

Policy in Papua New Guinea: releasing the golden bullet

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Outline of paper

- short run: manage fiscal and balance of payments situations
 - medium run: focus fiscal spending on investment
 - long run: labour productivity determines welfare
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- Discuss today
 - recent economic shocks and policy direction
 - balance of payments
 - fiscal position

PNG Economy

- small open resource-rich economy
 - challenge of data collection, other information: rely on anecdotal evidence
- Independent, inflation targeting central bank
 - setting interest rates to control inflation, then growth
 - exchange rate: adjustable peg vs managed float
- capital mobility is low
 - inflows or outflows don't respond to interest rate differentials (BPNG, IMF)
- marginal propensity to import is high
 - government: 0.6 – 0.7
 - private consumers: high but?

PNG Economy: shocks

Demand Side

- Investment boom (LNG) then contraction (2011-12 then 2013-14)
- Fiscal expansion (2013-14)
 - offset ↓ I
 - spending ahead of LNG receipts
- Exports boom (2014)
- Revaluation (and then subsequent stepwise devaluation) (mid 2014)
- Terms of trade shock (oil/gas price fall) (late 2014)

Supply side

- Oil price fall (late 2014)
- Increase in minimum wage (2014)

Macro Policy in PNG

- In an open economy, policy has **two goals**
 - **internal balance**: producing at full employment ($Y = Y_f$)
 - over-employment ($Y > Y_f$): increase in inflation
 - underemployment ($Y < Y_f$): decrease in inflation
 - **external balance**: current account is near zero: $CA = 0$
 - is large current account *deficit*: foreign investors question ability to repay debt. *Is CA deficit bad?*
- **Two instruments**:
 - exchange rate (e) – **expenditure switching**
 - Fiscal policy (G) – **expenditure changing**

Internal Balance

- Internal balance: $Y=Y_f : Y_f = C + I + G + EX(e) - IM$

aggregate expenditure = full employment

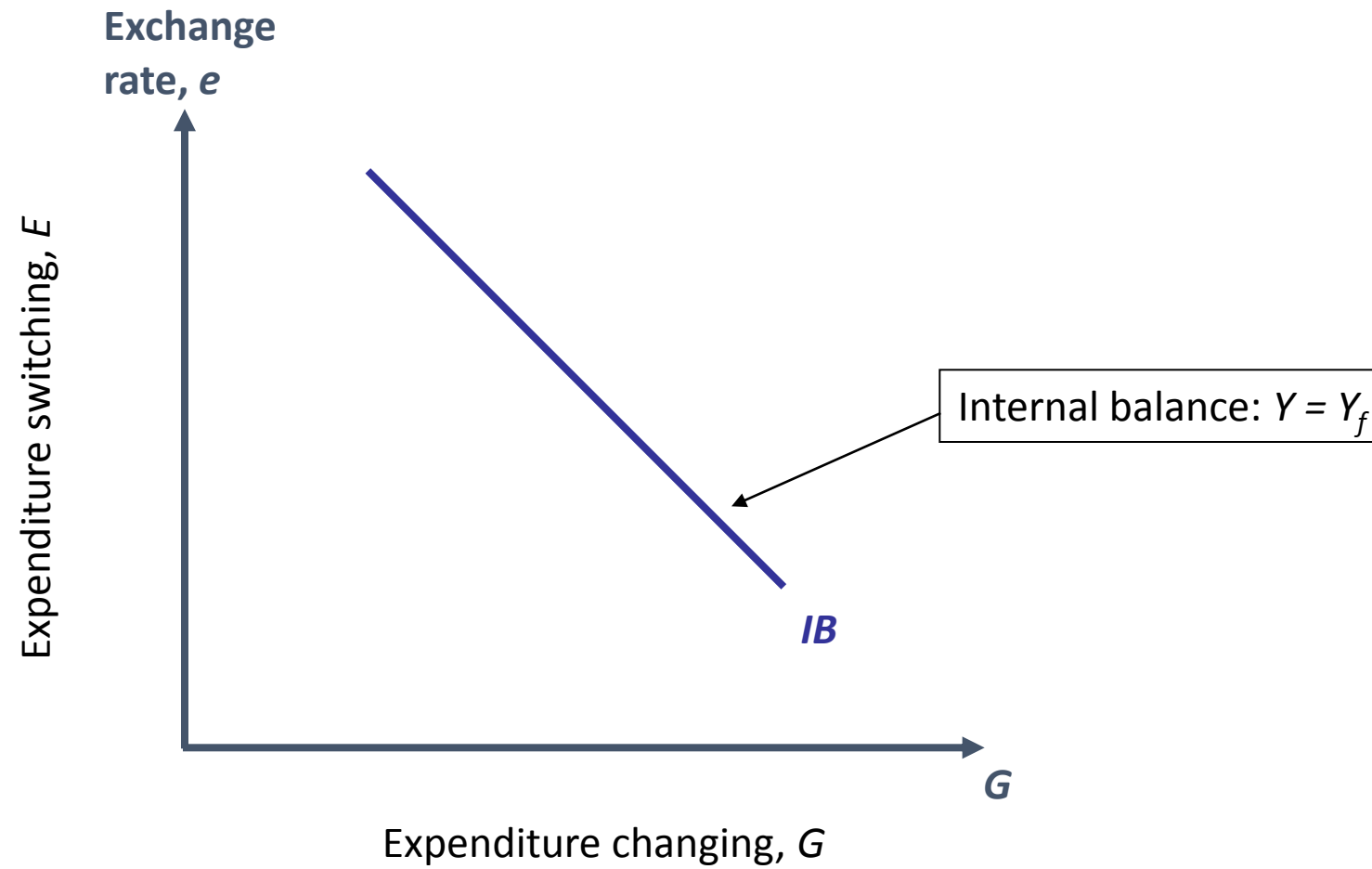
consumption (C) + investment (I) + gov't spending (G) + exports (EX) – imports (IM) = Y_f

exchange rate = e

Devaluation $\uparrow e \rightarrow$ our goods cheaper to foreigners $\rightarrow \uparrow \text{export (EX)}$

- Increase in gov't spending: $\uparrow G \rightarrow Y > Y_f$ (output is above its full employment level)
- To restore internal balance: revaluation ($\downarrow e$) $\rightarrow EP^*/P \rightarrow$ our goods more expensive to foreigners $\rightarrow \downarrow \text{exports (EX)} \rightarrow \downarrow Y$ returns to Y_f

Internal Balance



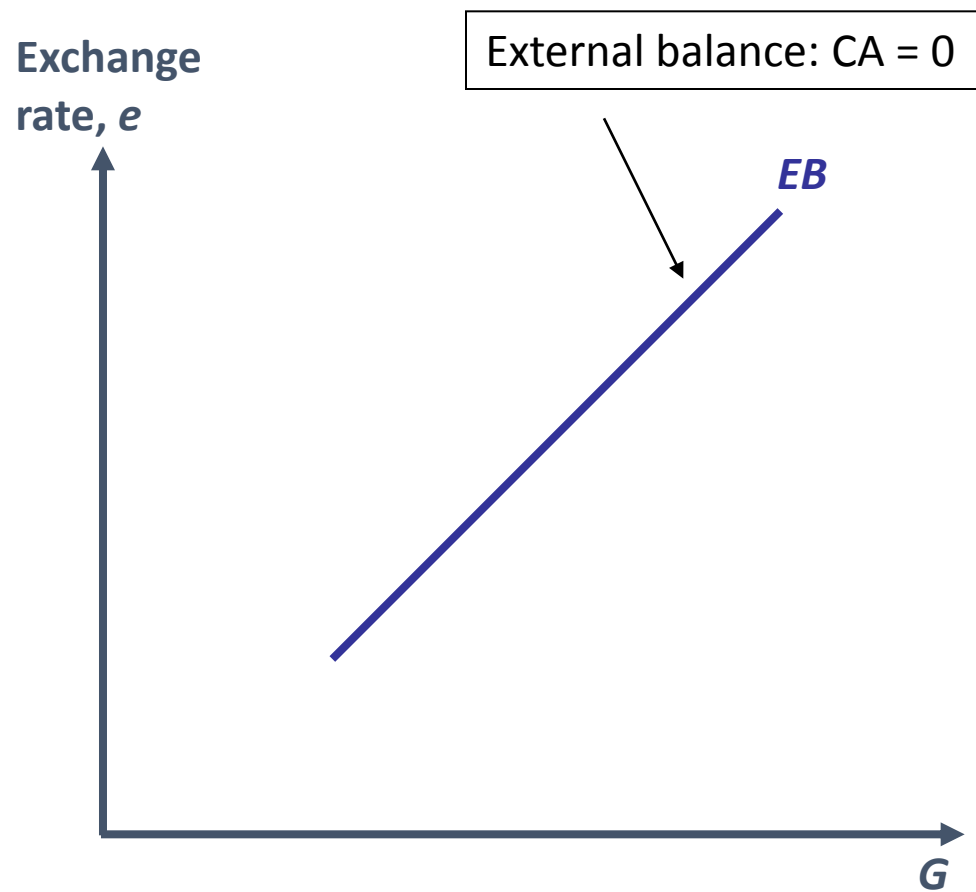
External Balance

- External balance ($CA = 0$):

