Coping with volatile capital markets and shifts in trade policies via Current Account Adjustment:

ECON 3235 Economics of Latin America

Fall 2017 lecture notes

Darryl McLeod, Fordham University

Key issues for 2017

- **Ending shock treatment:** OECD countries get to use "helicopter money" but LatAm ctys must cut spending to balance budget? Leading to riots and ***populist backlash*** in Bolivia, Chile, Venezuela…
- **Original sin,** redemption, then **graduation to** pro-cyclical fiscal and Monetary policy… ? Carlos Vegh)
- **Some countries face protectionism in the U.S.:**

how can Mexico, Chile, the DR and Peru can defend themselves against negative U.S. trade shocks?

Crises & capital flow reversals lead to "sudden stops" in capital flows

- R. Dornbush and A. Werner famous paper saying the Mexican crisis of 1994 was inevitable due to currency overvaluation, a banker in the audience observed "it is not the speed that kills, it is the sudden stop…" Guillermo Calvo Carlos Vegh et al.
- Lack of instruments (currency or money makes crisis much worse)
- Are private capital flows and CA imbalances intrinsically bad? Myranmar, Cuba North Korea complete autarchy is bad.

Similarly: how has LatAm adjustment imporved?

- **Sudden stops**: manage capital flows to mitigate sudden CA reversals √
- fixed vs. flexible exchange rates (√ now flexible)
- excessive external debt (Puerto Rico, Bolivia) Debt relief Brady bonds, Wall Street
- Economic populism: fiscal deficits lead to currency crises (Krugman speculative attacks model)

Similarly: how can adjustment models help us understand early LatAm crises

- Currency mismatch creates banking crisis via asset or balance sheet effects dollarization cures this (El Salvador, PRI, Ecuador, Panama, but sometimes cure worse than disease…)
- Mistakes by IMF/central banks in crisis response (IMF Riots Ven, cause contagion during 1990s)
- Country- policy mistakes crisis response, delayed stabilization, capital controls

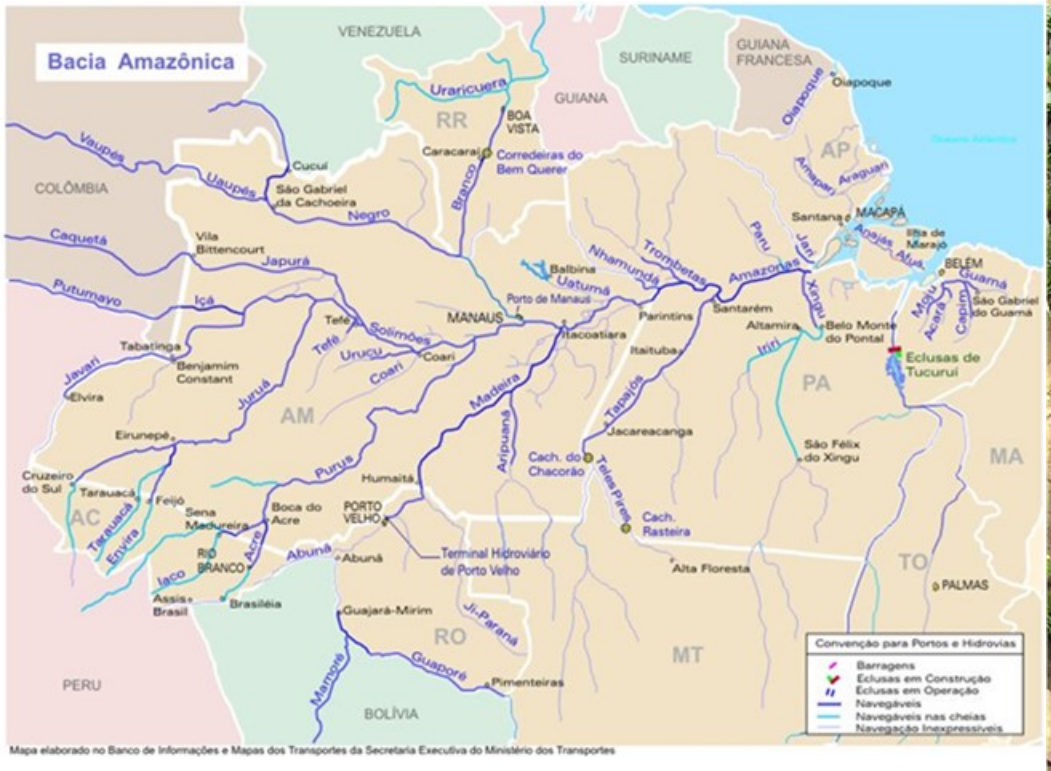
Real exchange rate management a serious problem in LatAm, now for the Euro zone…

- *At the end of Chapter 6 Edwards, 2010 argues, "In the story of Latin American economic reform, then, one variable more than any other plays a crucial role. It is not inflation, wages, or economic growth; it is not privatization or the extent of openness and globalization; it is not even foreign debt. The key variable is the exchange rate, or the value of the local currency-the peso, the bolivar, the quetzal, the real, or the cordoba-in relation to the United States dollar. Repeated mistakes in exchange-rate policy will be singled out as the most important cause behind the region's economic travails, the waning support for modernizing reforms, and the eventual revival of populism during the twenty-first century.* Sebastian Edwards. *Left Behind: Latin America and the False Promise of Populism* Kindle Edition (chapter 6).
- **Some good news**: with a few exceptions, exchange rate management has improved greatly and region has learned to cope with commodity price instability and "sudden stops" in private capital flows.

Key exchange rate management challenges for Latin America and Africa

1. ***Dutch Disease (DD) natural resource booms and busts:*** *Populist spending and public and private capital inflows amplify the boom bust-cycle….*
2. **Devaluing nominal exchange rate counters DD**: but can be inflationary… almost all LatAm countries used "nominal anchors" to stop inflation in 1990s (ABC &M).
3. **Capital inflows and Financial liberalization can aggravate DD:** CA deficit, followed by capital inflows, real estate boom, more credit expansion, more imports, they collapse of banks and external debt crisis (and inflation) follow… The "proto-typical" Rheinhart and Rogoff crises

Commodity booms and busts: rubber in Brazil early 20th century synthetic rubber boom



Commodity booms and busts

- Brazil's turn of the century rubber boom…

Commodity booms and busts

Cures for the Dutch Disease

1. ***Chile's structural balance rule:*** *Copper Stabilization fund see Teresa Daban, 2011, Norway's sovereign wealth fund….*
2. **Venezuela: redistribution programs… fiscal spending on the poor**: but can be inflationary…
3. **Flexible exchange rates: sterilization, S-Term capital controls**
4. **Excess crude funds, flexible fx policy (Uganda and Nigeria?)Capital inflows and Financial liberalization can aggravate DD:**

Real exchange rate = ep^*/p_d

- Inflation adjusted price of dollars or real exchange rate
- Internal devaluation: p falls (deflation)
- External devaluation: e rises, but inflation may too, and often causality runs from
- Can also be interpreted as the price of traded over nontraded goods P_T/P_N

Approaches or models of CA adjustment: 2 ***traditional*** and 2 ***modern)***

- ***Elasticities Approach*: market for dollars diagram, not** "automatic" adjustment but flexibility helps….
- ***Absorption approach*** (Alexander, 1950) "living beyond one's means…" surpluses…
- ***Monetary approach*** (aka financial programming)
- ***Mundell-Fleming Model***-- back, sort of… see Krugman's blog and Stanley Fischer ARC conference

Modern approaches to CA adjustment we discuss 1 & 2:

Yes TNT: Traded vs non-traded goods model: real estate bubbles, RER and unemployment

Yes Sustainable CA balances maintain a constant debt to GDP ratio…. Ctys can borrow or lend or lend forever…. Why is that (Puerto Rico too?)

No: The **intertemporal (IT)** approach to the CA… Sachs, 1985 Frenkel and Razin.

Yes: Portfolio approach (diversification leverage, carry trades? Emerging markets)

Classic models of CA adjustment: *classic vs. Modern*

- ***Elasticity Approach***: the real price of foreign exchange matters (q = ep*/p) adjustment is not "automatic" but how q changes is important
- ***The absorption approach*** (Alexander, 1950) "living beyond one's means…" income effects, savings and investment matter…
- ***Monetary approach*** (aka financial programming) domestic and foreign money are substitutes
- ***Mundell-Fleming Model***– interest rates and international capital flows matter for policy effectiveness

The Absorption view of CA adjustment

The absorption approach (Alexander, 1950 see de Vries page 14, search on absorption) “living beyond one’s means…” income effects, savings and investment matter… hold all prices including the RER constant and just focus on income effects.

Y - A = CA where A = C + I + G a CA says that a country is "consuming" more that it produces, but absorption includes public and private investment so economy will grow and you can pay back the loan or make good of aid.

Absorption or Fixed Prices CA adjustment

$$Y = C + I + G + CA$$

so that $Y - C = I + G + CA$

but since $Y - C = S + T$

then $S + T = I + G + CA$ assuming a balanced public budget $G = T$

then we have $S = I + CA$

or $CA = S - I$

The Absorption view of CA adjustment

$$S = I + CA \quad \text{or} \quad S - I = CA$$

- **CA surplus** implies domestic investment or I is less than domestic saving, that is $I < S$,
- **CA deficit** is when domestic investment exceeds domestic saving that is, $I > S$
- Surplus is implies paying down external debt (or accumulating reserves)… saving for a rainy day?
- CA Deficit implies country is borrowing, has FDI or is using reserves to import (prevent recession?)

