Policy in Papua New Guinea: releasing the golden bullet

Martin Davies
Washington and Lee University
and
Development Policy Center, Crawford School of Public Policy,
Australian National University

Outline of paper

- short run: manage fiscal and balance of payments situations
- medium run: focus fiscal spending on investment
- long run: labor productivity determines welfare

- 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
  - exchang 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) $= Y_f$

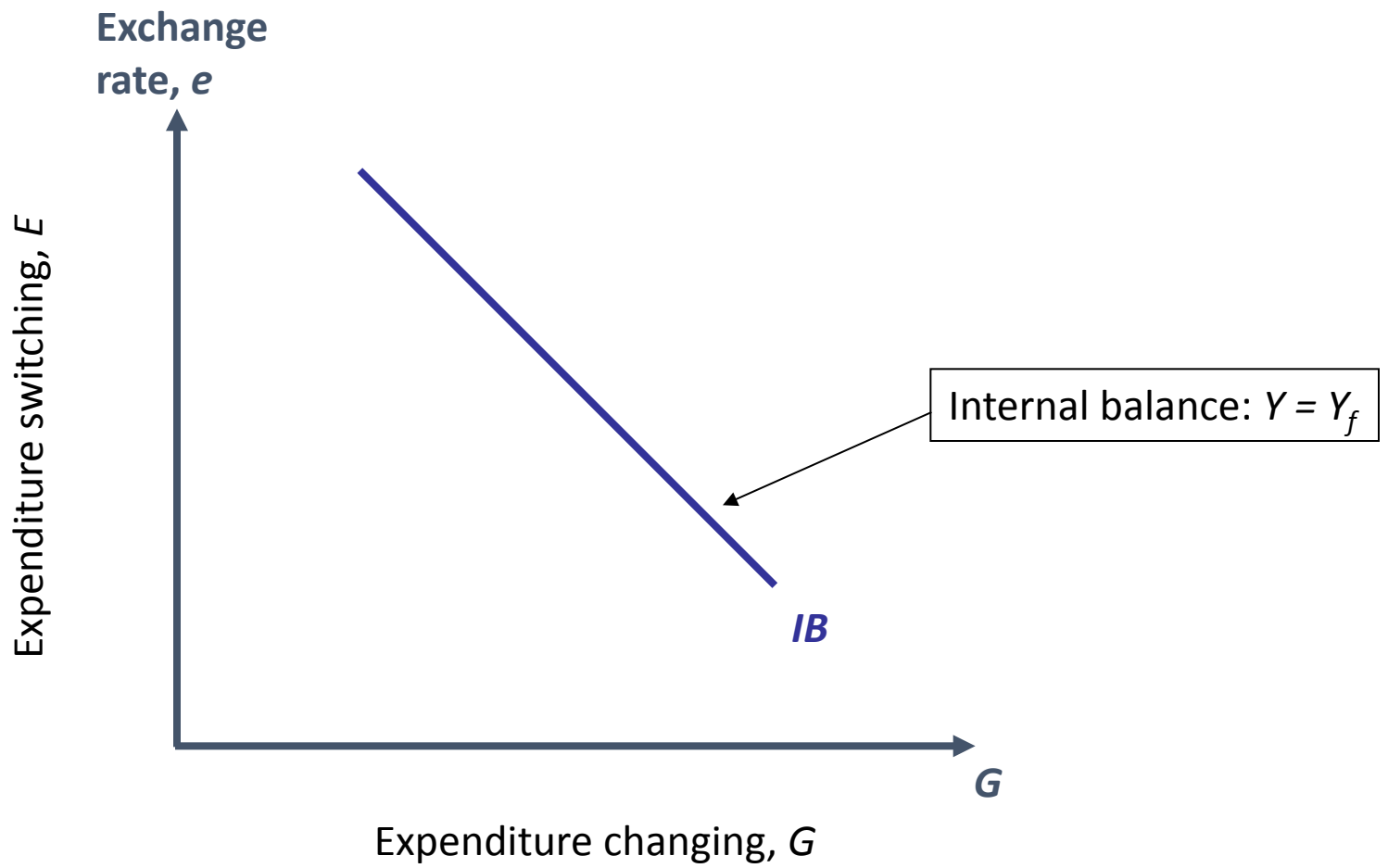
  exchange rate = e

  Devaluation ↑*e* → our goods cheaper to foreigners → ↑*export (EX)*

- Increase in gov't spending: ↑ $G \rightarrow Y > Y_f$ (output is above its full employment level)

- To restore internal balance: revaluation (↓*e*) → EP^*/P → our goods more expensive to foreigners → ↓*exports (EX)* → ↓*Y returns to* Y_f

Internal Balance



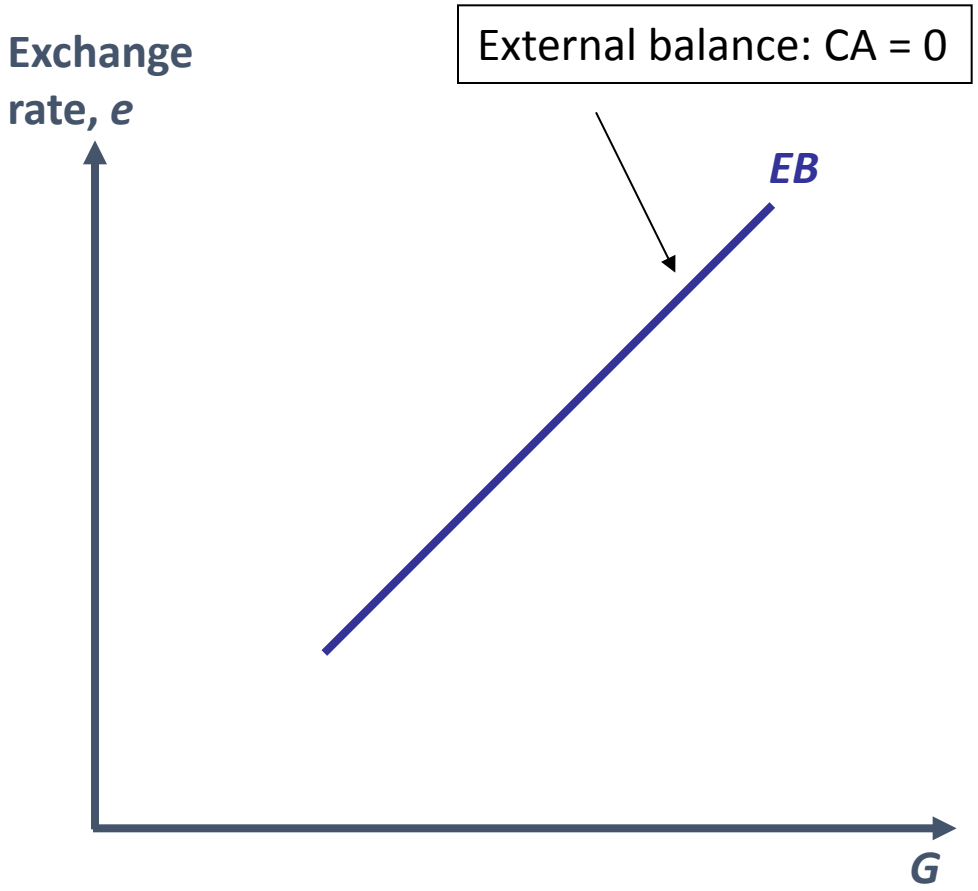
External Balance

- External balance (CA = 0):