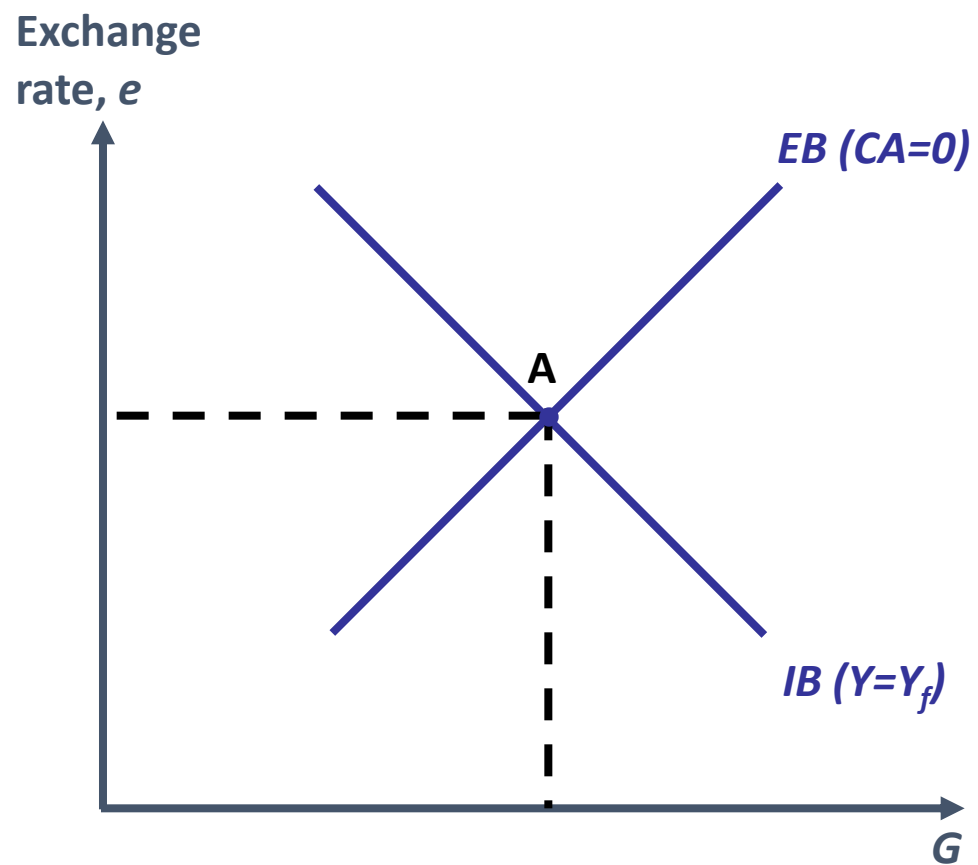
$$CA = \text{Exports} - \text{Import} = EX(e) - IM(Y) = 0$$

- $\uparrow G$ increases aggregate expenditure $\rightarrow \uparrow \text{income } (Y) \rightarrow \uparrow \text{imports } (IM)$
decreasing the current account ($\downarrow CA$)
- To restore external balance: devaluation $\uparrow e \rightarrow$ our goods cheaper to foreigners
 $\rightarrow \uparrow \text{exports } (EX)$