Modern Mundell Fleming model has automatic CA adjustment via interest rates

- Heading toward the Metzler diagram of Sachs and Larraine Chapter 6 where savings investment depends on real domestic interest rates:
- And the new Mundell Fleming models with a zero interest rate lower bound…
- $S(r) - I(r) = CA$
- Capital flows in Latin America are increasingly sensitive to interest rates, partly because only LatAm pay interest rates!!! World $r^* = 0$ or < 0
- So LatAm interest rates $r - r^* = r$

Modern views of CA adjustment:

1. **TNT model: Traded vs non-traded (TNT)**: the RER or q back on center stage, redefined as P_T/P_{NT}
2. **Sustainable CA balances** maintain a constant debt to GDP ratio…. Countries can borrow or lend or lend forever…. Up to a point (except Japan)
3. **Intertemporal (IT)** the CA smooths consumption or investment … Sachs, 1985 Frenkel and Razin.
4. **Portfolio approach:** emerging markets diversify risk, capital markets (global portfolio shifts "taper tantrums" "sudden stops" CA reversals)

Meet the Real Exchange Rate:

RER is $q = ep^*/p$

"e" is the **nominal exchange rate**, pesos per $US dollar about 17 now

p^* is world traded goods prices

p is domestic prices typically CPI

[or Traded Nontraded goods TNT mode:

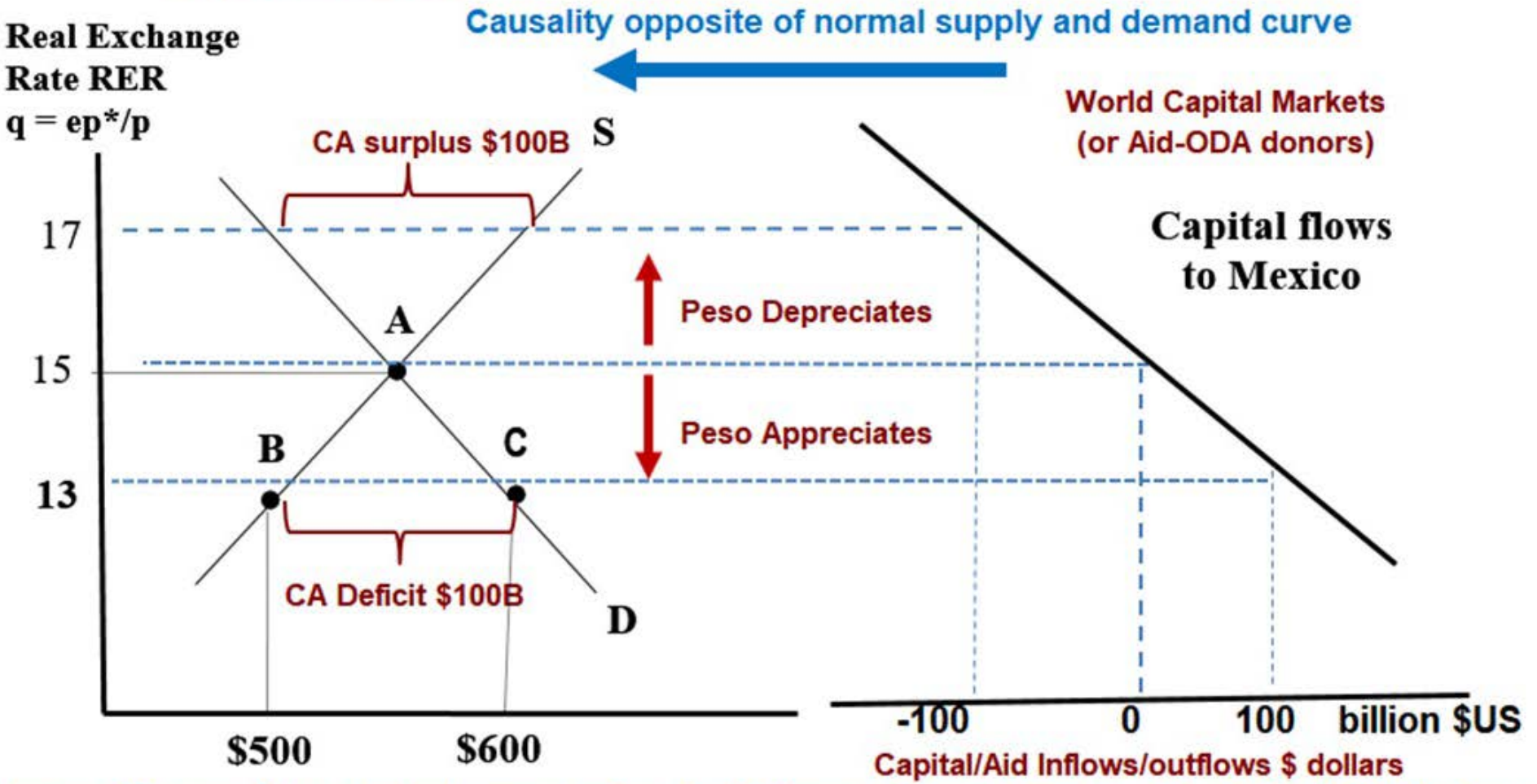
$q = P_T/P_{NT}$ where $P_T = ep^*$]

Four Adjustment options LatAm

1. **Austerity:** cut fiscal spending, crowd in private spending… IMF will help you do this…
2. **External devaluation:** let e rise , but inflation may too, and neighbors may retaliate (Mexico?)
3. **Internal devaluation:** p falls (deflation) very painful and slow, very high unemployment
4. ***Structural Adjustment:*** shift supply curve to the right (shifting the PPF out to right…) "supply side economics" can be slow and unpredictable

Key point: point A of is not a magnet: capital flows exogenous: the tail wags the dog causality goes from left to right

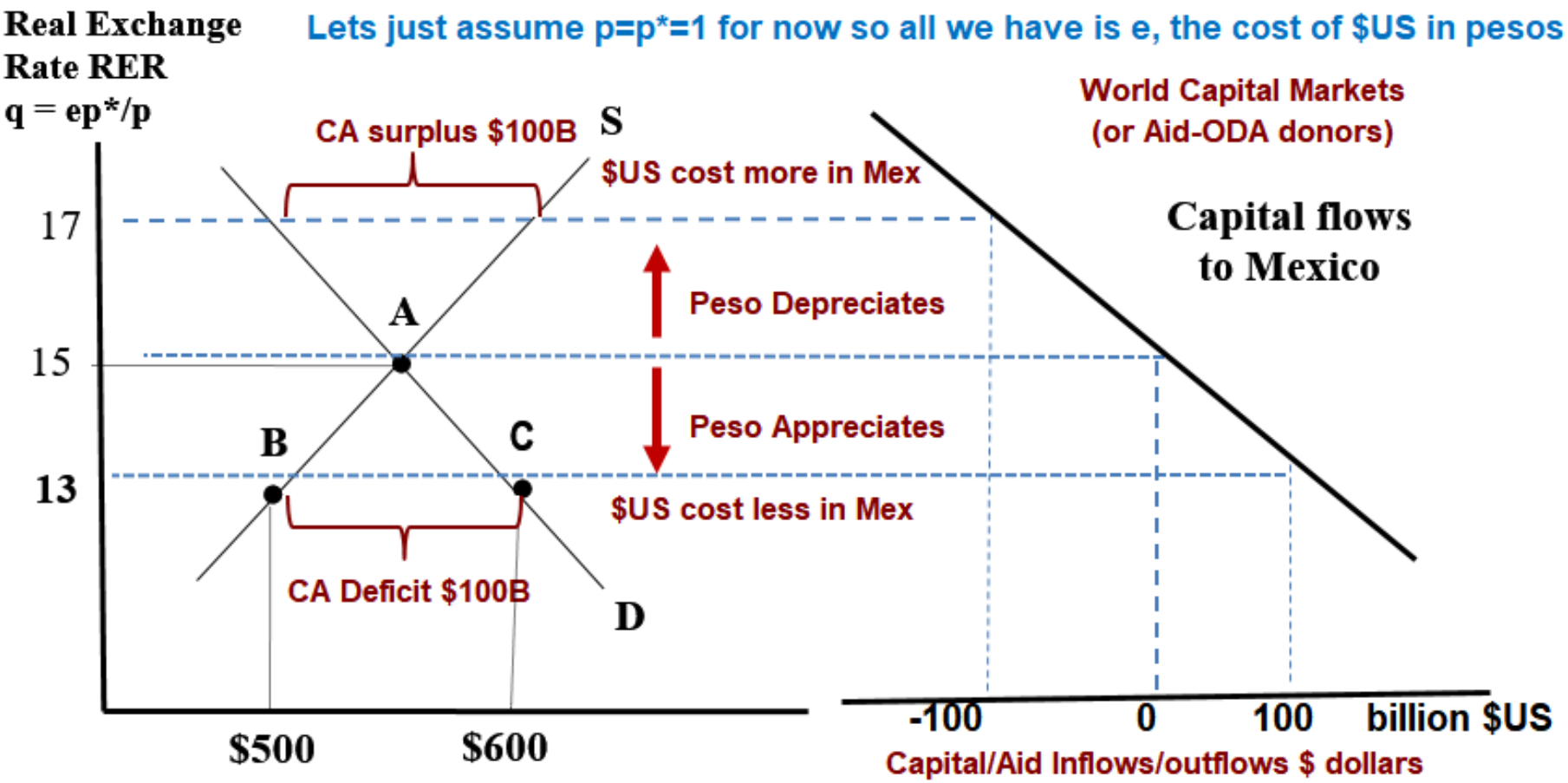
Figure EA-2: How NY Capital Markets affect LatAm Countries



In small open (developing) economies Fx inflows often determine the RER & CA balance

Key point: point A of is not a magnet: capital flows exogenous: the tail wags the dog causality goes from left to right

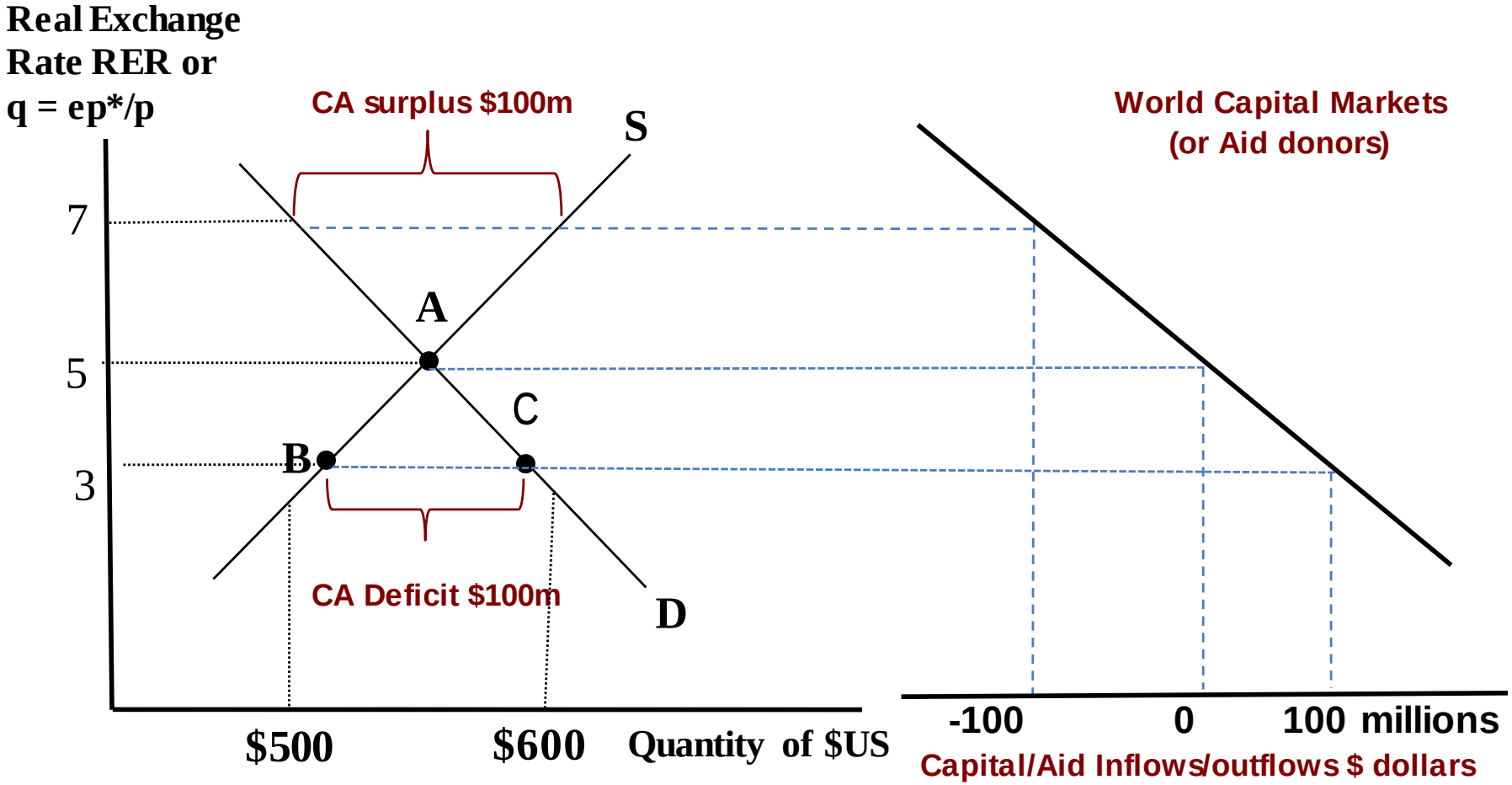
Figure EA-2: How Capital Markets affect LatAm Countries



