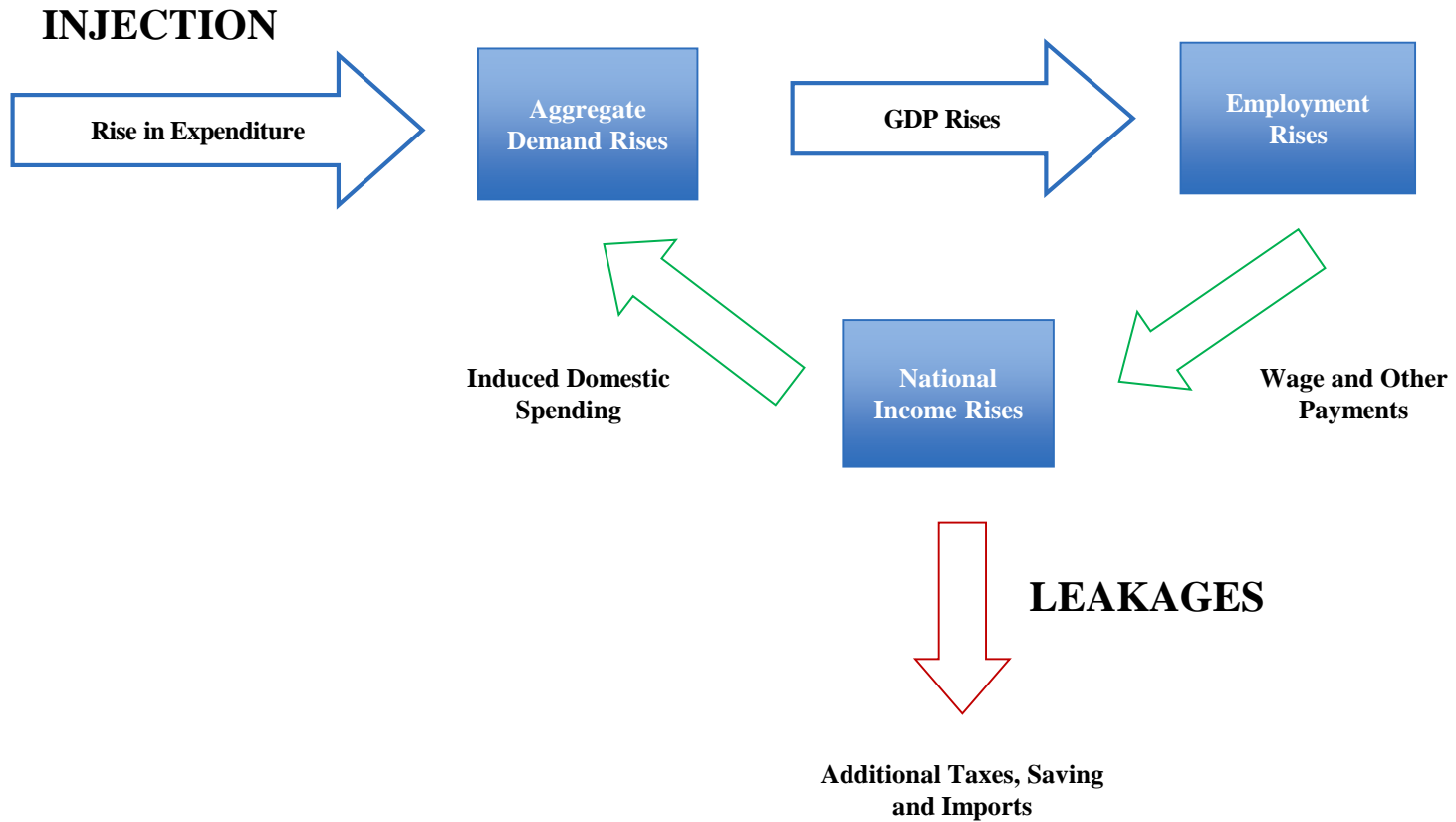
Example: Government spending increases 100