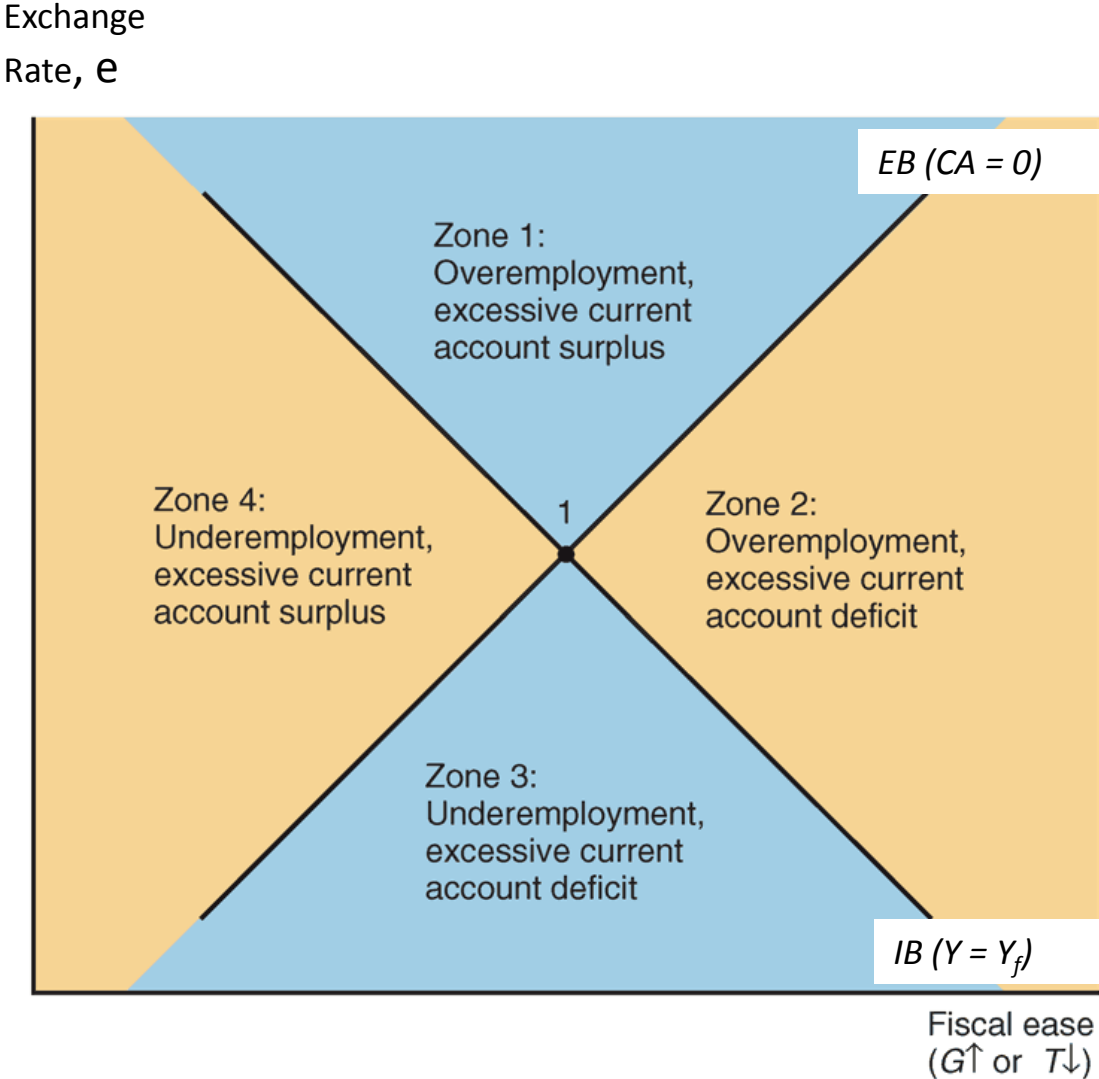
External Balance



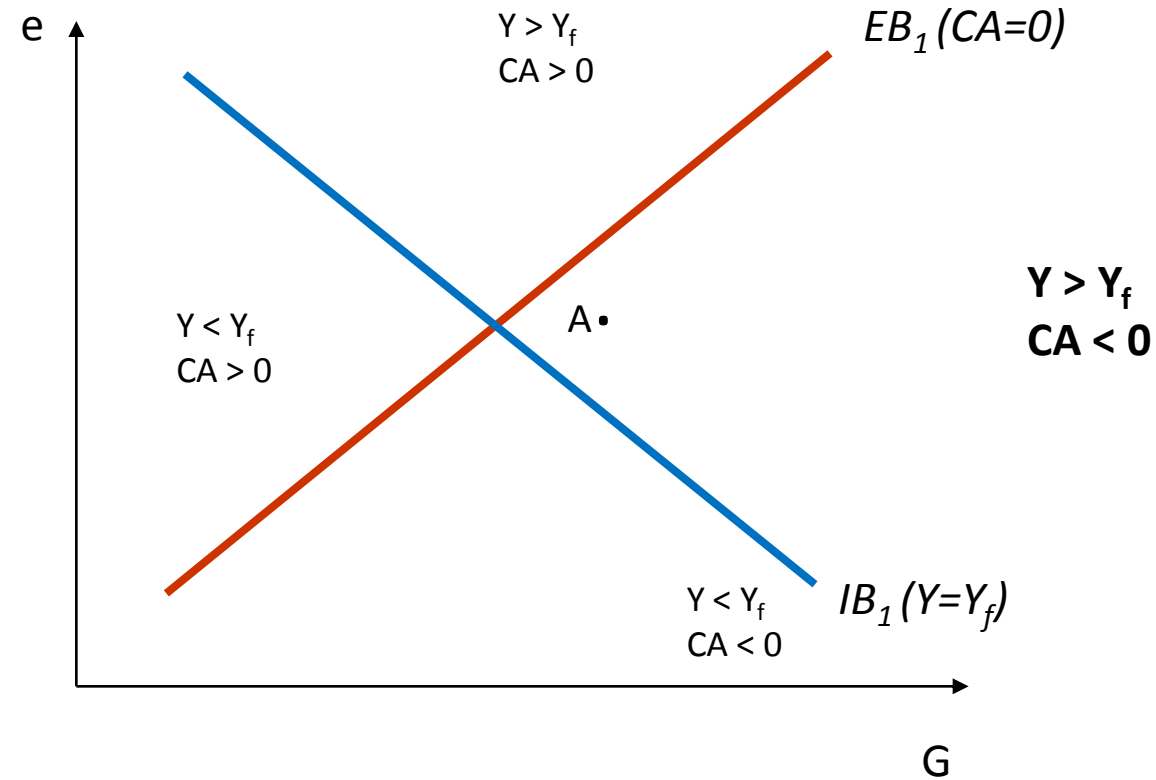
Macroeconomic Goals



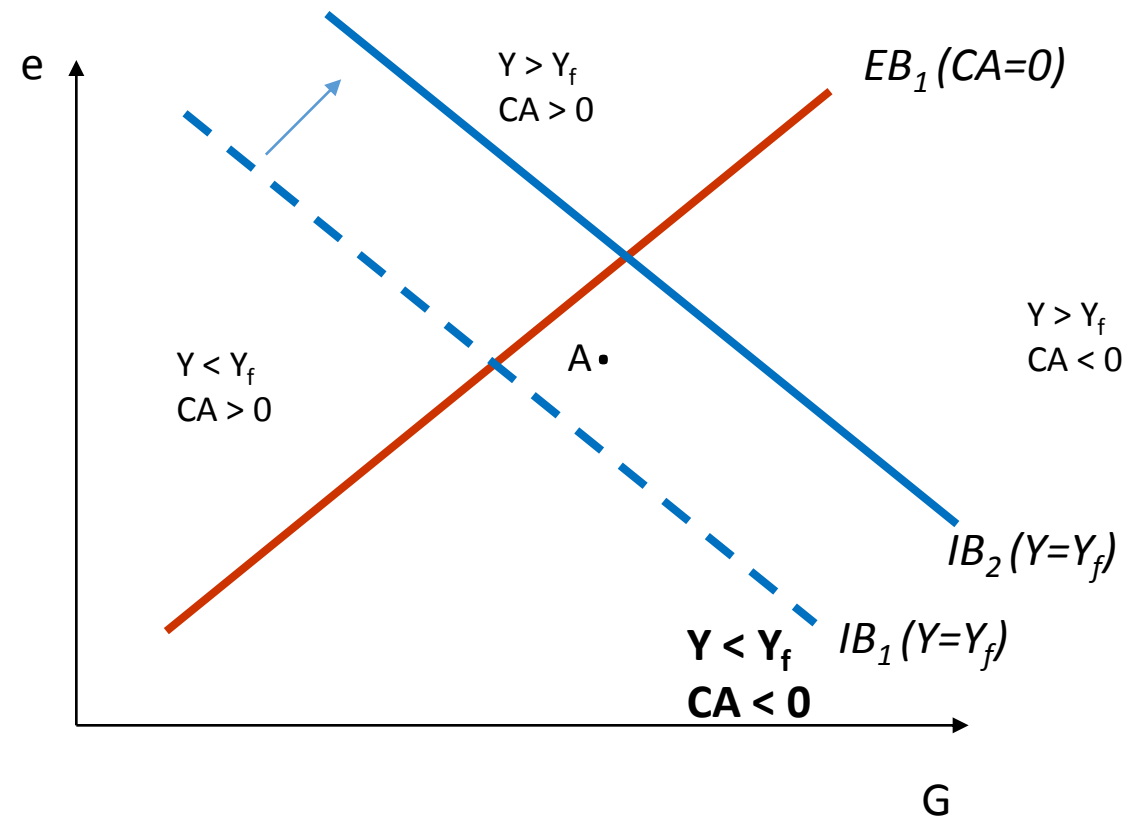
Zones of Economic Discomfort



PNG: 2011-12: LNG Investment boom (↑I)

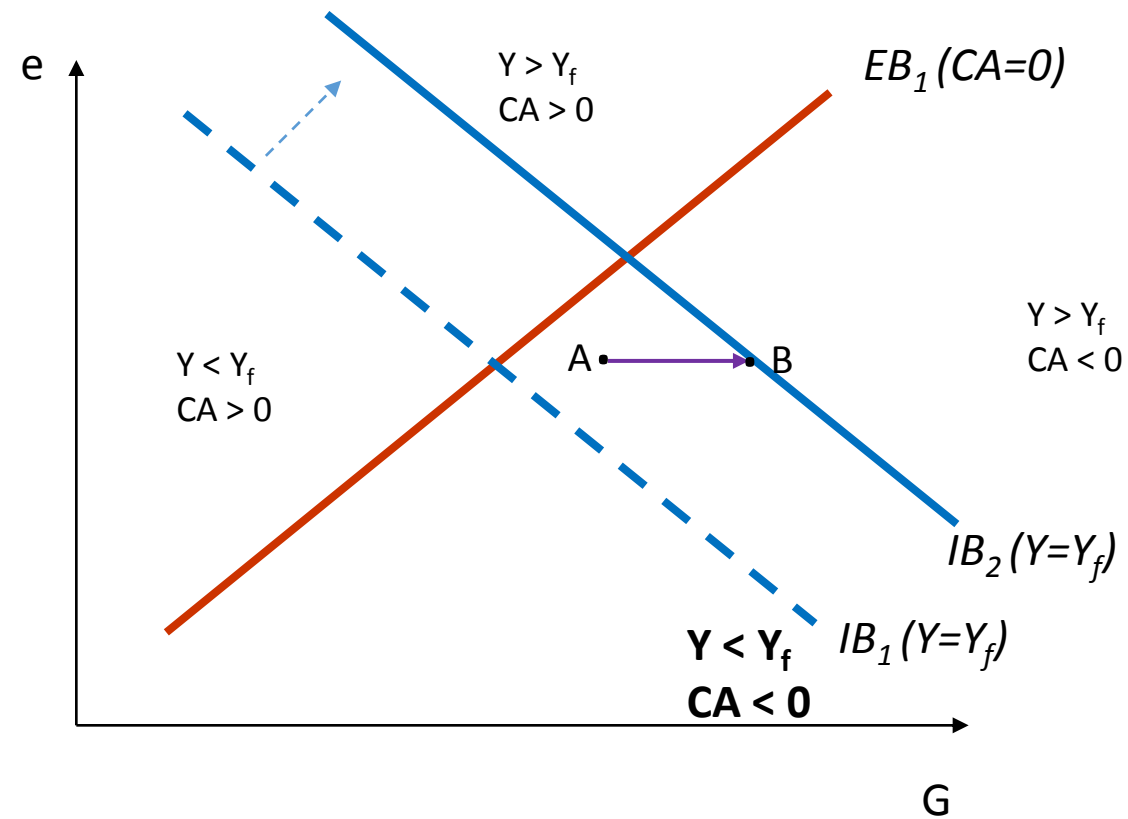


PNG: 2013-14: end of Investment boom (↓ I)