In small open (developing) economies Fx inflows often determine the RER & CA balance

Key point: point A of is not a magnet: capital flows exogenous: the tail wags the dog causality goes from left to right

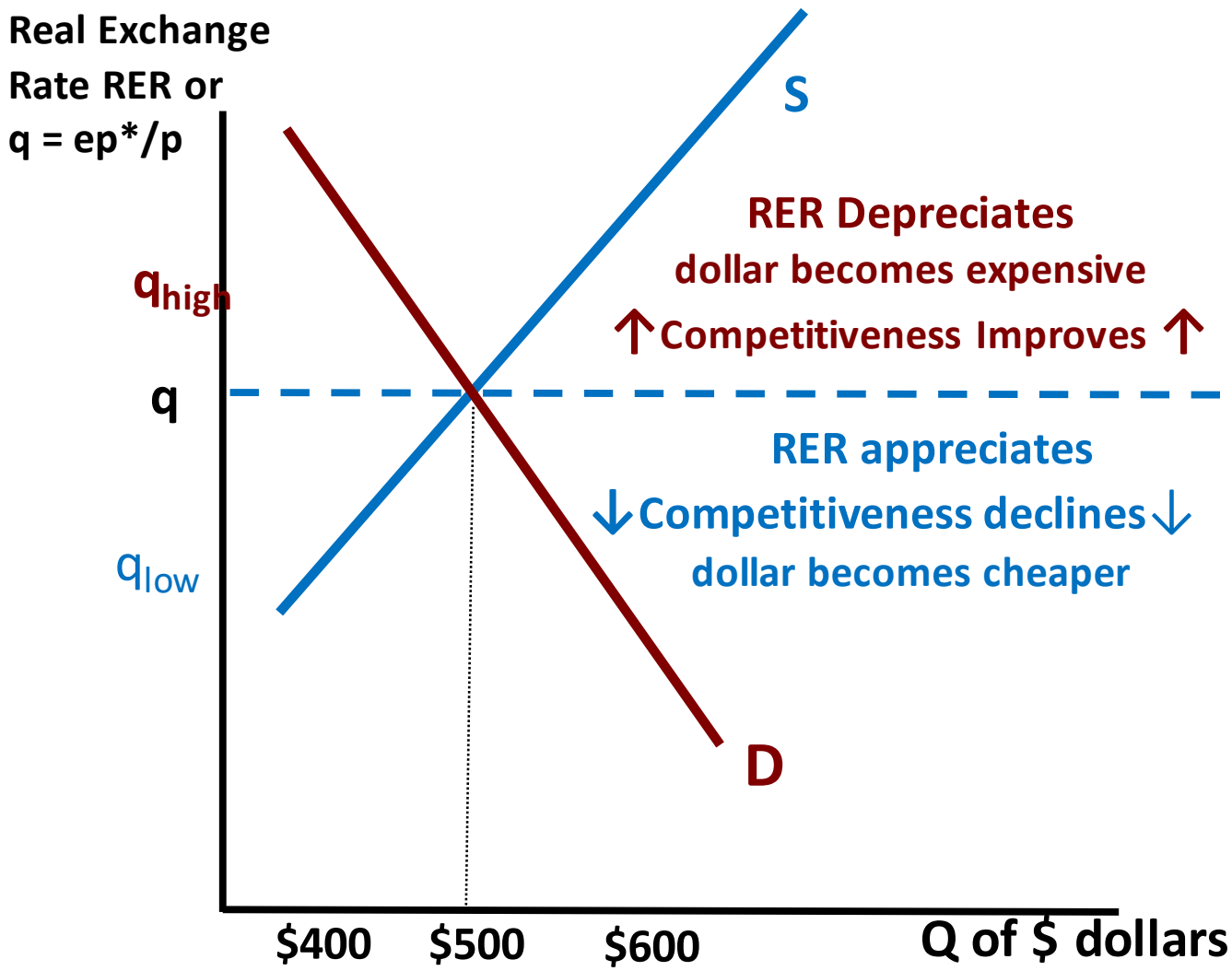
Figure 2: capital flows and the RER in a small open economy



In small open (developing) economies Fx inflows often determine the RER & CA balance

Figure 1A: Defining the RER q = ep*/p where e is price of $ in LCUs is conventional but confusing

Still, small open economies have options: they can control their RER and capital inflows to some extent



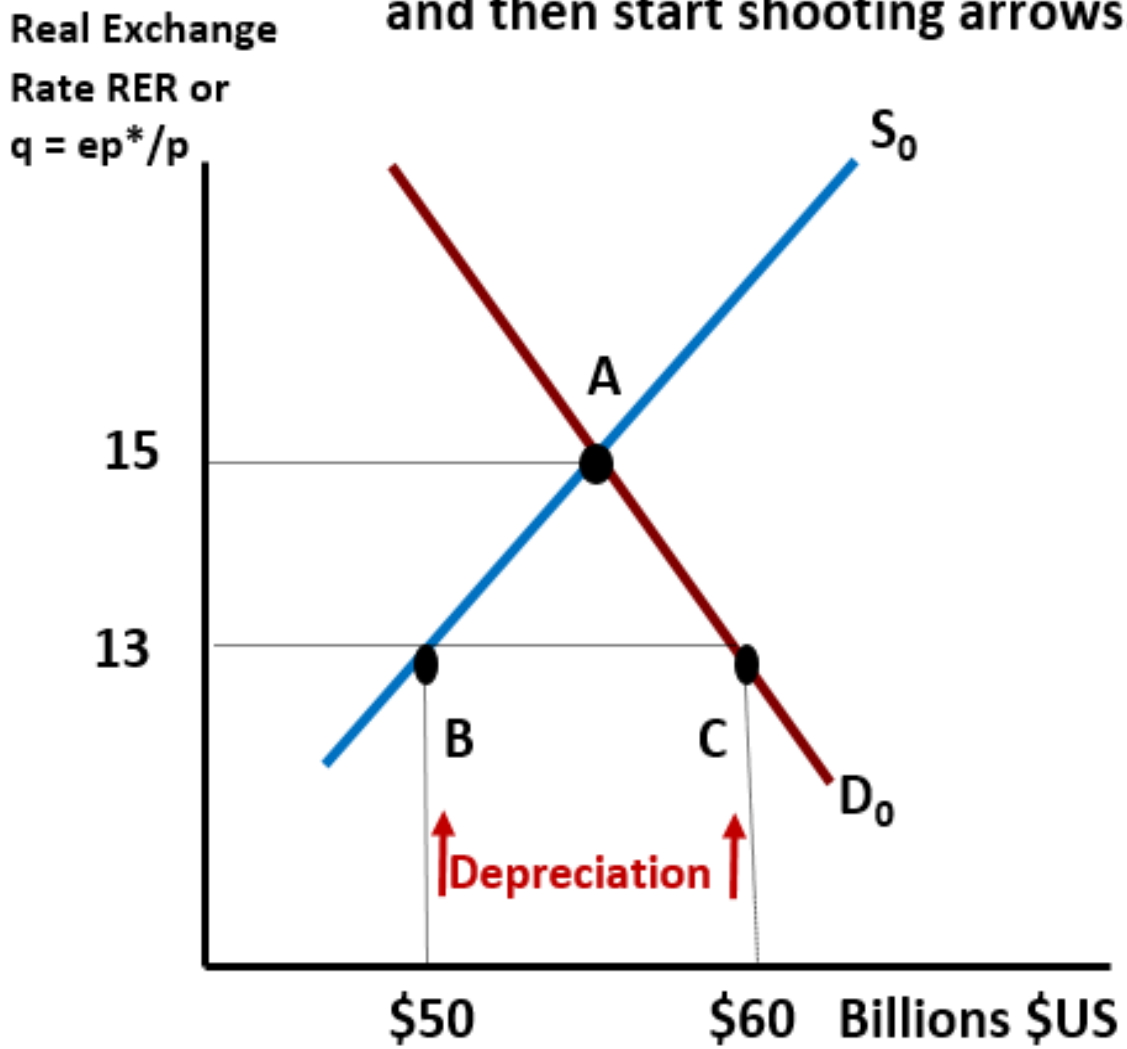
where, e : nominal exchange rate, LCU per dollar

p*: international prices or exports or traded goods

p : domestic prices in LCUs, CPI or nontraded goods prices

The best way to get rid of a CA deficit is t depreciate your currency but this ma lead to inflation and contagion (beggar thy neighbor effects) the IMF was put on earth to stop contagion and stabilize currrencies

Figure LatAm-1 Start with a CA deficit and then start shooting arrows.