Changes in	GDP	Taxes (T)	Disposable Income	Consumption (C)	Saving (S)	Imports (M)	Total Leakages (T + S + M)
Period 1	100.0	20.0	80.0	64.0	16.0	20.0	56.0
	44.0	8.8	35.2	28.2	7.0	8.8	24.6
	19.4	3.9	15.5	1		3.9	10.8
	8.5	1.7	6.8	5		1.7	4.8
	3.7	0.7	3.0	2		0.7	2.1
Period 6	1.6	0.3	1.3	1.1	0.3	0.3	0.9
Period 7	0.7	0.1	0.6	0.5	0.1	0.1	0.4
Period 8	0.3			0.2	0.1	0.1	0.2
Period 9	0.1			0.1	0.0	0.0	0.1
Period 10	0.1			0.0	0.0	0.0	0.0
Period 11	0.0			0.0	0.0	0.0	0.0
Period 12	0.0			0.0	0.0	0.0	0.0
...							
Total change	178.6	35.7	142.9	114.3	28.6	35.7	100.0
Parameters:							
MPC	0.8						
Tax rate	0.2						
MPM	0.2						
Multiplier	1.79						

Callout boxes:

$\Delta GDP = \Delta C - \Delta M$
$\Delta C = 64$
$\Delta M = 20$
$\Delta GDP = 44$

$\Delta Y_d = 80$
$\Delta C = MPC \times \Delta Y_d$
$\Delta C = 0.8 \times 80$
$\Delta C = 64$

$\Delta GDP = 100$
$\Delta T = \text{tax rate} \times \Delta GDP$
$\Delta T = 0.20 \times 100$
$\Delta T = 20$
$\Delta Y_d = \Delta GDP - \Delta T = 80$

Sectoral accounting balances ...

- Disposable Income = (GNP – T) – that is total income minus taxes levied by the government.

- GNP - T = C + I + G + (X - M) + FNI - T

- Now we can assemble the so-called sectoral balances:

- (GNP - T – C) - I = (G – T) + (X - M + FNI)

- The term (GNP – T – C) is total income less taxes less consumption expenditure which equals household saving.

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Sectoral accounting balances …

$$(GNP - T - C) - I = (G - T) + (X - M + FNI)$$

Household Saving

Overall Private Domestic Saving

Government Fiscal Balance

Current Account Balance
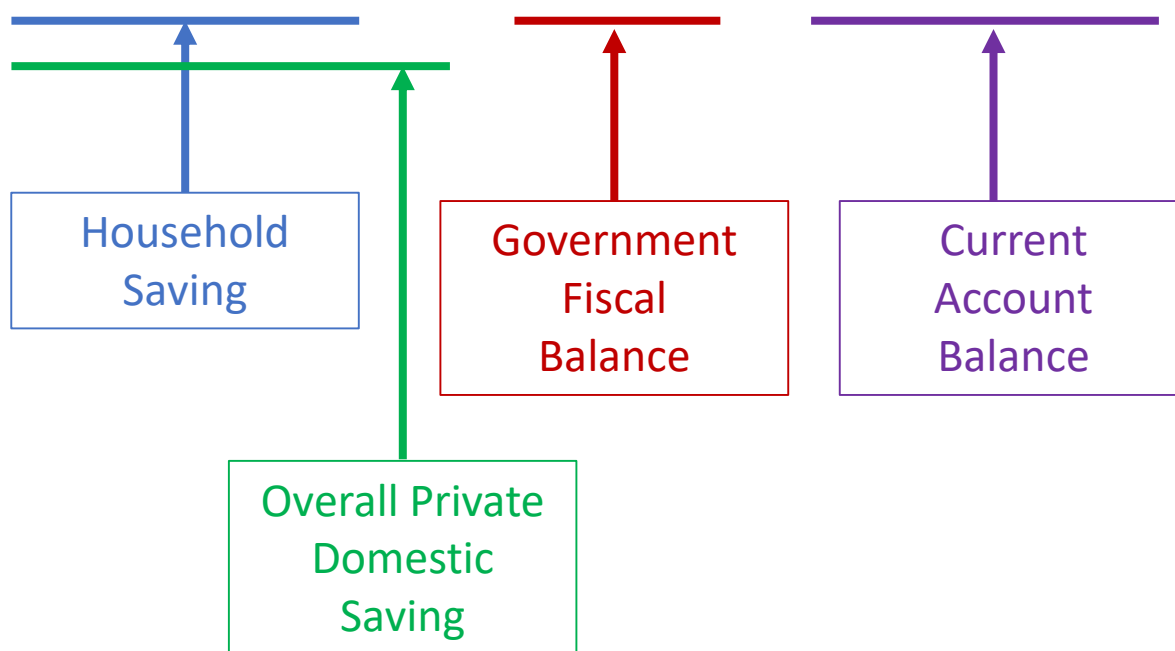
Sectoral accounting balances …