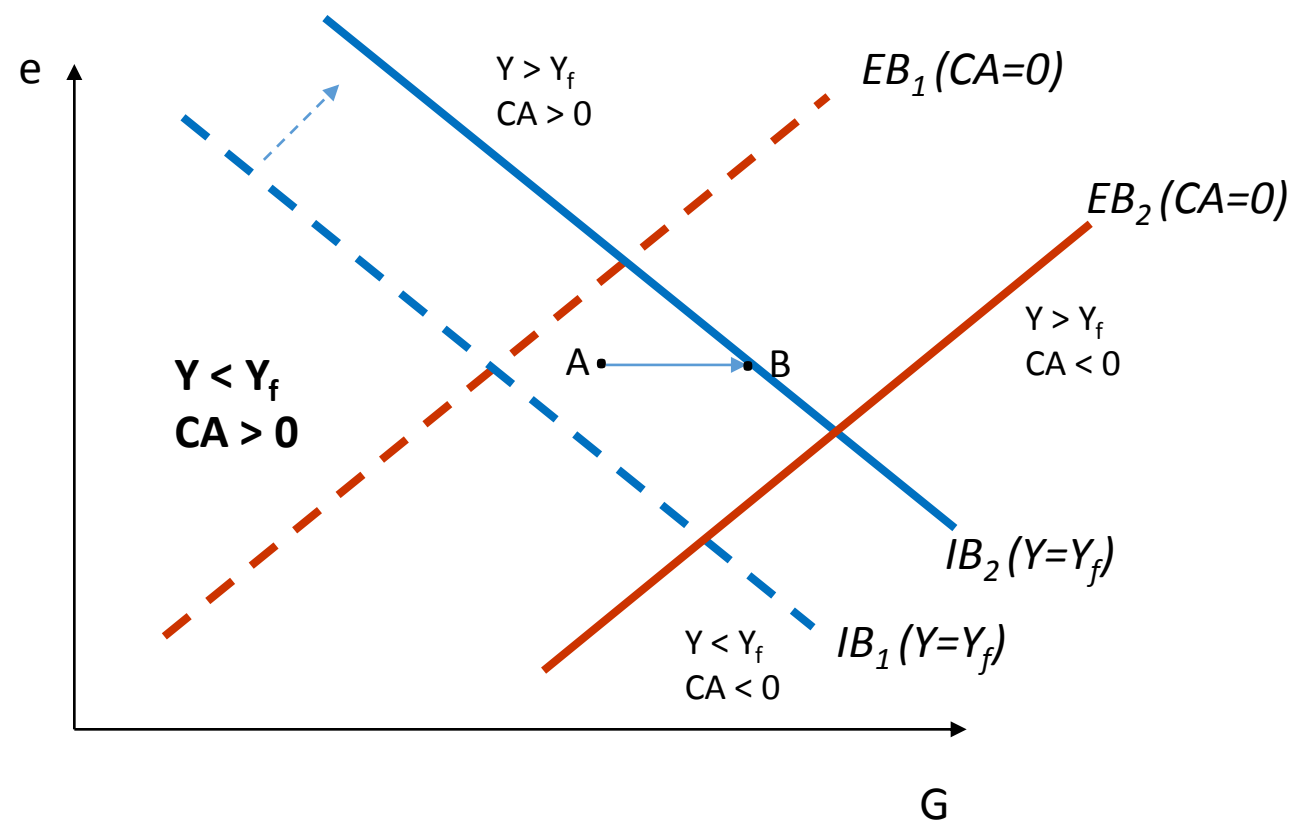


↓ I means higher G (or e) require to ensure $Y=Y_f$ so IB shifts right

PNG: 2014: increase in gov't spending (↑G)

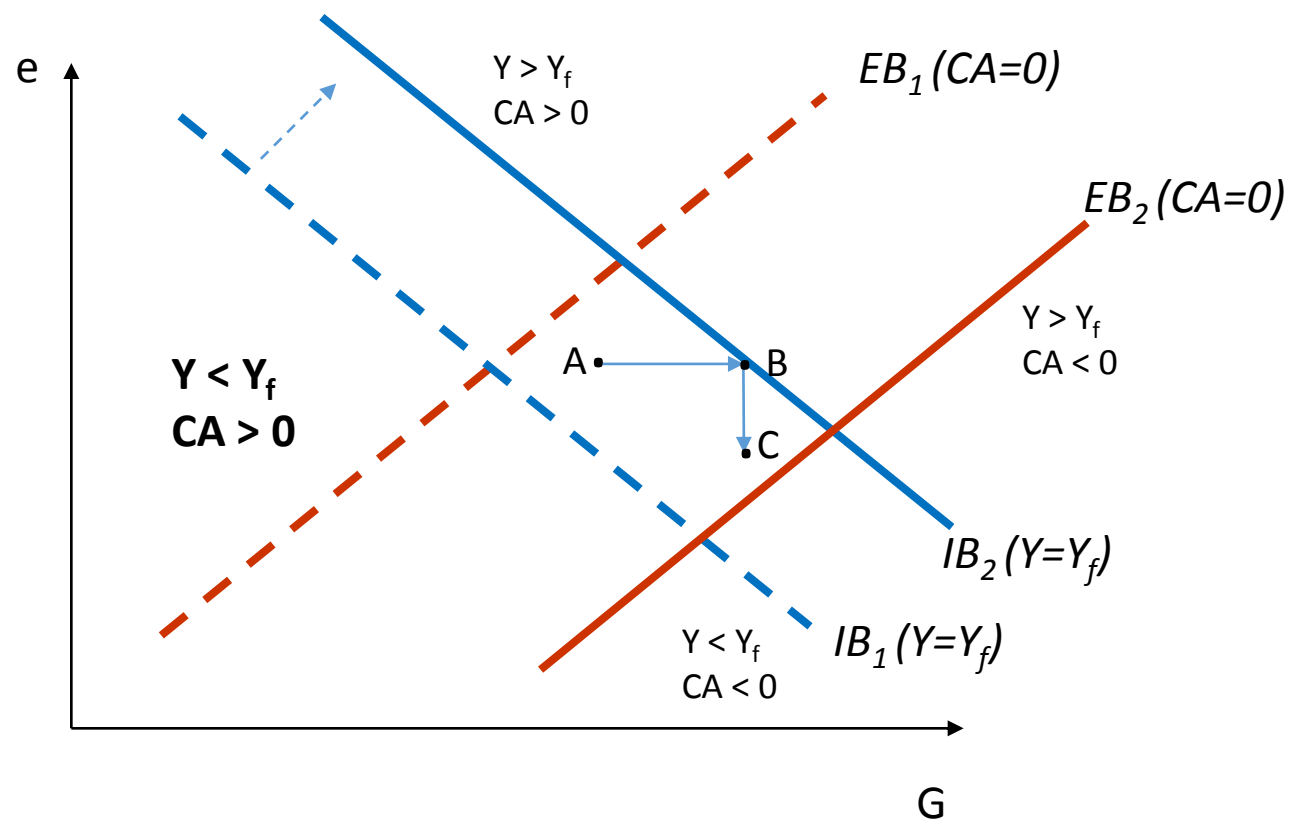


PNG: 2014: export boom ($\uparrow EX$)