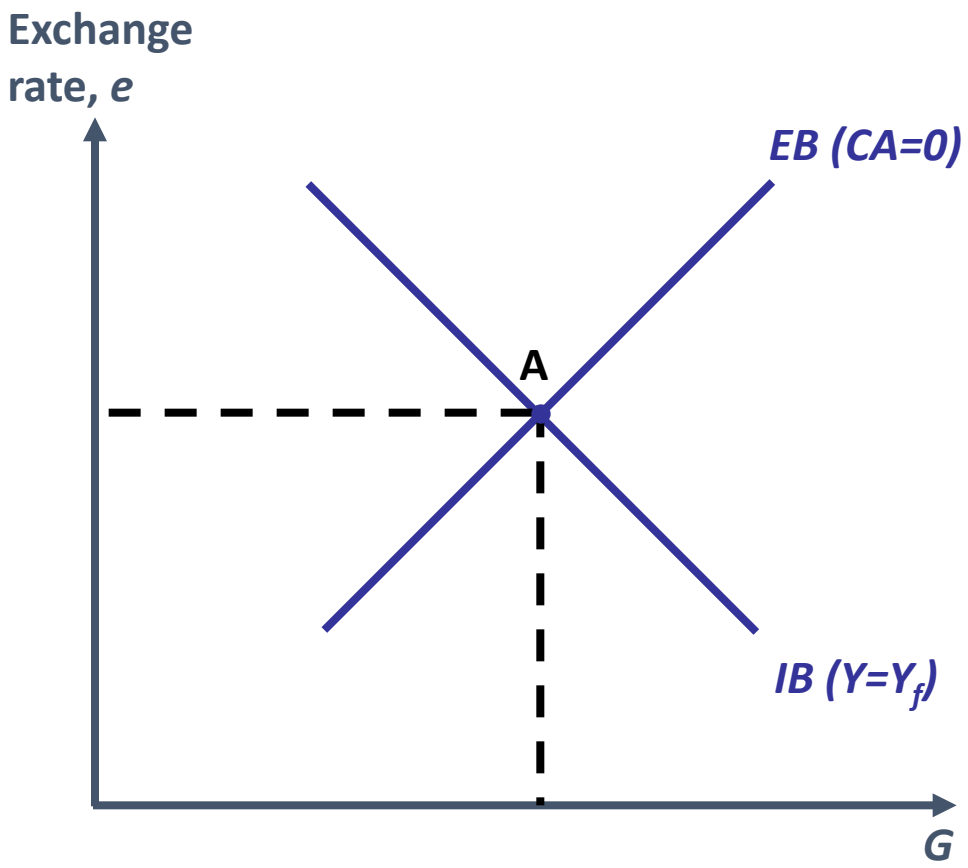
$$CA = \text{Exports} - \text{Import} = EX(e) - IM(Y) = 0$$

- ↑ *G* increases aggregate expenditure → ↑ *income (Y)* → ↑ *imports (IM)* decreasing the current account (↓*CA*)
- To restore external balance: devaluation ↑*e* → our goods cheaper to foreigners → ↑ *exports (EX)*