- Noting (GNP - T – C) = S

$$(S - I) = (G – T) + (CAB)$$

Private Domestic Balance

Government Balance

External Balance

Sectoral accounting balances …

- $(S - I) = (G - T) + (CAB)$

- Therefore:

$$(G - T) \quad = \quad [(S - I) - CAB]$$

Government Fiscal Balance

Non-government Balance

Government fiscal deficit (surplus) = Non-government surplus (deficit)

Putting some numbers on the balances ...

$$(G - T) \quad = \quad [(S - I) - CAB]$$

$$3 \quad = \quad 1 \quad -(-\textbf{2})$$

$$2 \quad = \quad 0 \quad 2$$

$$0 \quad = \quad -2 \quad 2$$

$$-1 \quad = \quad -3 \quad 2$$

Government fiscal deficit (surplus) = Non-government surplus (deficit)

What happens if the equilibrium is disturbed?

$$(G - T) = (S - I) - (X - M + FNI)$$
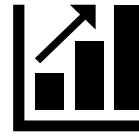
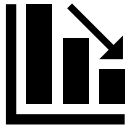National income changes maintain this equality.
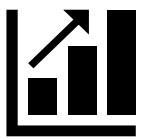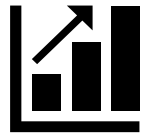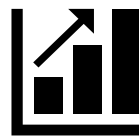
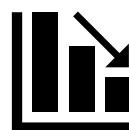GDP → Taxes   GDP → Saving   GDP → Imports
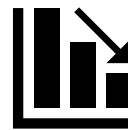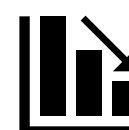
GDP → Taxes   GDP → Saving   GDP → Imports

Some insights ...

$$(G - T) = (S - I) - (X - M + FNI)$$

- If there is an external deficit, then the government has to be in deficit for the private domestic sector to save overall.

- If there is a external deficit and the government runs a surplus, the private domestic sector will be increasingly accumulating debt.

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Automatic stabilisers …

- Consider the government fiscal balance: (G – T).
- This cannot be a target because it is not fully controlled by government.
- Why?
- The final fiscal balance is determined by both discretionary fiscal policy settings and the spending decisions of the non-government sector.

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Automatic stabilisers ...

- When economic activity is strong, T rises and G falls which reduces the deficit (other things equal).

- When economic activity is weak, T falls and G rises which increases the deficit (without any policy change).

- This cyclical effect is known as automatic stabilisation.

- It leads to the differentiation of the structural versus cyclical fiscal balance.

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The MMT fiscal rule

- What is the desirable fiscal stance of government?

- The aim of the government should be to achieve GDP commensurate with full employment.

- Of course, that GDP should be ecologically sustainable and equitably distributed.

- Broader concept of efficiency.

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The MMT fiscal rule

- $(G - T) = (S - I) - (CAB)$

- For national income to be stable, the fiscal deficit has to equal the desired overall saving of the private domestic sector $(S - I)$ minus the current account surplus.

- The Right-hand expression is overall non-government saving.

- But even though a fiscal deficit of that magnitude will stabilise national income it will not necessarily sustain full employment.

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The full employment fiscal deficit condition

- A stable output level does not guarantee full employment.
- Accordingly, to sustain full employment, the condition for stable national income is written more specifically:

$$(G - T) = S(Yf) + M(Yf) - I(Yf) - X$$

<table>
<tr><td>Non-govt leakages at full employment</td><td>Non-govt injections at full employment</td></tr>
</table>

- If the non-government drains > injections then for national income to remain stable, there **has** to be a fiscal deficit (G – T) sufficient to offset that gap in aggregate demand.

The full employment fiscal deficit condition

$$(G - T) = S(Yf) + M(Yf) - I(Yf) - X$$

		Non-govt leakages at full employment		Non-govt injections at full employment
2	=	4	-	2
-1	=	1	-	2

END OF TALK