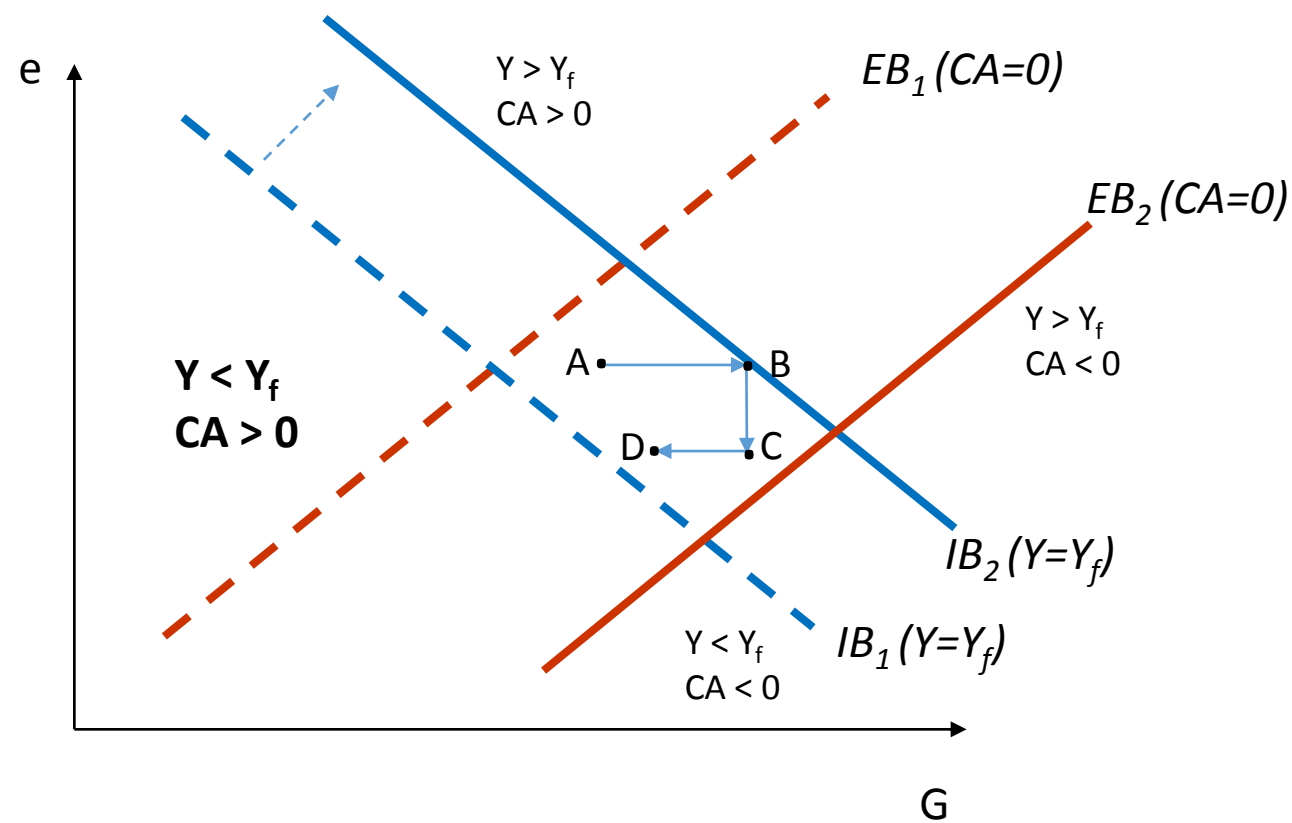


$\uparrow EX$ means require higher G (which increases Y and IM) to ensure $CA=0$ so EB curve shifts right

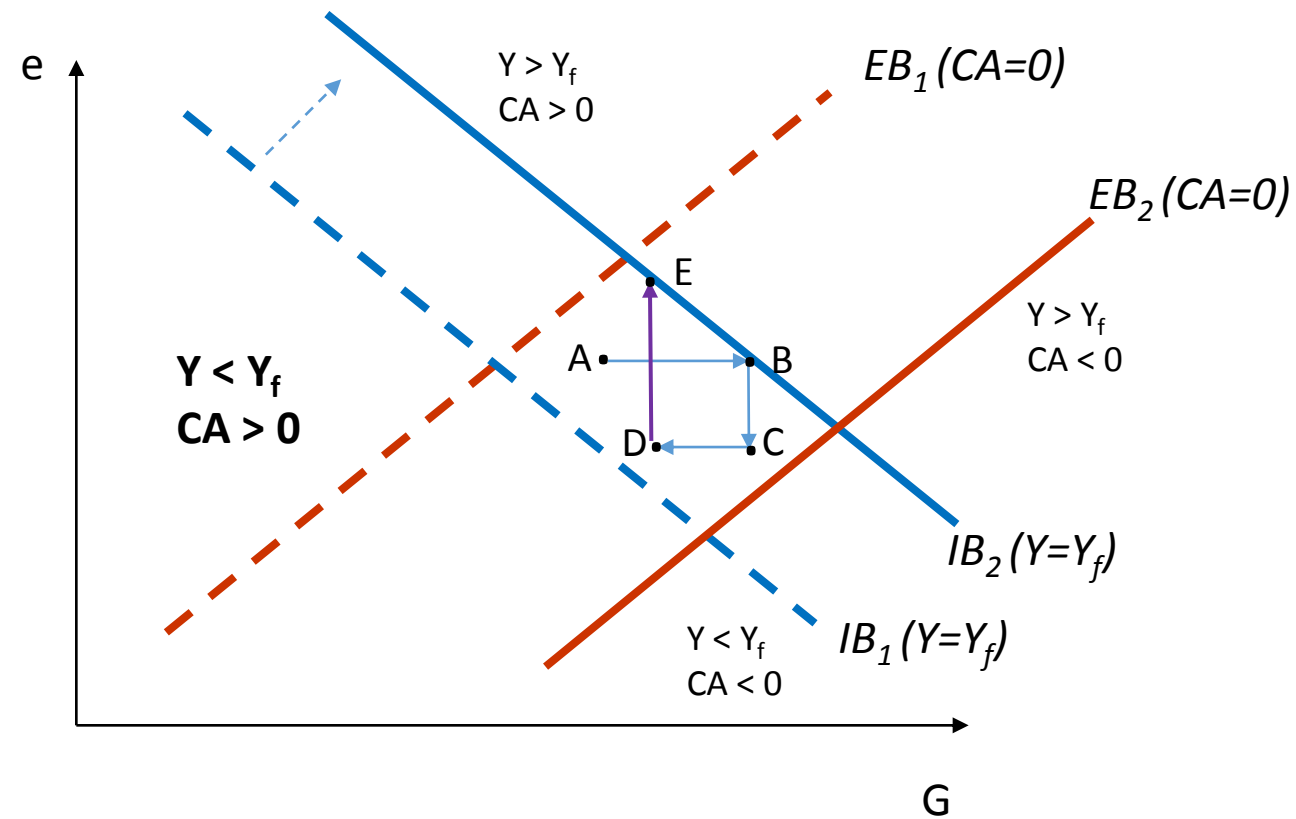
PNG: mid-2014: revaluation ($\downarrow e$ by 17%)