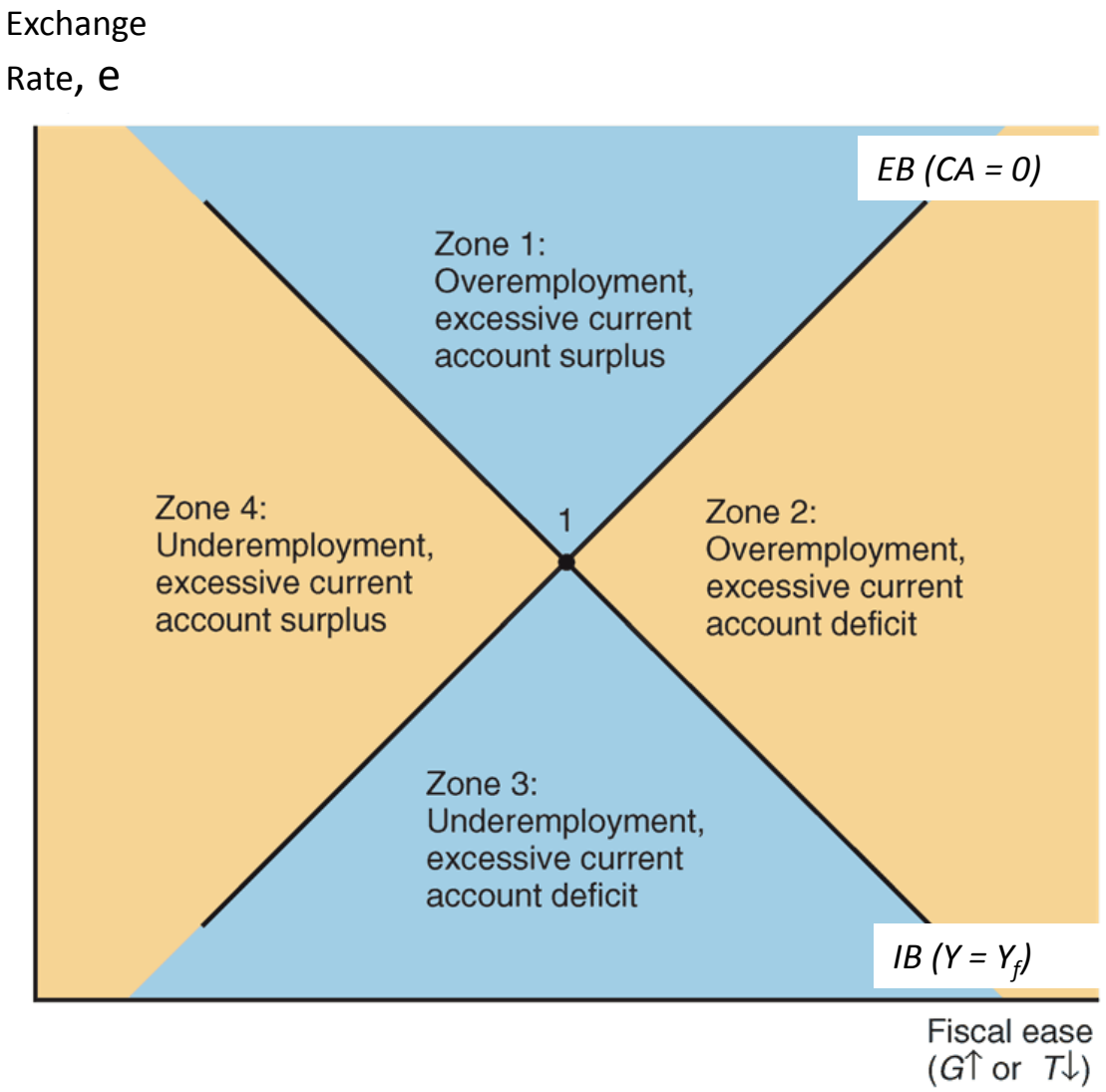
External Balance



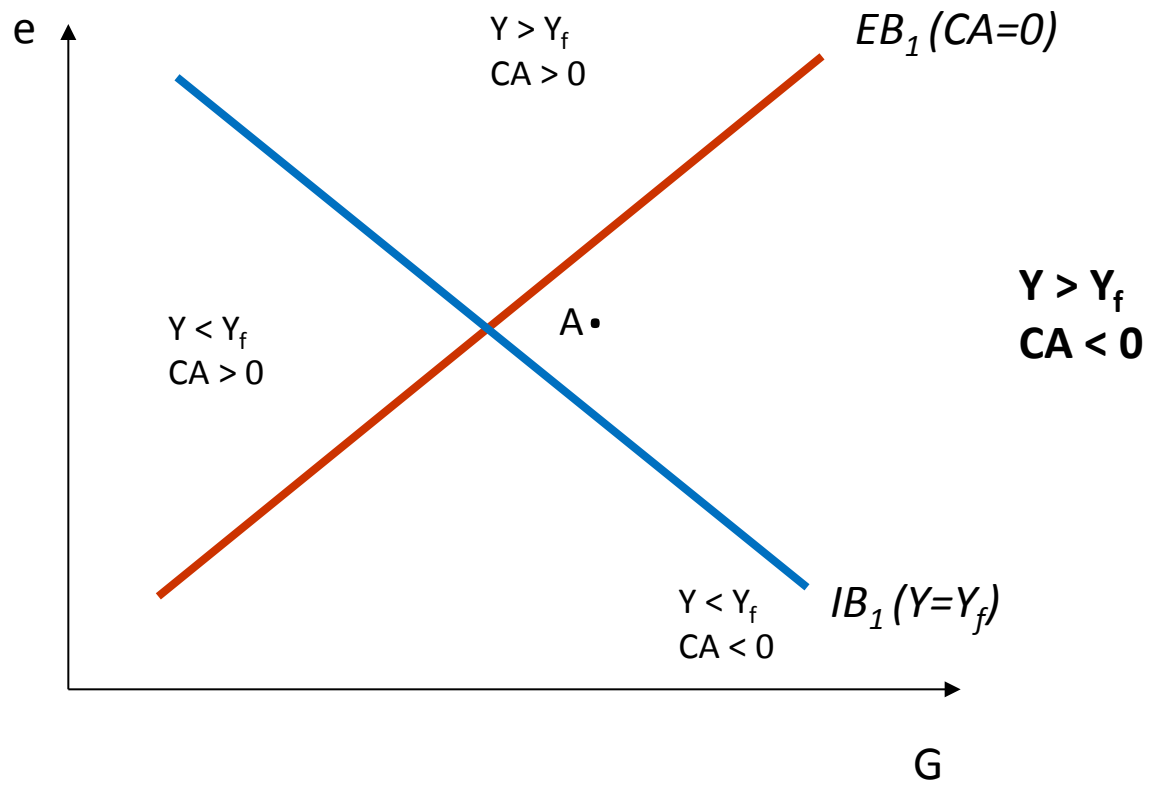
Macroeconomic Goals



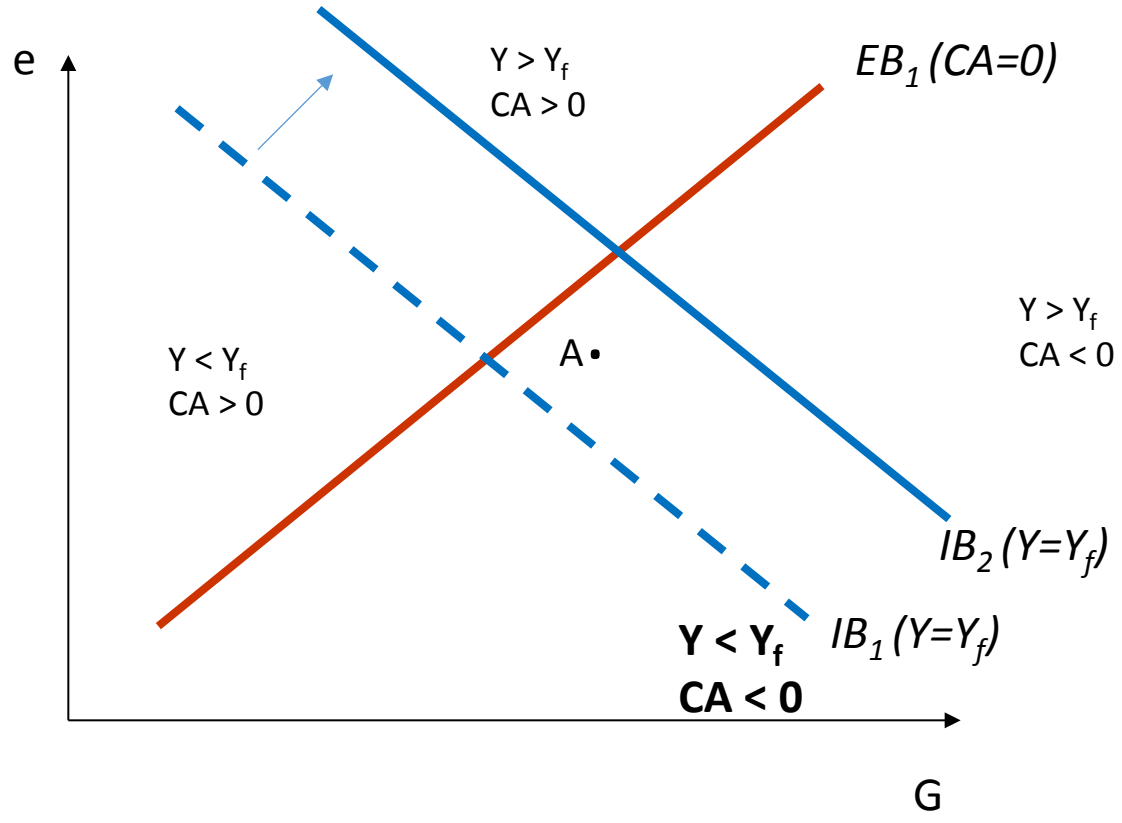