Note: Internal devaluation much harder, leave e fixed but reduce p (domestic prices and wages) so q falls but this harder and slower and usually starts with sharp recession

The IMF always recommends "Austerity" this reduces contagion and makes you a good neighbor, small countries do not need to be good neighbors (nor do countries with bad neighbors…)

Figure 1C Policy response #2: Stbz Policy, Demand shifts from C to B, CA = 0

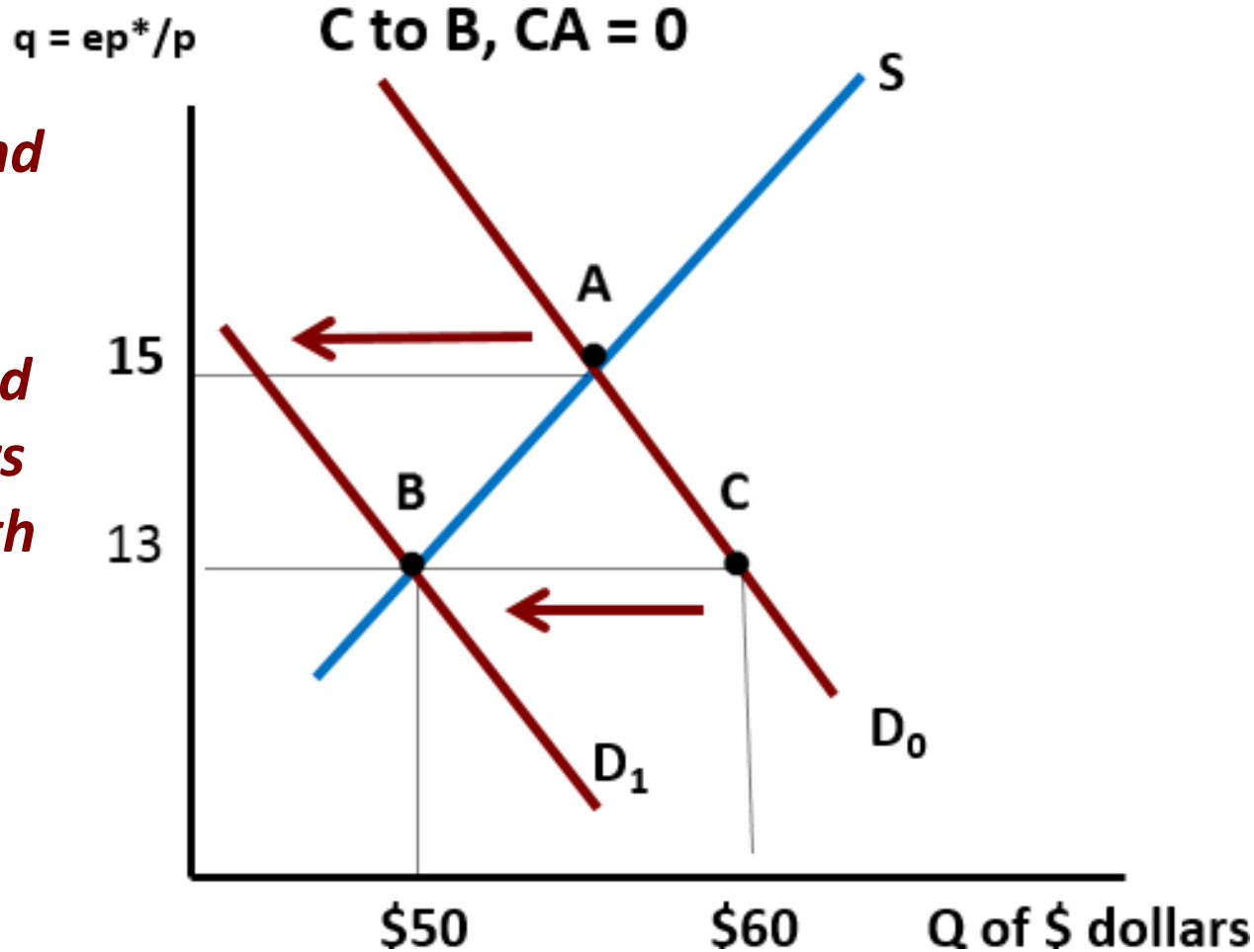


Figure 1D Policy response #3: Structural Adjustment shifts Supply, moving from B to C, CA=0

Oil Market reforms (for example) increase supply of exports, currency appreciates import demand appreciates, NAFTA & oil reforms

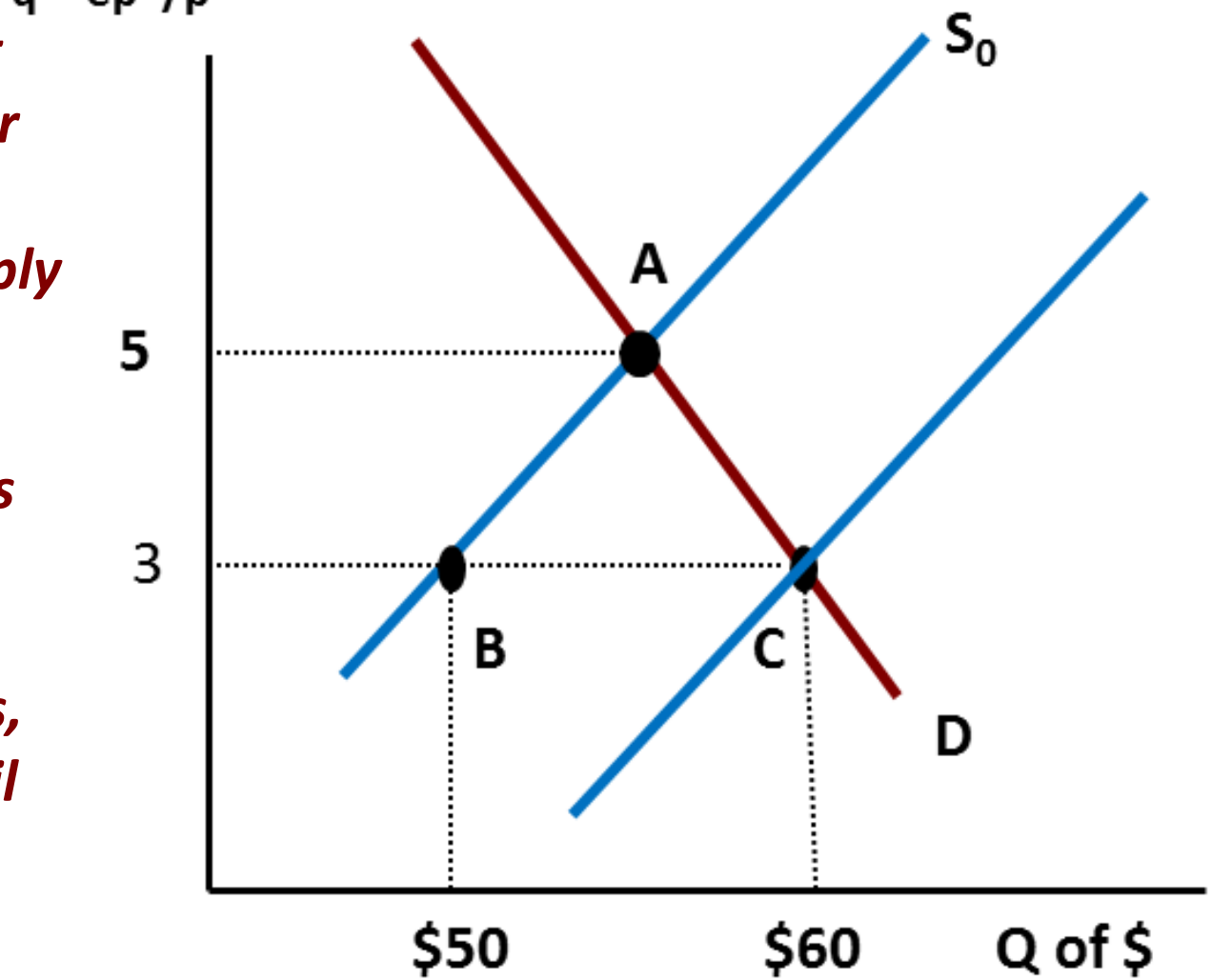
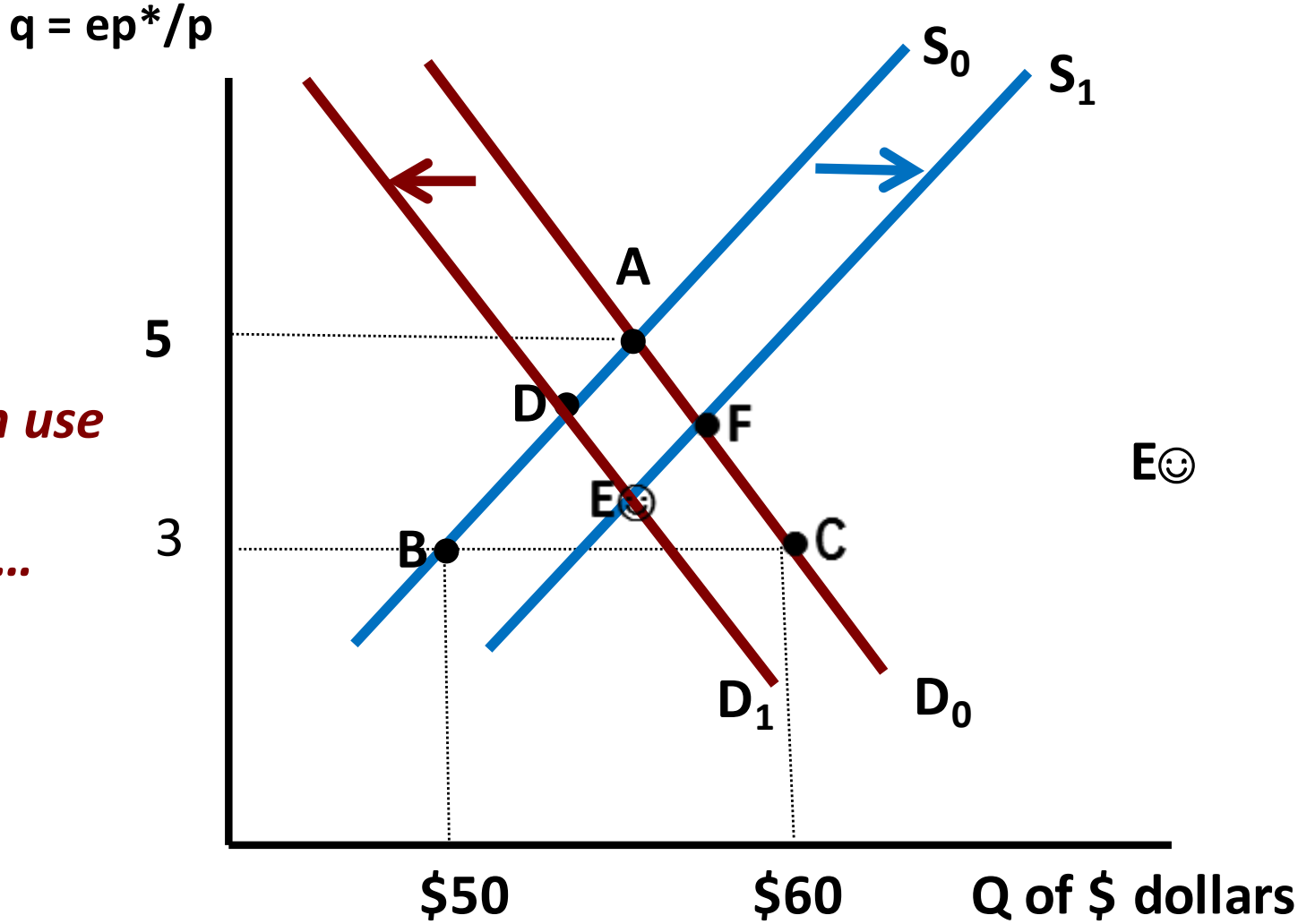