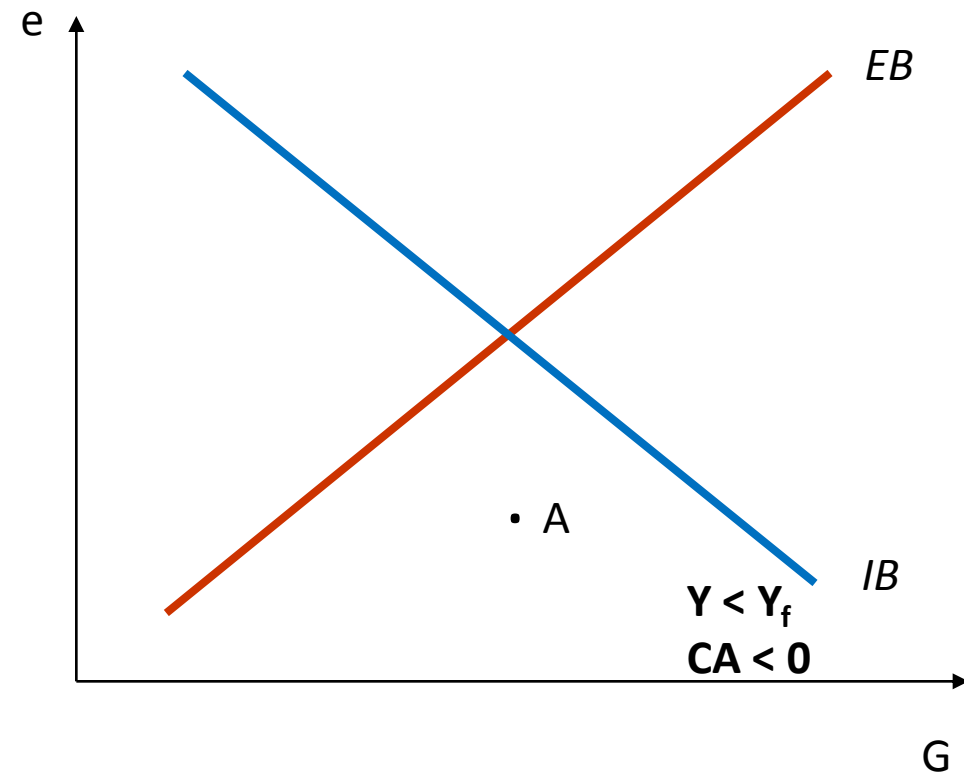
PNG: 2015: fiscal contraction ($\downarrow G$)



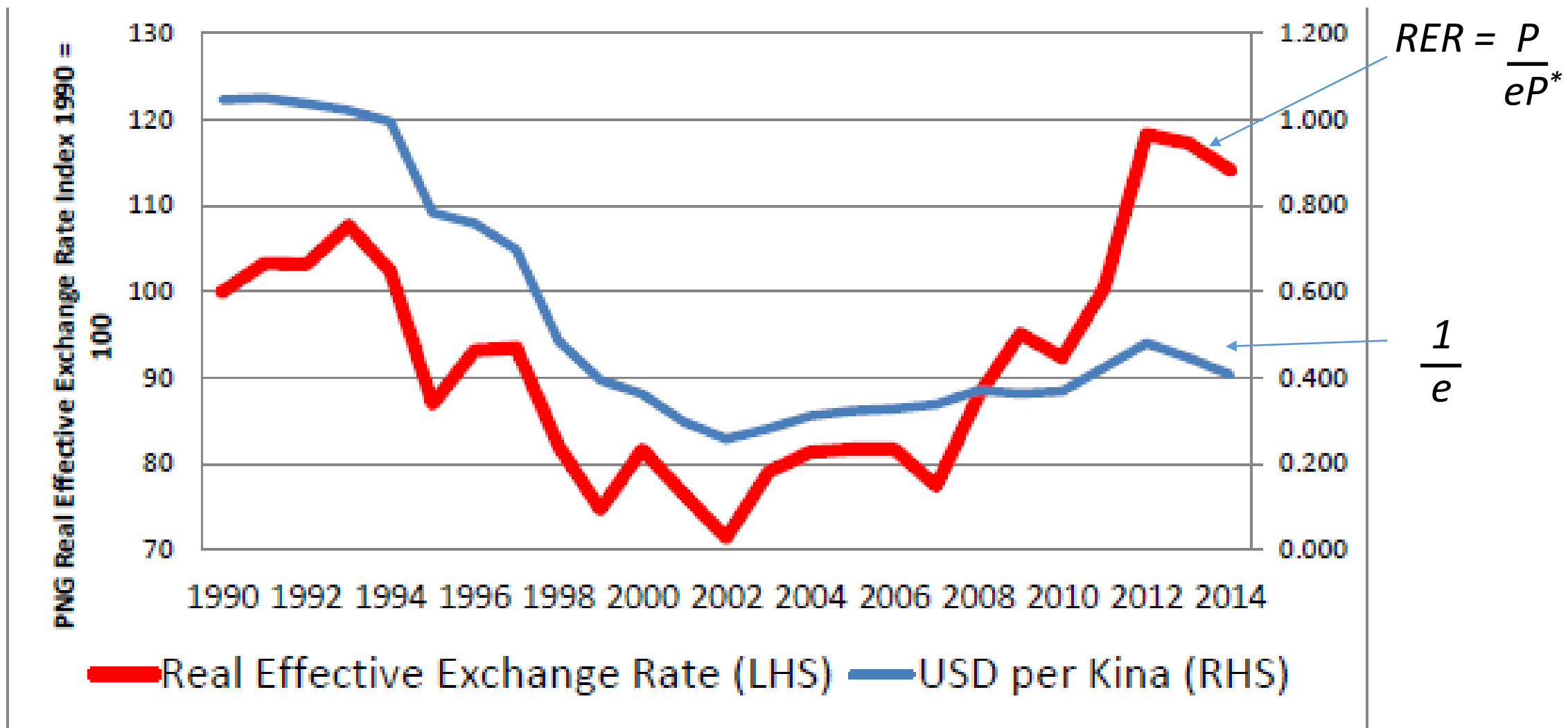
PNG: 2015: devaluation ($\uparrow e$) completing the square



Greece



Real exchange rate: 1990 - 2014



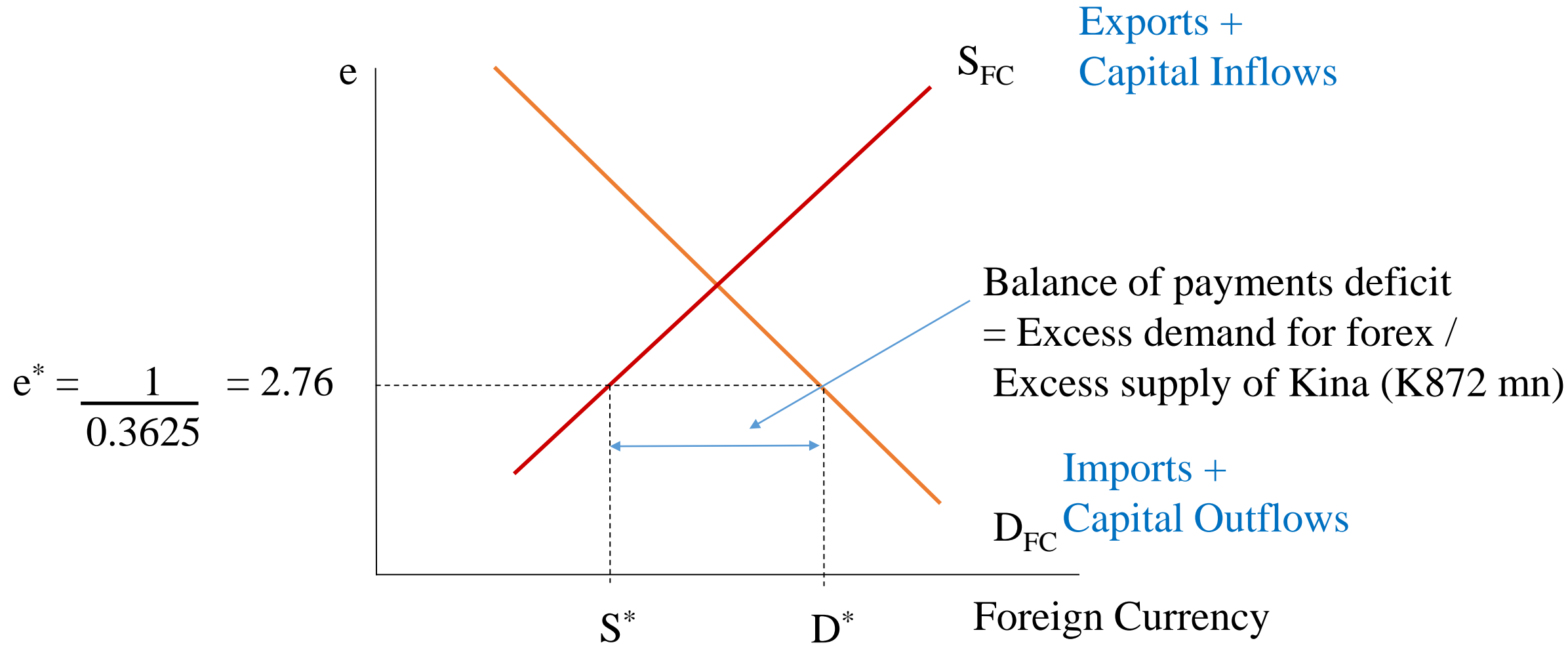
Forex Market: Balance of Payments

what exactly is going on?