Zones of Economic Discomfort



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

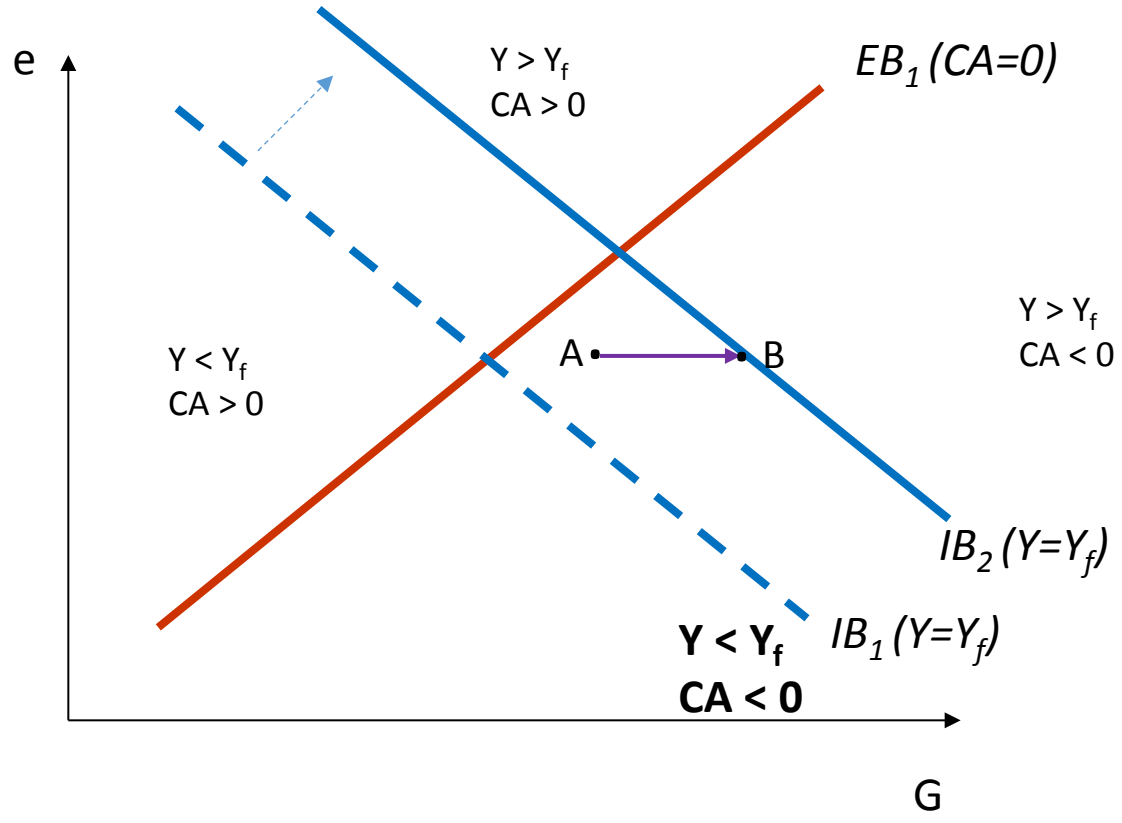


PNG: 2013-14: end of Investment boom (↓ I)