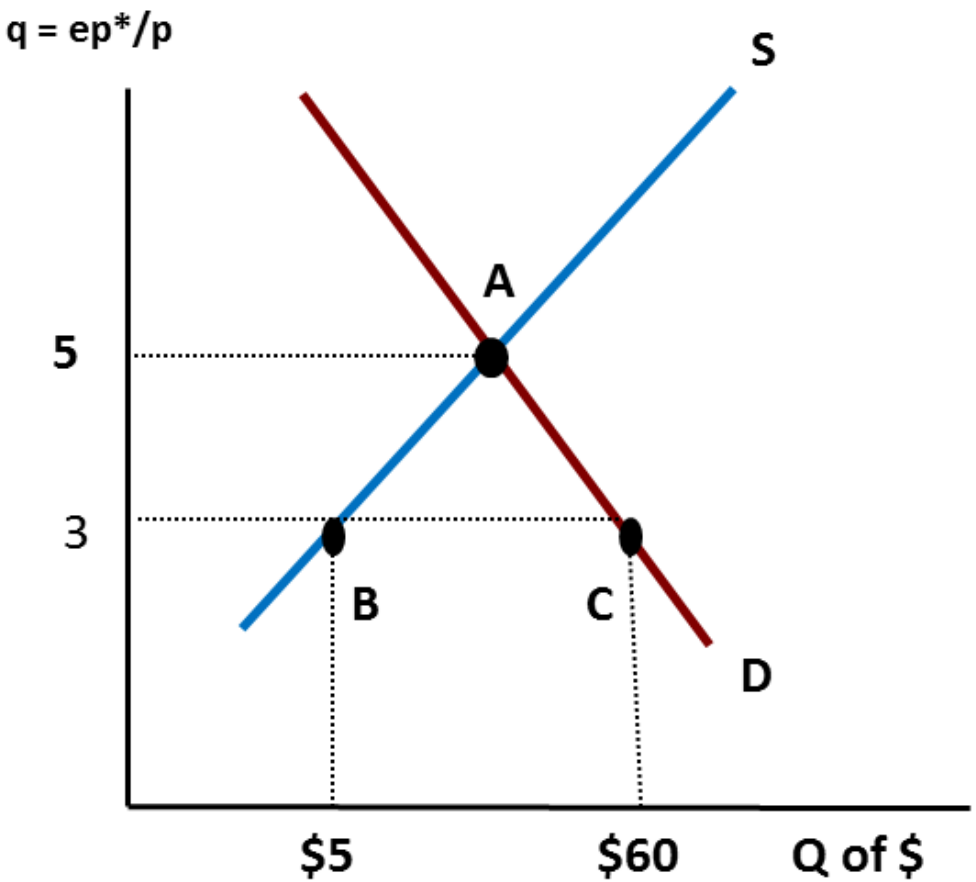
Figure 1D All 3 adjustment arrows working to end CA deficit *(does e have to change to get from A to E?)*



Countries often use all three approaches…

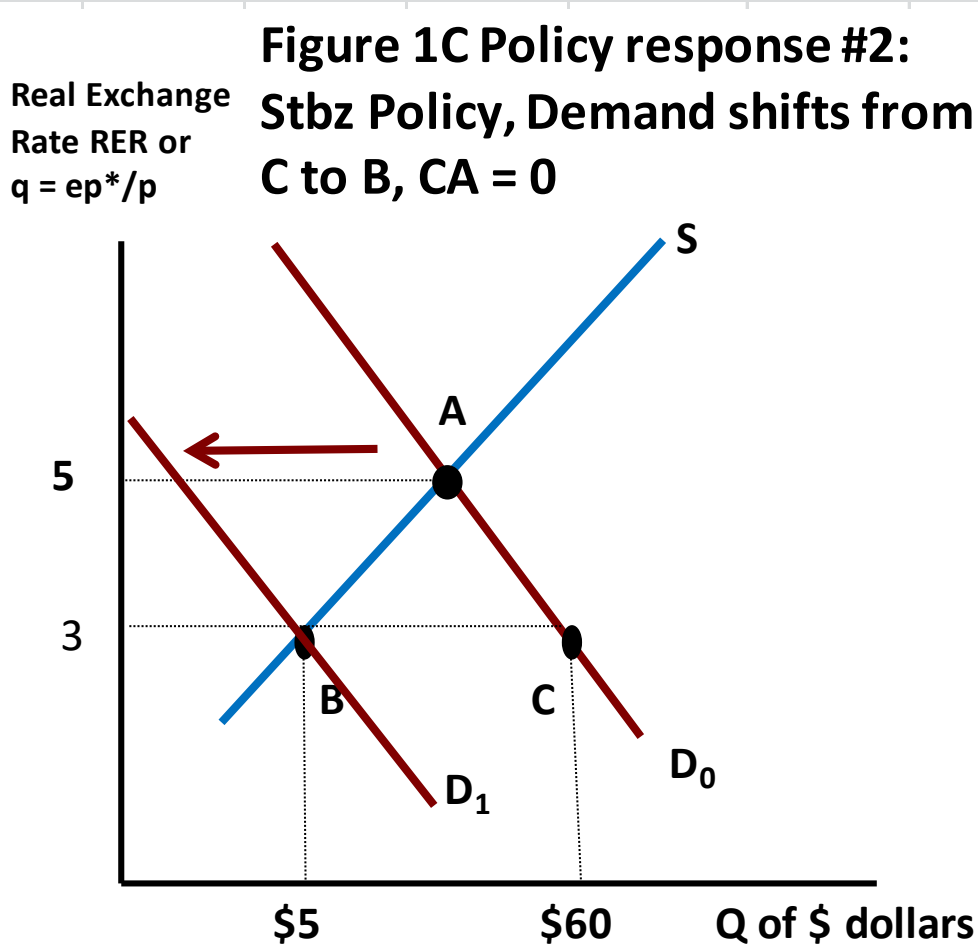
Suppose international markets determine, dollar inflows must end which means CA balance must shrink to zero (or become a surplus to pay down debt). What can a country do?

Figure 1B Policy option #2: reduce p to raise q (internal devaluation)



Internal devaluation is ***much harder, leave e fixed but reduce p (domestic prices and wages) so that q falls., harder and slower and usually starts with sharp recession, see next slide***

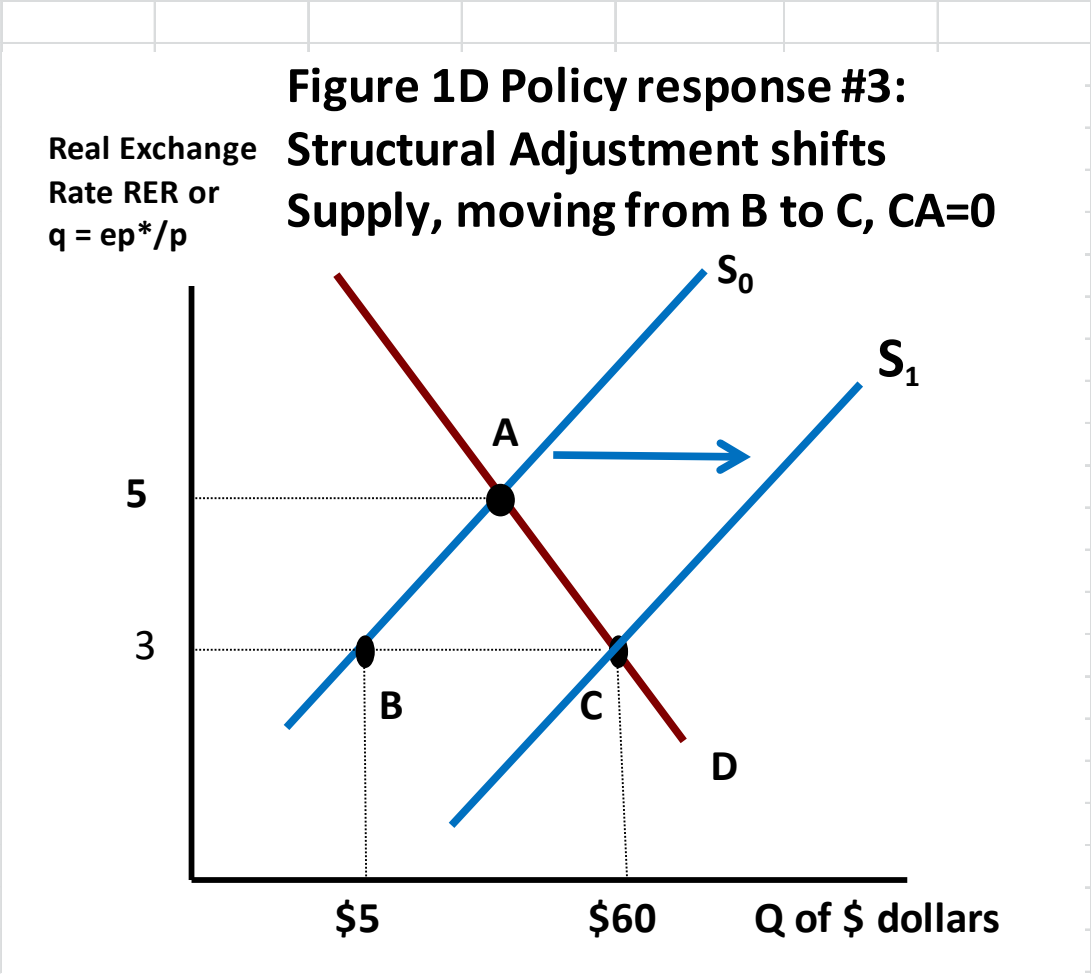
Suppose international markets determine, dollar inflows must end which means CA balance must shrink or become surpluses to pay down debt). What can a country do? three policy options



Stabilization or "good" vs. beggar thy neighbor Policy

use fiscal and monetary policy to put Shift import demand to the left and put downward pressure on wages and prices (internal devaluation). Impact is same for q, but internal devaluation less likely to trigger retaliatory devaluation (contagion) this is why IMF wants some internal adjustment, almost always, especially reductions in G.