- BOP = Current Account + Financial Account
 - = (Exports – Imports) + (Capital Inflows – Capital Outflows)
 - = (Export + Capital Inflow) – (Imports + Capital Outflows)

PNG BOP 2014 = Current Account (7083) + Financial Account (-7999) = - K872 bn

PNG: Market for Foreign Exchange



So where is the foreign exchange?

- Exports:

- GDP vs GNP: not owned by PNG fops
- partners aren't spending it in PNG
- Gov't: priority on debt repayment

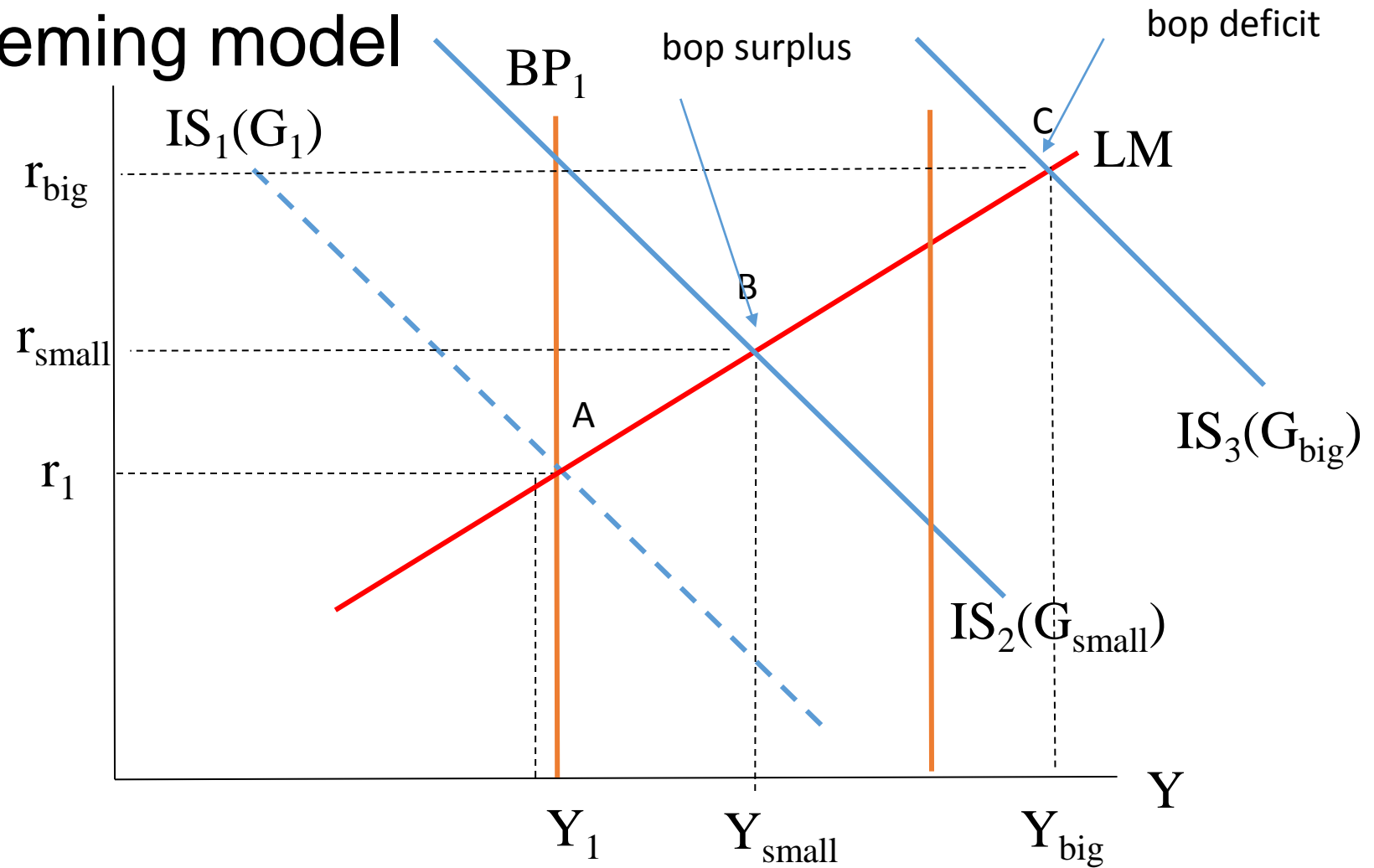
- Tax receipts: accelerated depreciation: reduces tax payments

- Imports:

- big increase in G
- government high mpi: of every Kina spent, 60-70 toea on imports
- gov't finance via bond sales raised in Kina (domestic market)
 - sell bonds to foreigners

Export boom + Fiscal expansion (small or big)

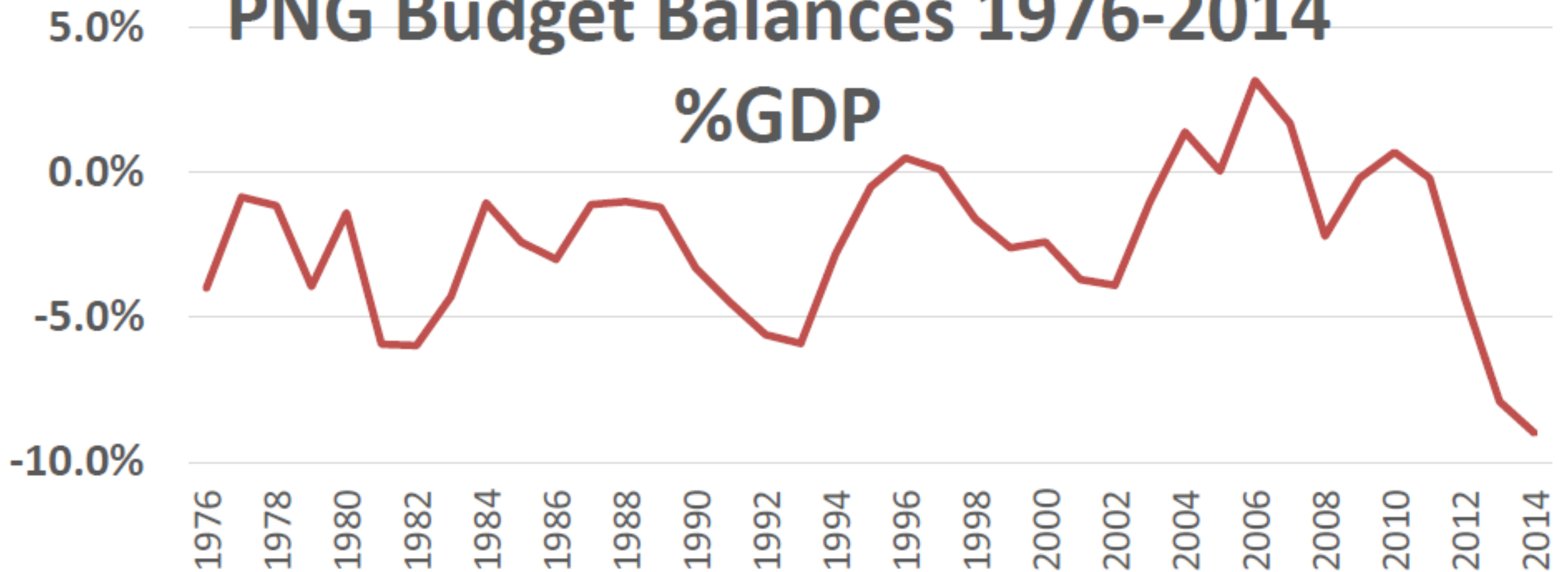
Mundell-Fleming model



Size of increase in G relative to export boom determines whether BOP surplus or deficit