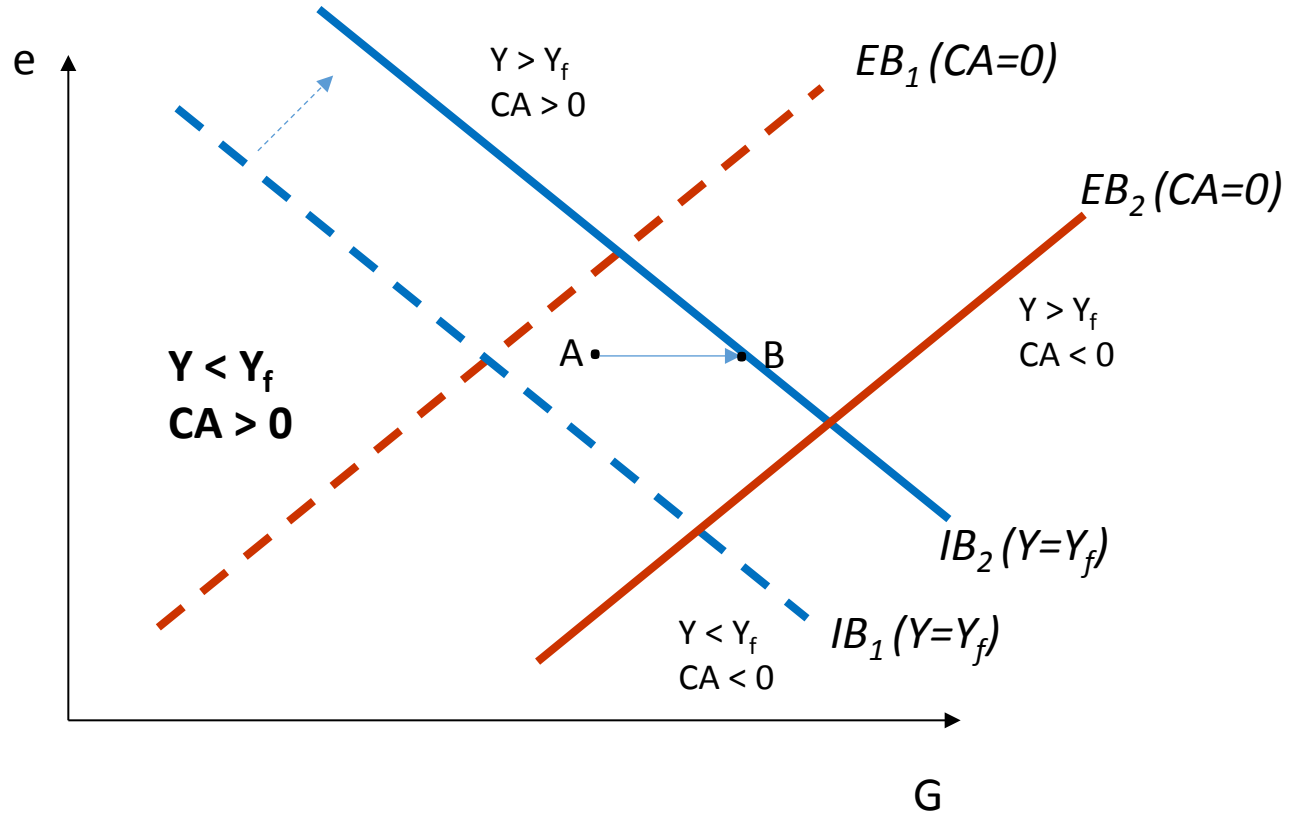


↓ I means higher *G* (or *e*) require to ensure $Y=Y_f$ *so IB shifts right*

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

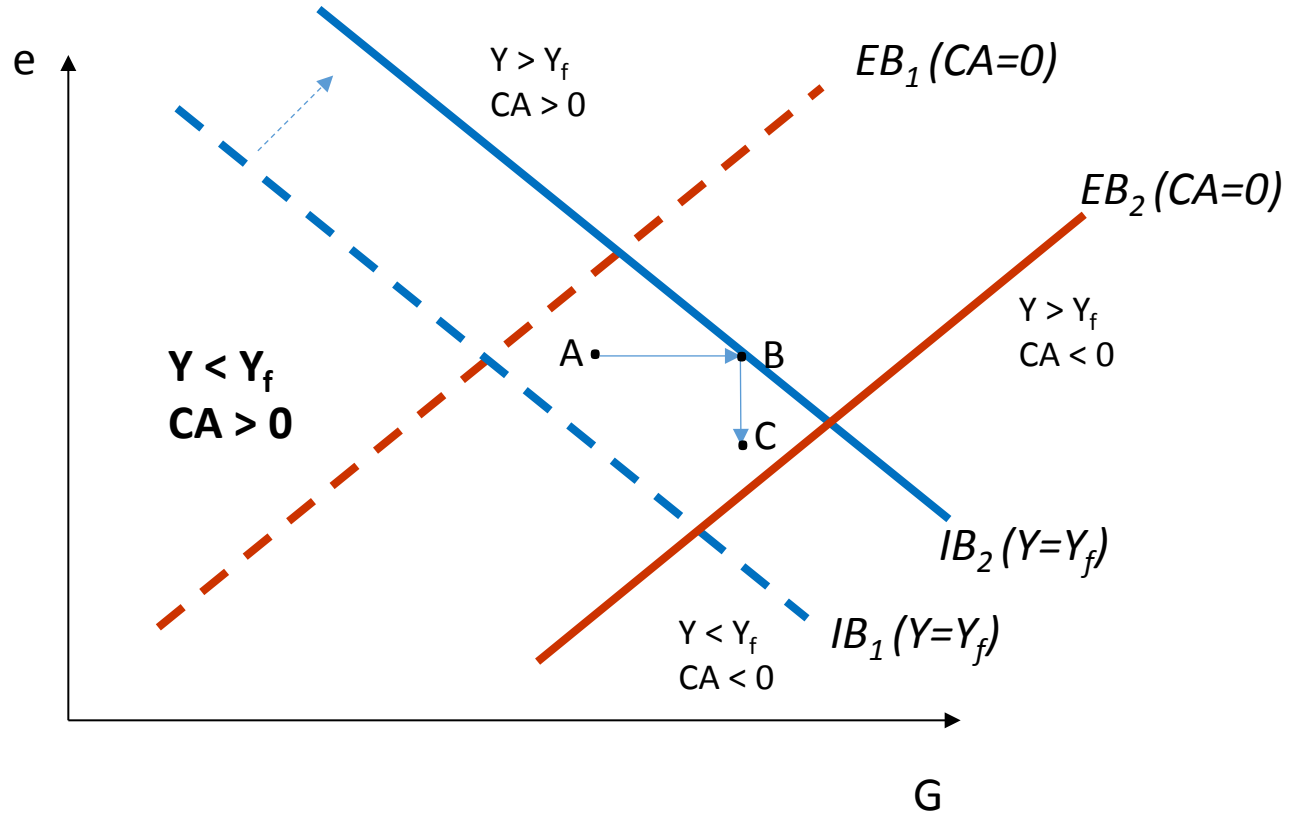


PNG: 2014: export boom (↑ EX)

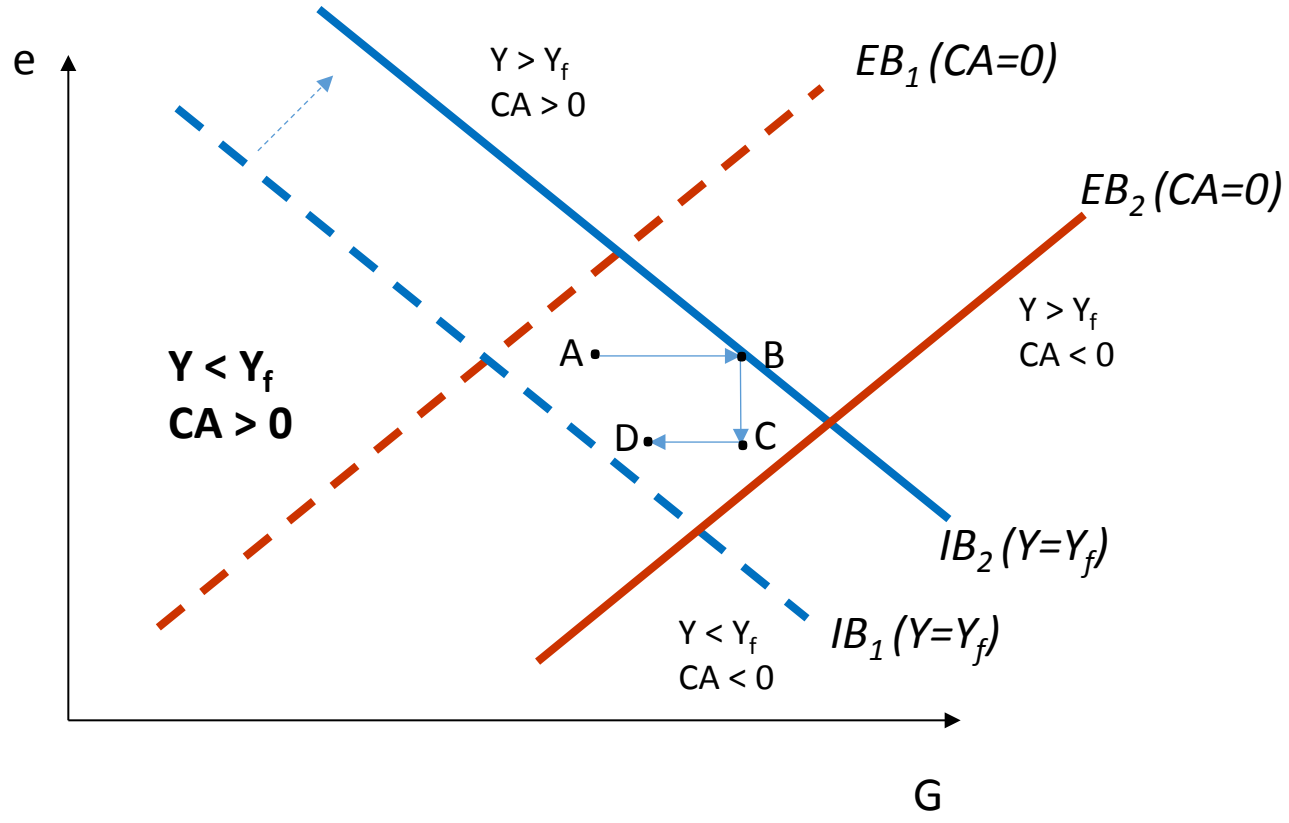


↑ EX means require higher *G* (which increases *Y* and *IM*) to ensure *CA=0* so *EB* curve shifts right