Suppose international markets determine, dollar inflows must end which means CA balance must shrink to zero (or become a surplus to pay down debt). What can a country do? 4 policy options



Structural adjustment passes productivity on to trading partners.. ***use trade and labor market policies or public infrastructure investment to reduce costs and increase TFP….. Hard to do, takes time, but silver lining of rebalancing or crisis response: structural reforms reduce costs for consumers at home and abroad, increase demand for exports at all levels of q….***

Policy responses to CA imbalances

Four ways to reverse a CA deficit: (two shift, two move along S&D):

1. **External devaluation:** changes in the nominal exchange rate
2. **Internal devaluation:** changes in domestic prices– deflation
3. **Stabilization policy:** demand side, fiscal deficit/ tight money
4. **Structural Adjustment:** supply side, make exports more competitive

Policy responses to CA imbalances

Three ways to reduce a CA Surplus (rebalancing)

1. increase domestic demand lower savings rate (S-I = CA or Y-A=CA)
2. Increase budget deficit/ print local currency (monetary approach)
3. Let currency appreciate--don't sterilize (elasticities approach)

Please minimize Contagion and beggar thy neighbor policies:

- **Internal devaluation** low contagion (except of social unrest?)
- **External devaluation: can be** contagious, beggar they neighbor
- **Using stabilization policy** reduces contagion (why?)
- Reducing CA surplus raises imports, exports jobs (and raises world interest rates if you are a large country, like China or the U.S.)

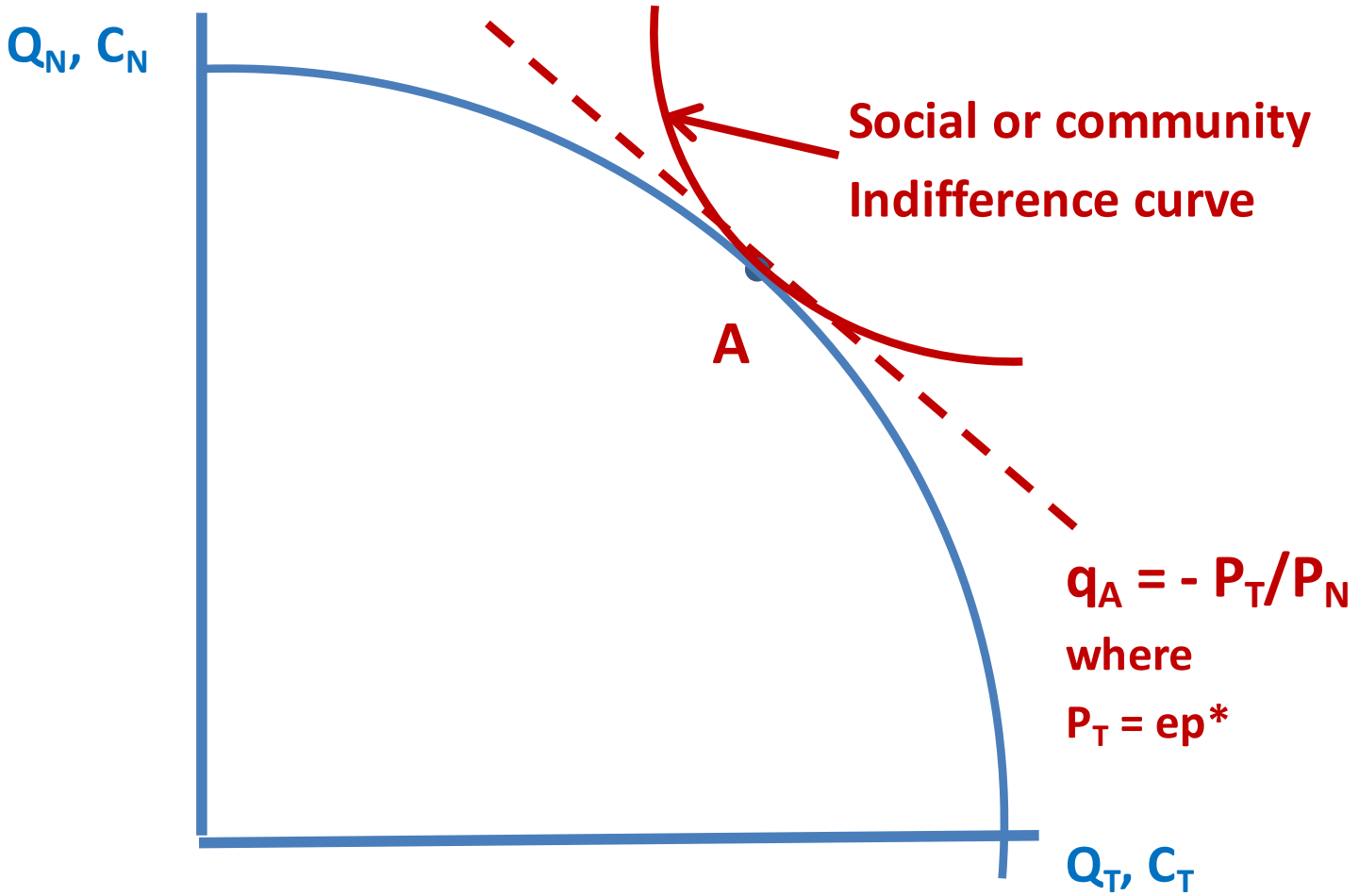
Policy responses to CA imbalances during GFCs (global financial crises: early 1980s, late 1990s & 2008-12

IMF tries to minimize Contagion and beggar thy neighbor policies:

- **Internal devaluation** low contagion but internal social l unrest
- **External devaluation: can be** contagious, beggar they neighbor
- **Using stabilization policy** reduces contagion (why?)
- Reducing CA surplus raises imports, exports jobs (and raises world interest rates if you are a large country, like China or the U.S.)

The full TNT PPF includes community indifference curve: combinations of traded and nontraded goods consumption that make the population equally happy.

Figure TNT-1: PPF for a small Open Economy



A fixed Traded/non-traded consumption path simplifies TNT diagram: why is B incompatible with A (and q set by A)

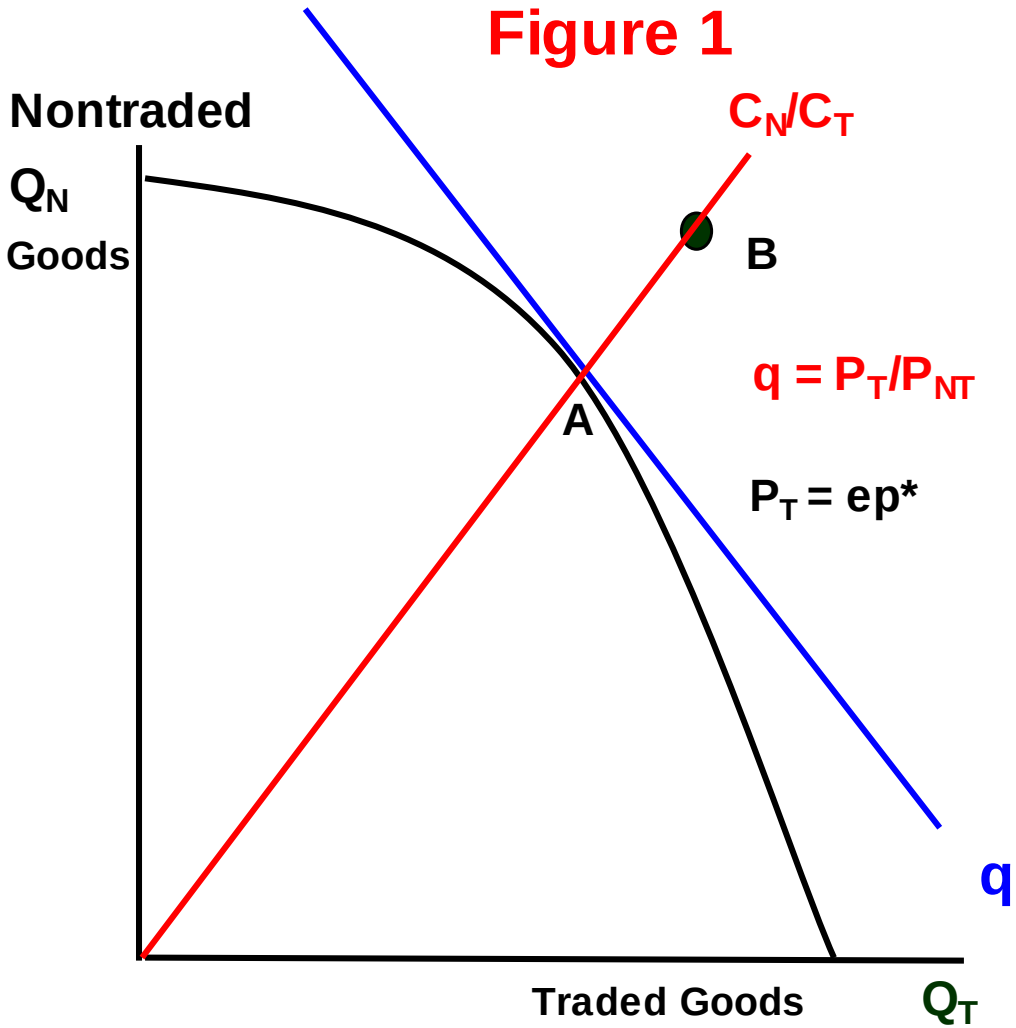
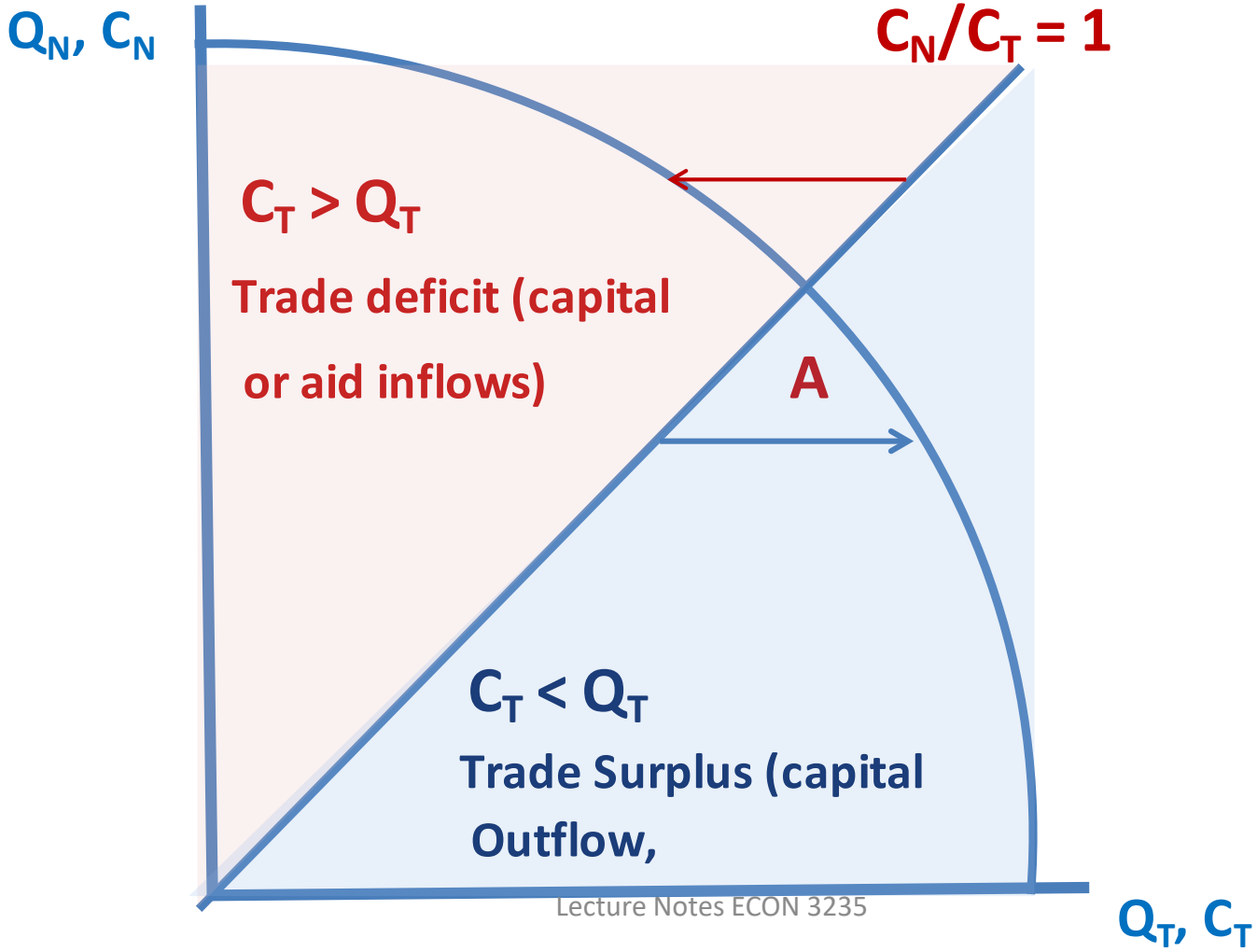