PNG Budget Balances 1976-2014

%GDP



Source: P. Flanagan, Pathways away from Crisis, 18 June 2015

Fiscal Situation

- deficit = Government Spending (G) - Tax (T) currently around 8% of GDP
 - debt (B) to gdp (Y) ratio: $d = B/Y$ circa 38% of GDP
 - debt = sum of deficits over all time
 - Debt dynamics:
 - B grows at r
 - Y grows at g
 - *with zero deficit: debt to GDP (d) grows at $(r - g)$*
 - if $g > r$ then debt/gdp is decreasing*
- MAGIC NUMBER: $r - g$**
- *the Troika forgot this!*

Debt Dynamics

- equation of motion

$$\Delta b = d + (r - g).b$$

change in debt/gdp ratio = primary deficit + (r-g).(current debt/gdp ratio)

In 2014: $d = 7.3\%$ $g = 8.4\%$ $b = 37.7\%$

- *debt/gdp* in 2015 if $r = 5\%$: 43.7%
- *debt/gdp* in 2015 if $r = 10\%$: 45.6%

If deficit is 8% then to keep debt/gdp constant at 38% require

$r - g = 21\%$

i.e. if $r=5\%$ then g must grow at 26%

if deficit is 8% then to keep debt/gdp constant at 30% (FR Act) require

$r - g = 27\%$

REDUCE DEFICIT

Fiscal Policy

- Fiscal expansion
 - spending ahead of LNG receipts
 - ratio of consumption to investment is high (SP Games, APEC)
 - budget multipliers
- Different paths to follow in terms of timing of spending
 - Dixon, Kauzi and Rimmer
- Different paths to follow in terms of debt build up
 - IMF
- Different types of spending: consumption, investment
- Debt dynamics
 - use GNP

Supply side considerations

- Oil price fall: big windfall for households – when it is finally passed on
 - increase in real wage
 - will be offset by devaluation
- Minimum wage increase (by 40%) – may lead to increase in wage pushfulness

- Assumptions
 - public sector: increases in CPI not matched by increases in wages
 - private sector: wage rises in keeping with CPI increases and productivity
 - unit labor costs constant
 - energy share in average households budget (see HIES 2010)?

A Good Guide

- use GNP (or GNI) as a measure of size of economy
 - GDP (geographic) vs GNP (earned by country's fop)
- focus attention and policy on non-resource sector growth
 - poverty elasticity of mining sector growth relative to non-mining sector growth

Internal Balance

- Internal balance: $Y=Y_f : Y_f = C + I + G + EX(e) - IM$

aggregate expenditure = full employment

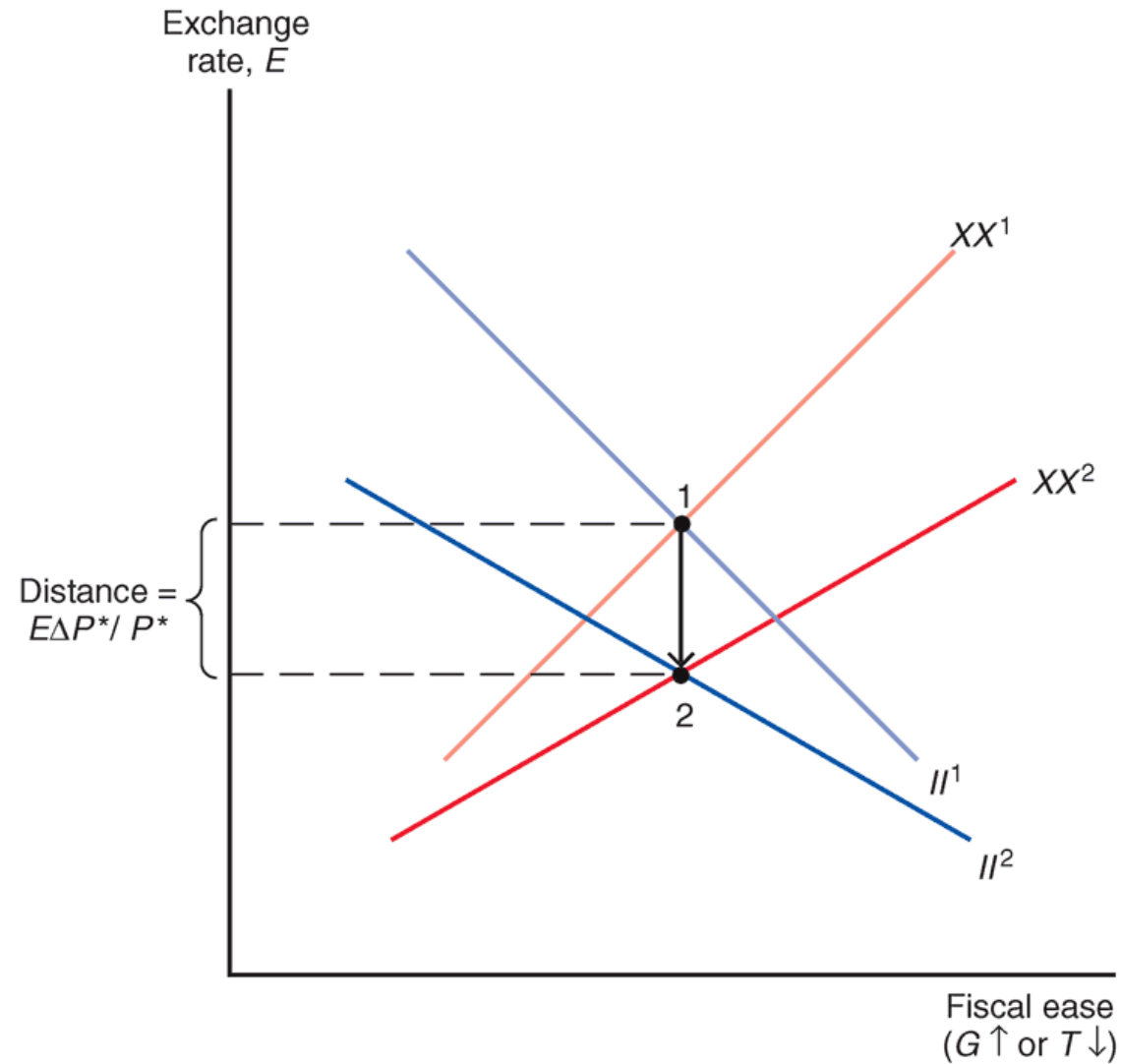
consumption (C) + investment (I) + gov't spending (G) + exports (EX) – imports (IM) = Y_f

exchange rate = e *P = domestic price level* *EP* = foreign price level in Kina*

Devaluation $\uparrow E \rightarrow$ our goods cheaper to foreigners $\rightarrow \uparrow \text{export (EX)}$

- Increase in gov't spending: $\uparrow G \rightarrow Y > Y_f$ (output is above its full employment level)
- To restore internal balance: revaluation ($\downarrow e$) $\rightarrow EP^*/P \rightarrow$ our goods more expensive to foreigners $\rightarrow \downarrow \text{exports (EX)} \rightarrow \downarrow Y$ returns to Y_f

Effect on Internal and External Balance of a Rise in the Foreign Price Level, P^*



Plan of paper

- Description of current events – shocks and policy – using M-F, AD-BT-ERU
 - Current policy paradigm: independent CB, K mobility v low, high budget deficit, ongoing resources income (increasing wealth)
- Policies changes going forward:
 - What are they (not sure) – examine the outcome of each
 - Fiscal consolidation (decrease in G, increase in T)
 - Examine Flanagan's suggestion of fall in G
 - Recovery in oil prices
 - Opening the KA and floating the kina
 - How this could be done (do it in stages, article on floating e), consequences for policy
 - Consequences for policy
 - Budget deficit path unstable – fall in bond rating; rise in interest rates
- Budget deficit – likely path – see IMF
 - Effect of
- Resources boom and effect on economy – see DSGE model IMF – how to manage inflows
 - See Corden and Neary