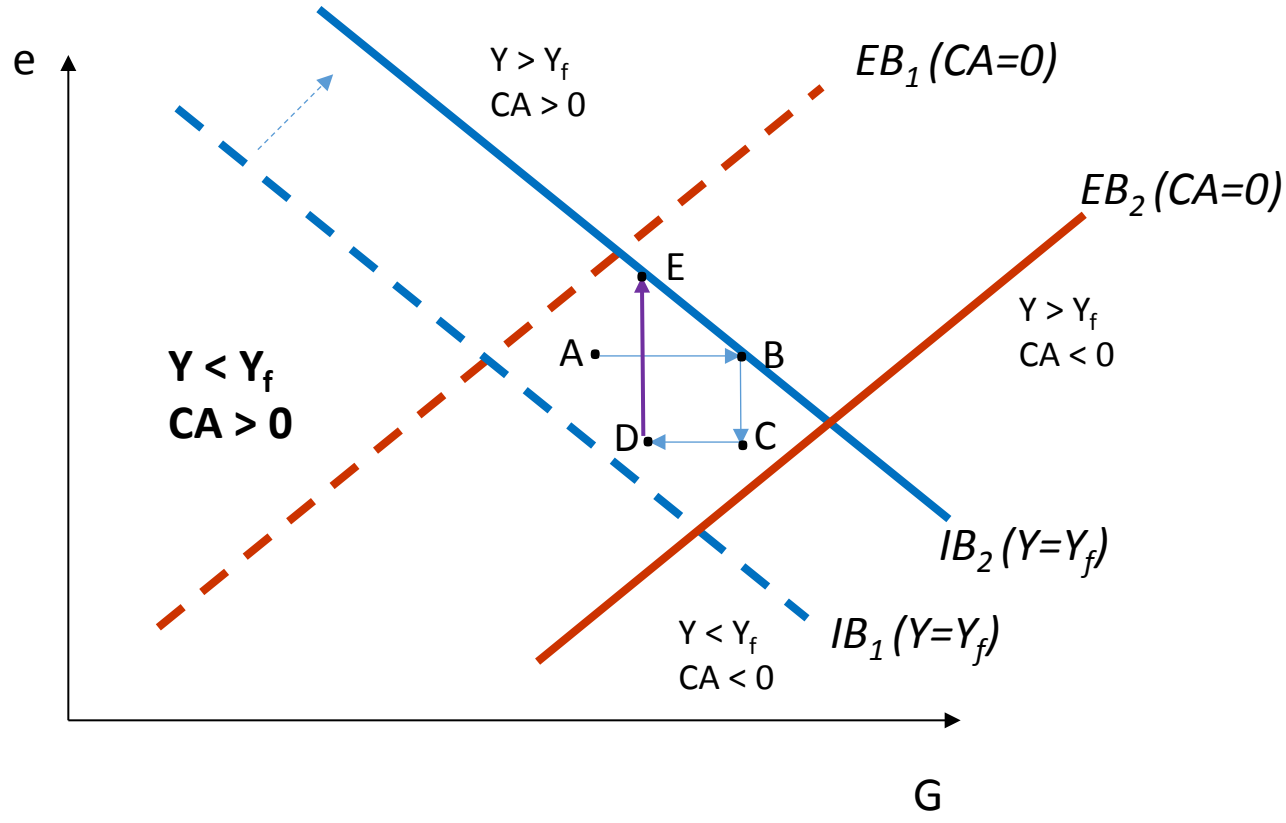
PNG: mid-2014: revaluation (↓e by 17%)



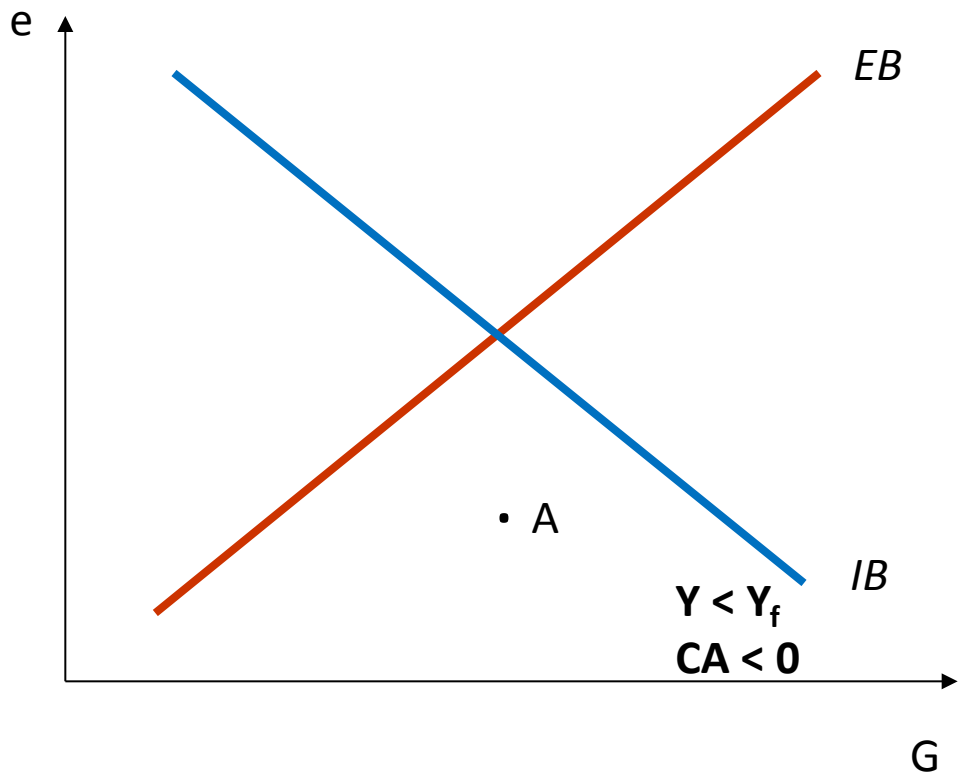
PNG: 2015: fiscal contraction ($\downarrow G$)