Figure 6.4: The RER changes as you move along the PPF the real exchange rate, RER or $q = P_T/P_{NT}$ where $P_T = ep^*$.

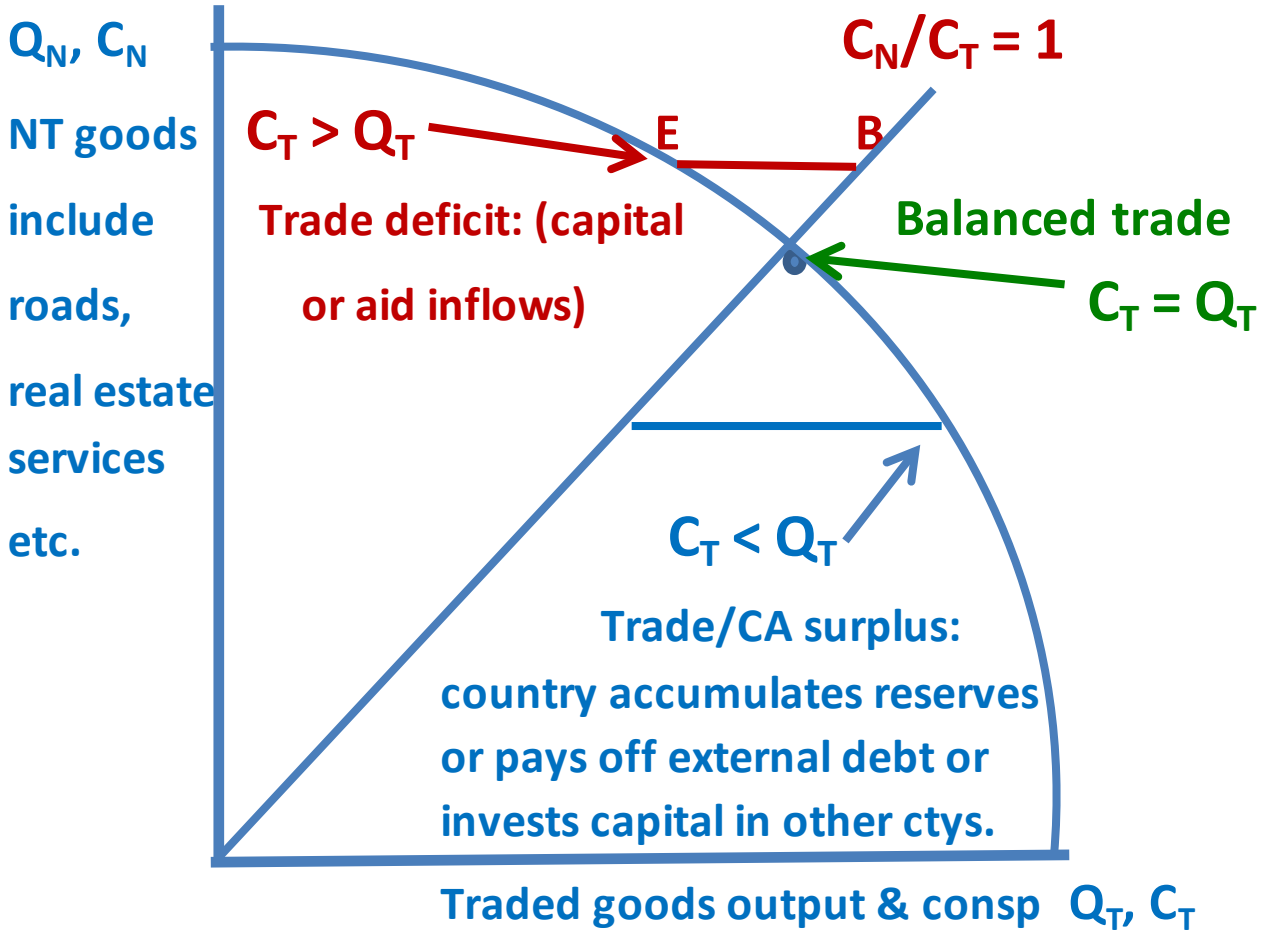
Traded/non-traded consumption path simplifies TNT diagram

Figure TNT-2: Trade Surplus/Deficits when traded and nontraded goods are consumed in fixed proportions



Traded/non-traded consumption path simplifies TNT diagram, at every equilibrium, $C_{NT} = Q_{NT}$ (see horizontal lines below)

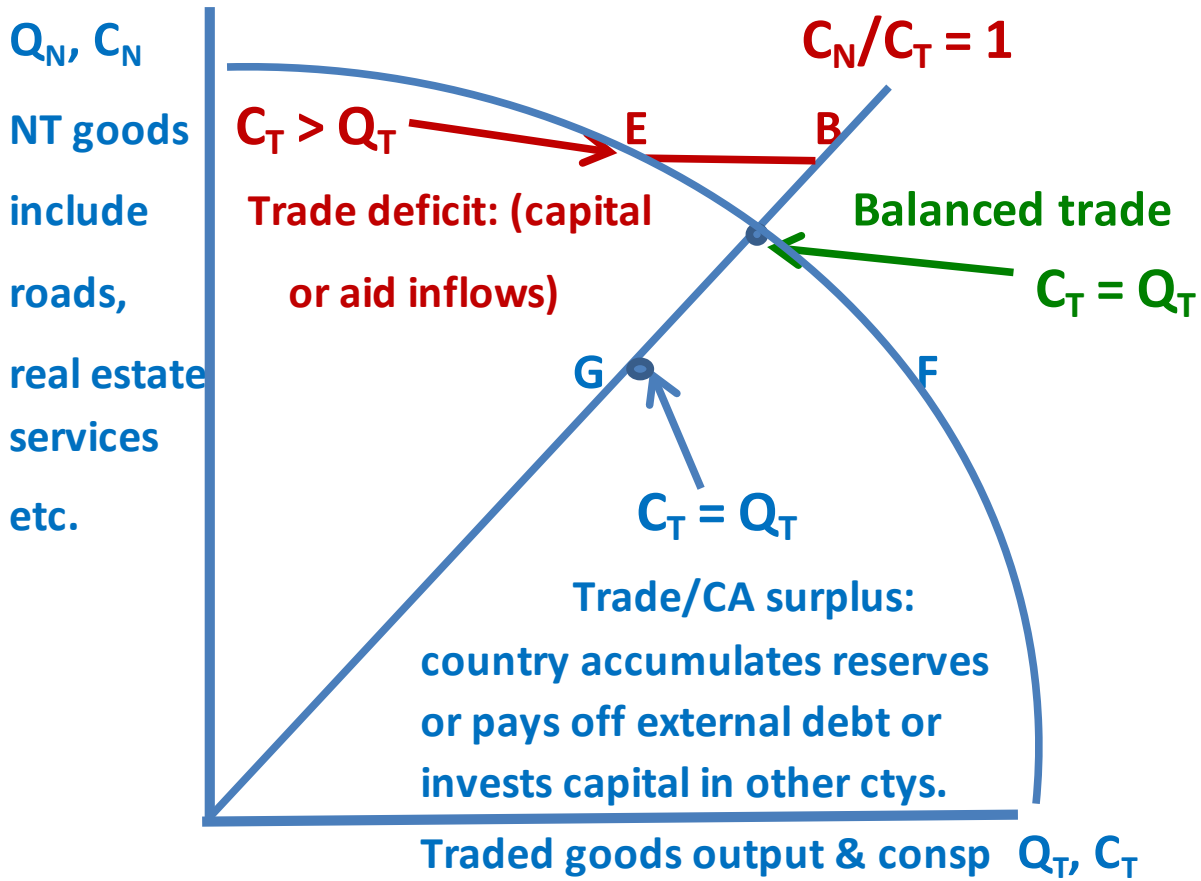
Figure TNT-3: TNT for a small Open Economy



Slope of ppf is qA = -PT/PN where P_T = ep*

Special case, production is below the PPF because RER is hard to change, $C_{NT} = Q_{NT}$ but instide the PPF (unemployment)