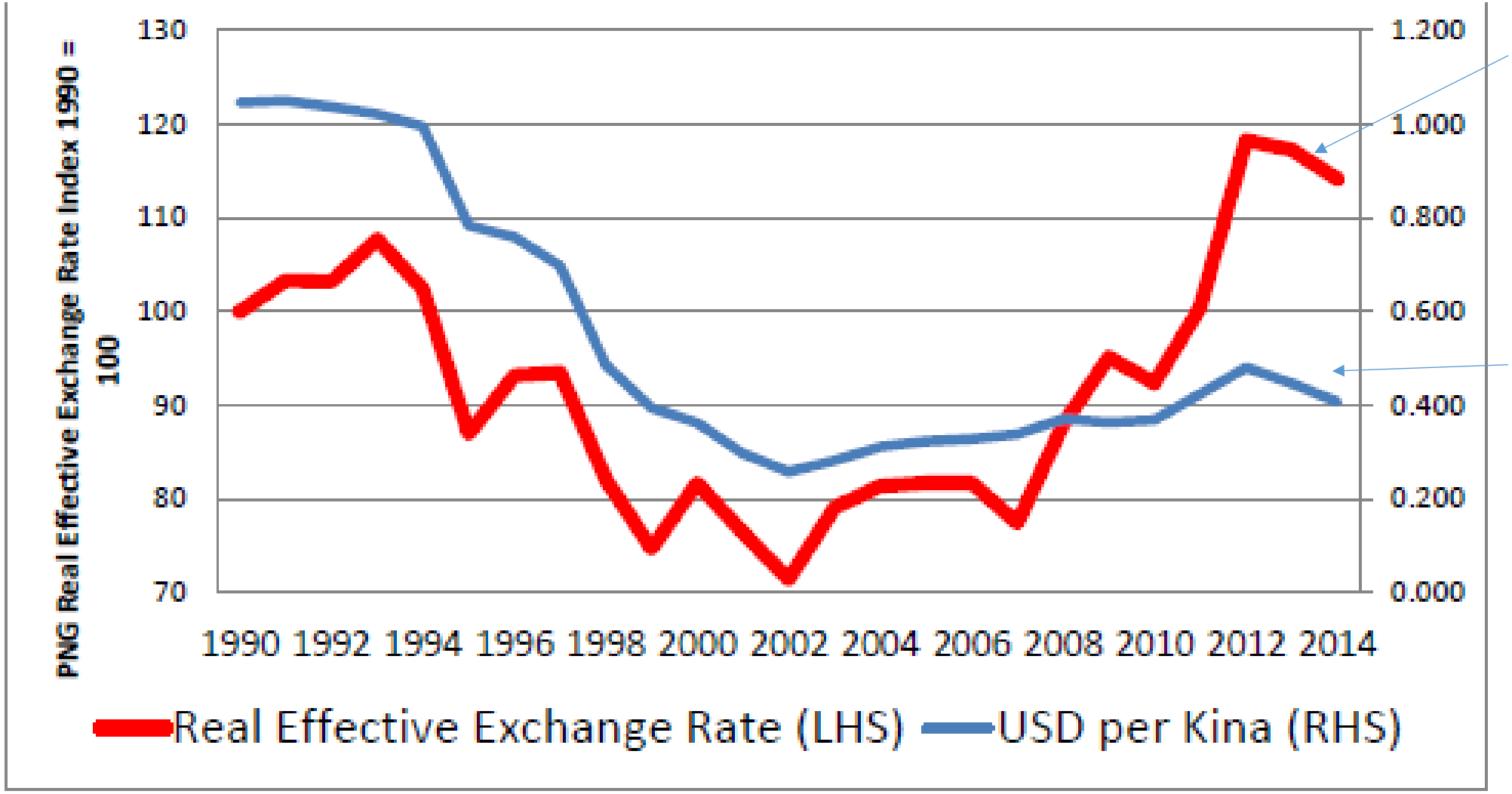
PNG: 2015: devaluation (↑e) completing the square



Greece



Real exchange rate: 1990 - 2014



Source: P. Flanagan, 18 June 2015

Forex Market: Balance of Payments

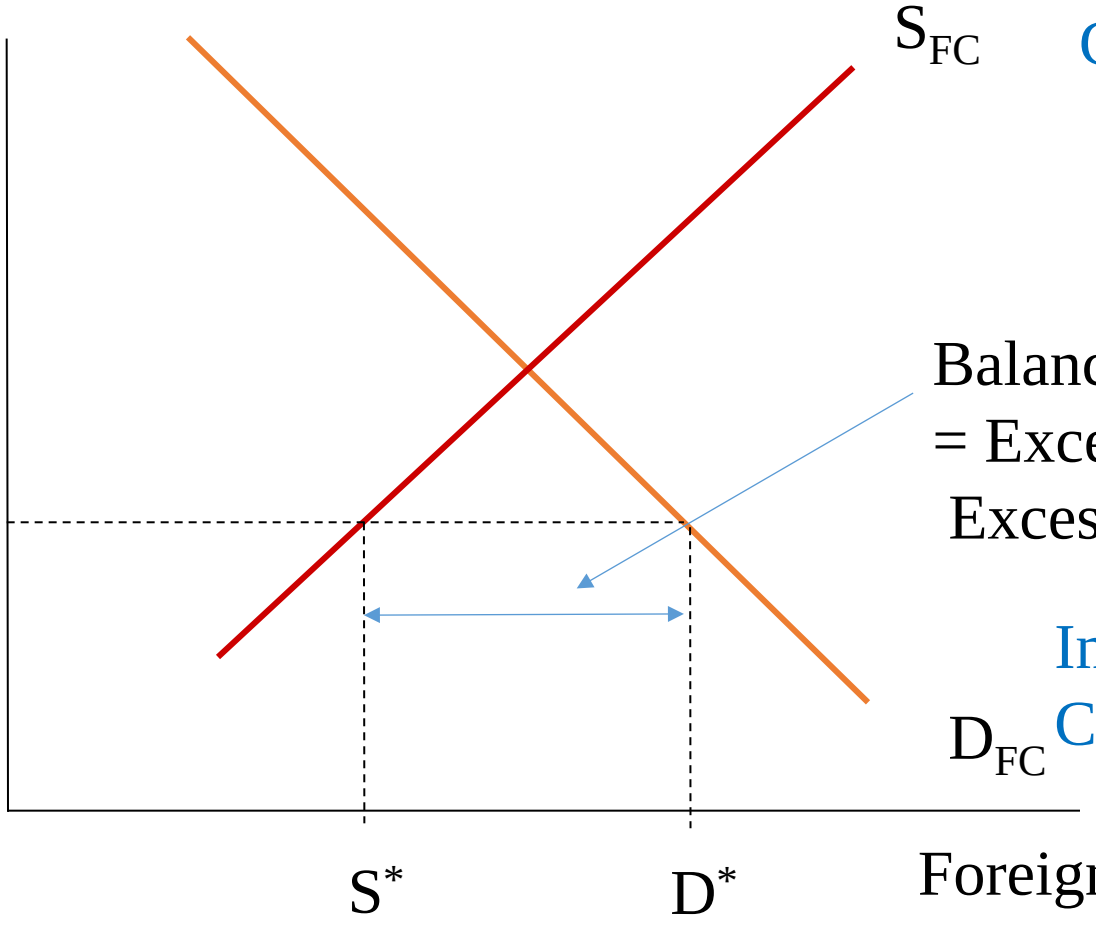
what exactly is going on?

- 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

$$e^* = \frac{1}{0.3625} = 2.76$$



So where is the foreign exchange?

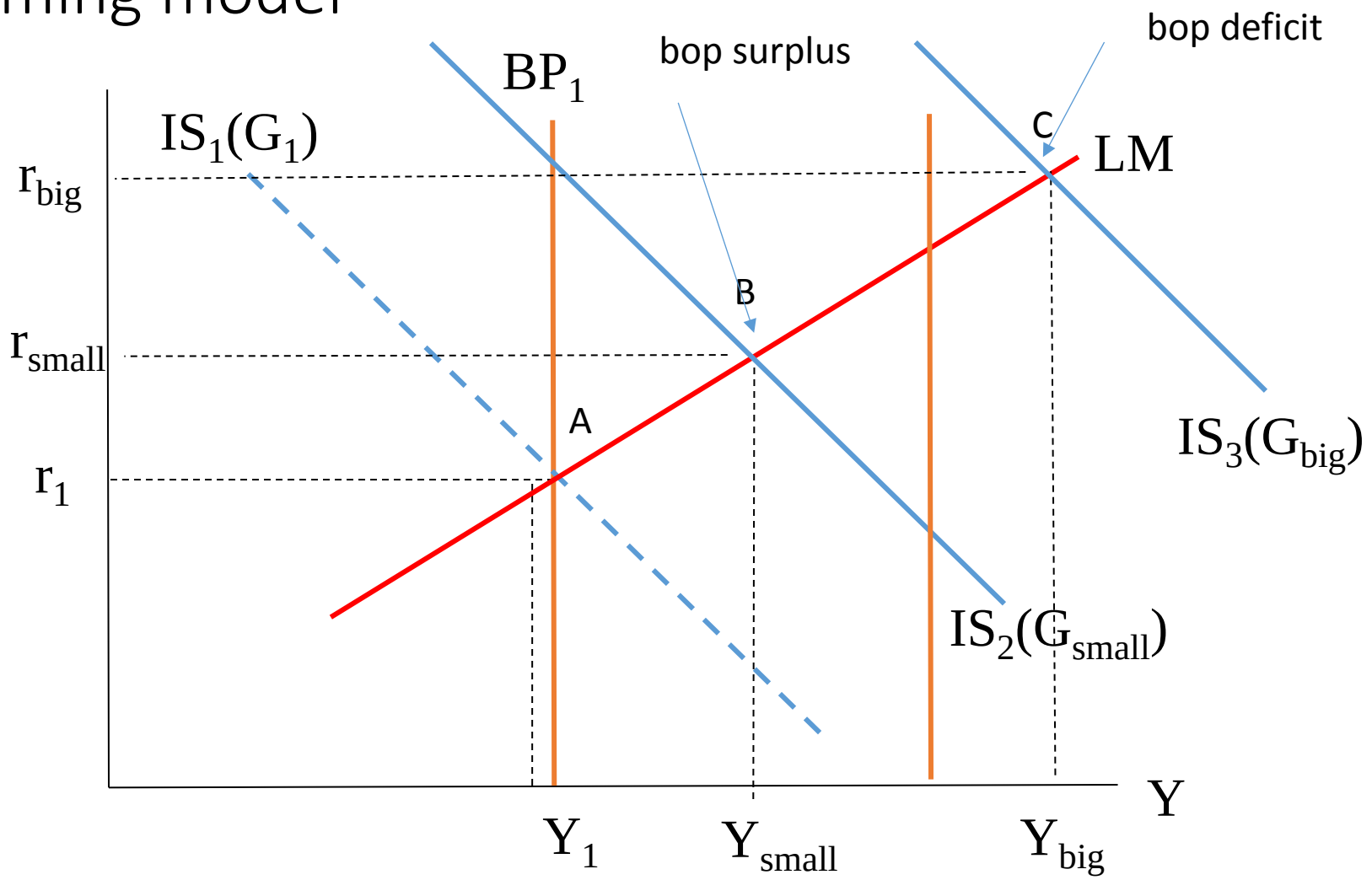
- Exports:
  - GDP vs GNP: not owned by PNG fops
  - partners aren't spending it in PNG
  - Gov't: priority on debt repayment

- Tax receipts: accelerated depreciation: reduces tax payments

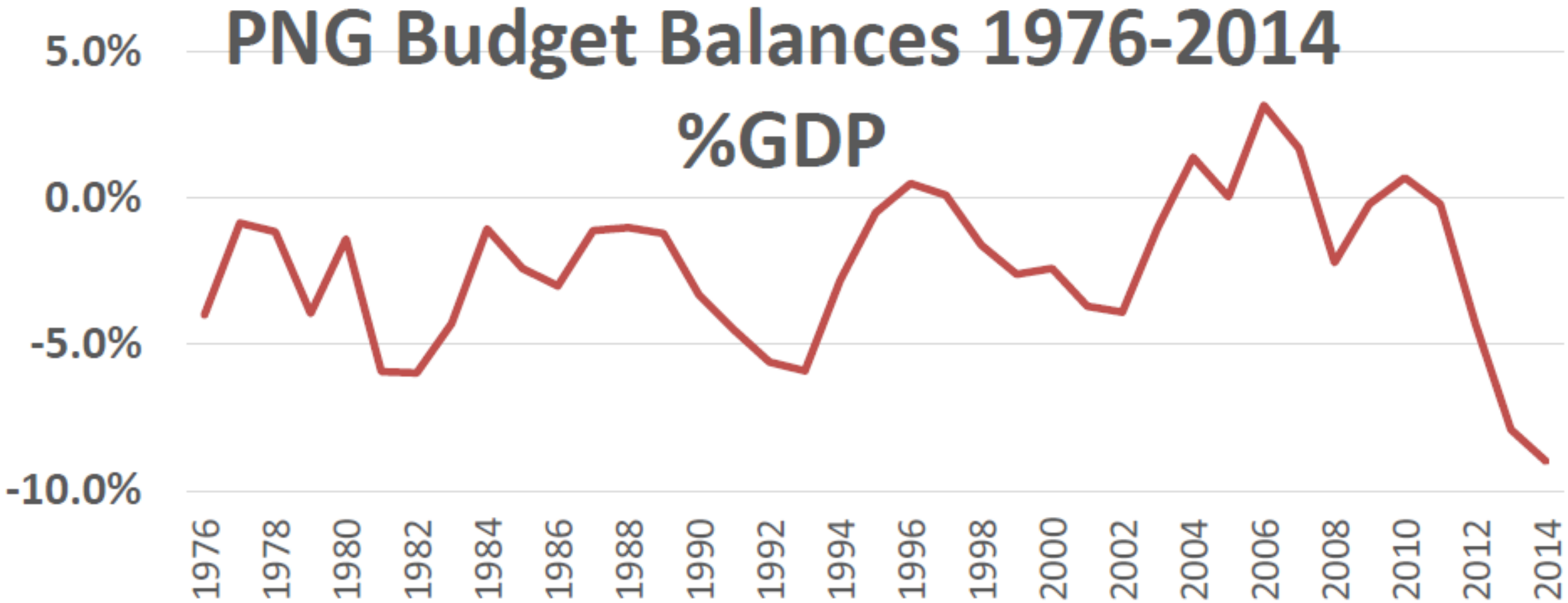
- Imports:
  - big increase in G
  - government high mpi: of every Kina spent, 60-70 toea on imports
  - gov't finance via bond sales raised in Kina (domestic market)
    - sell bonds to foreigners

Export boom + Fiscal expansion (small or big)

Mundell-Fleming model



Fall in oil prices: size of increase in G relative to export boom determines whether BOP surplus or deficit



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 gdp must grow at 26%*

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

r - g = 27%

Fiscal Policy adjustment

2015 and beyond

- lower energy prices here to stay
- planned cuts in G (expenditure)

	2015	*2016*	*2017*
deficit	*-4.4%*	*-2.5%*	*0*

cut expenditure 11% in 2016 and 15% in 2017

- expand adjustment time frame: remember $r - g$
- with stable debt dynamics okay to allow debt/gdp to increase to facilitate adjustment

- Supplemental budget planned for July (?)

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