Figure TNT-3G: Unemployment in the TNT Model

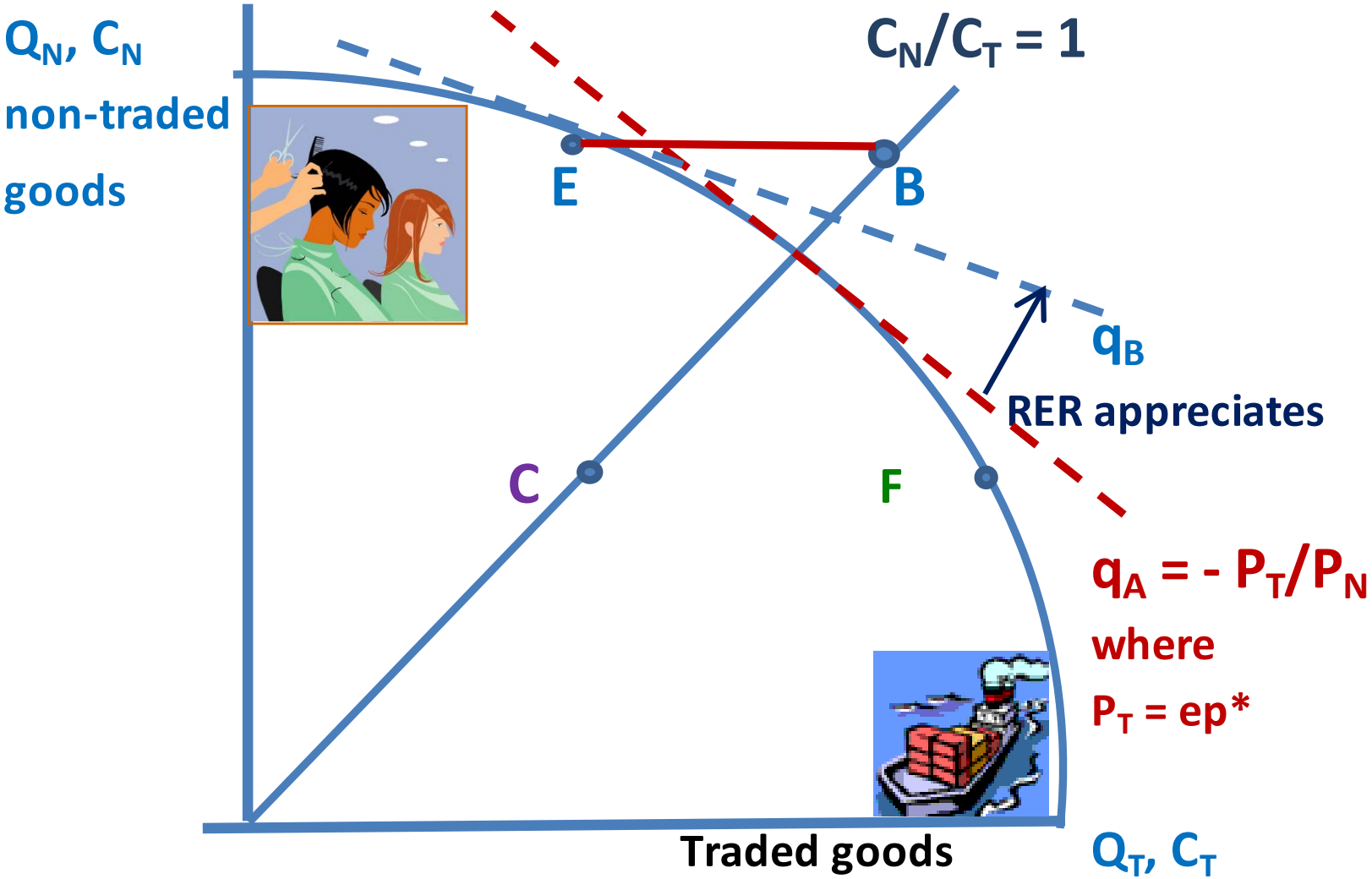


Slope of ppf is qA = -PT/PN where P_T = ep*

But if economy produces and consumes at G, trade is balanced by a recession, high unemployment (Greece?)

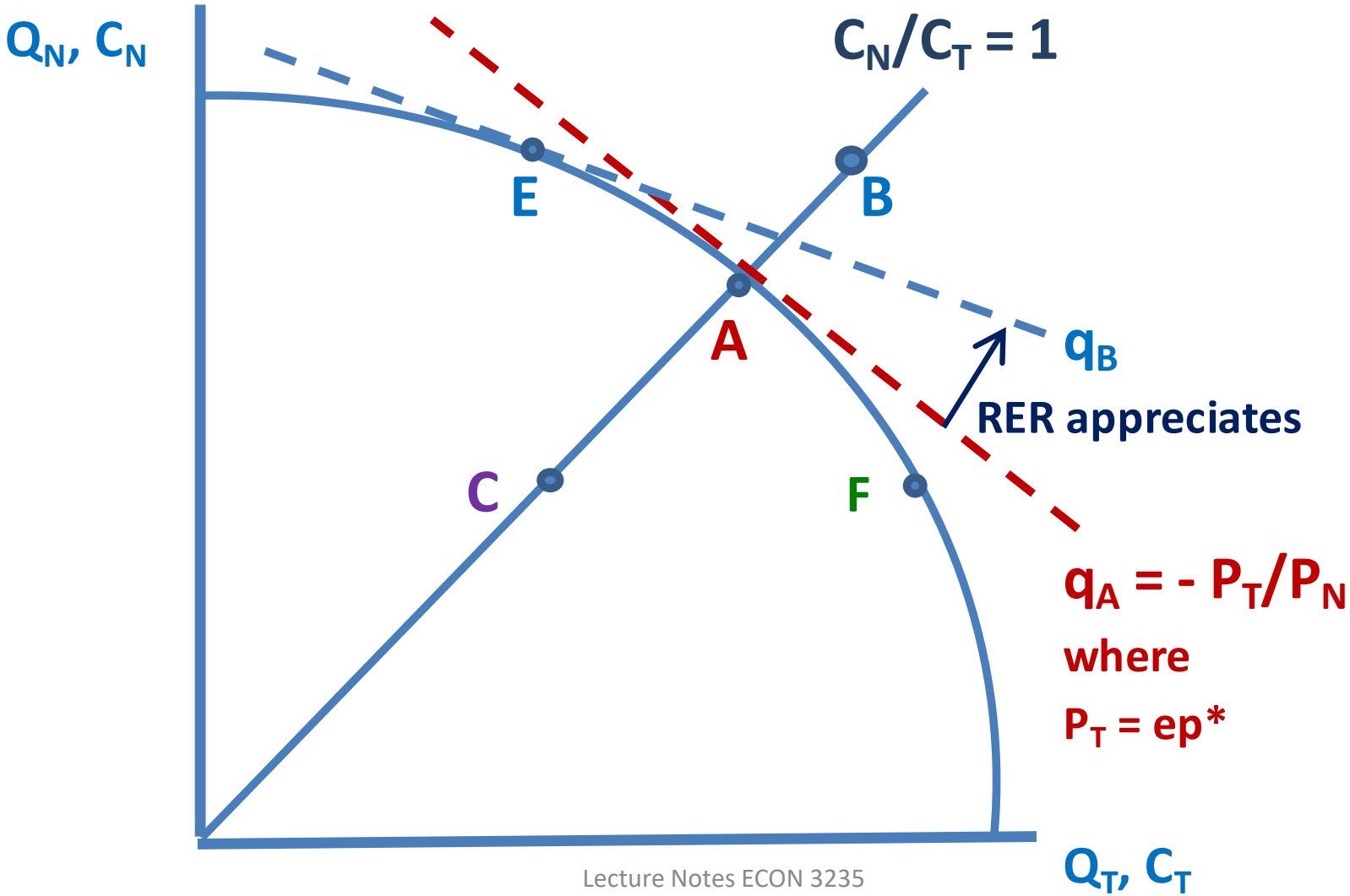
Capital in-flows lead to real estate boom and trade deficit

Figure TNT-4: PPF for a small Open Economy

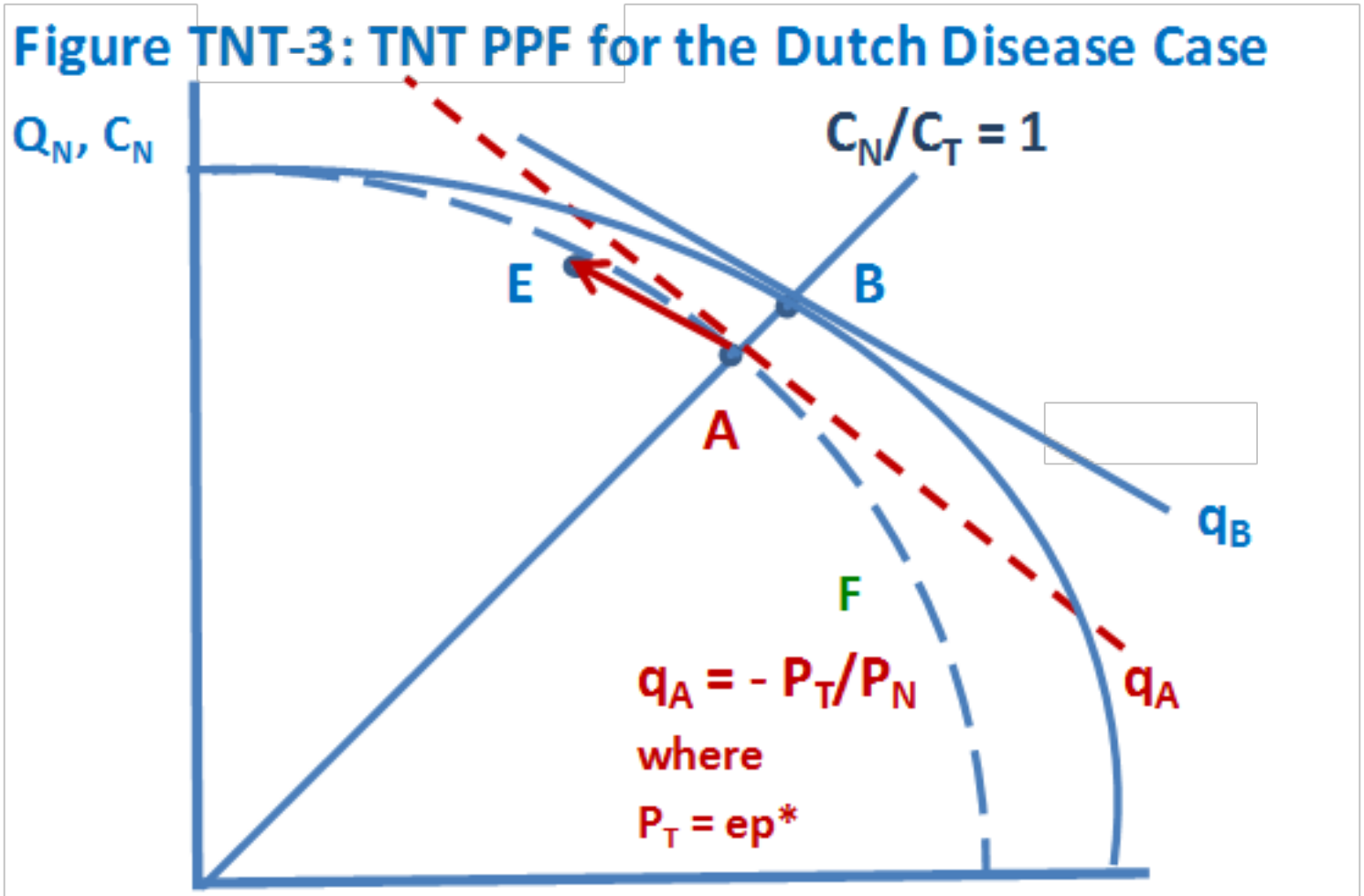


Capital inflows always lead to Appreciation of RER

Figure TNT-4: PPF for a small Open Economy

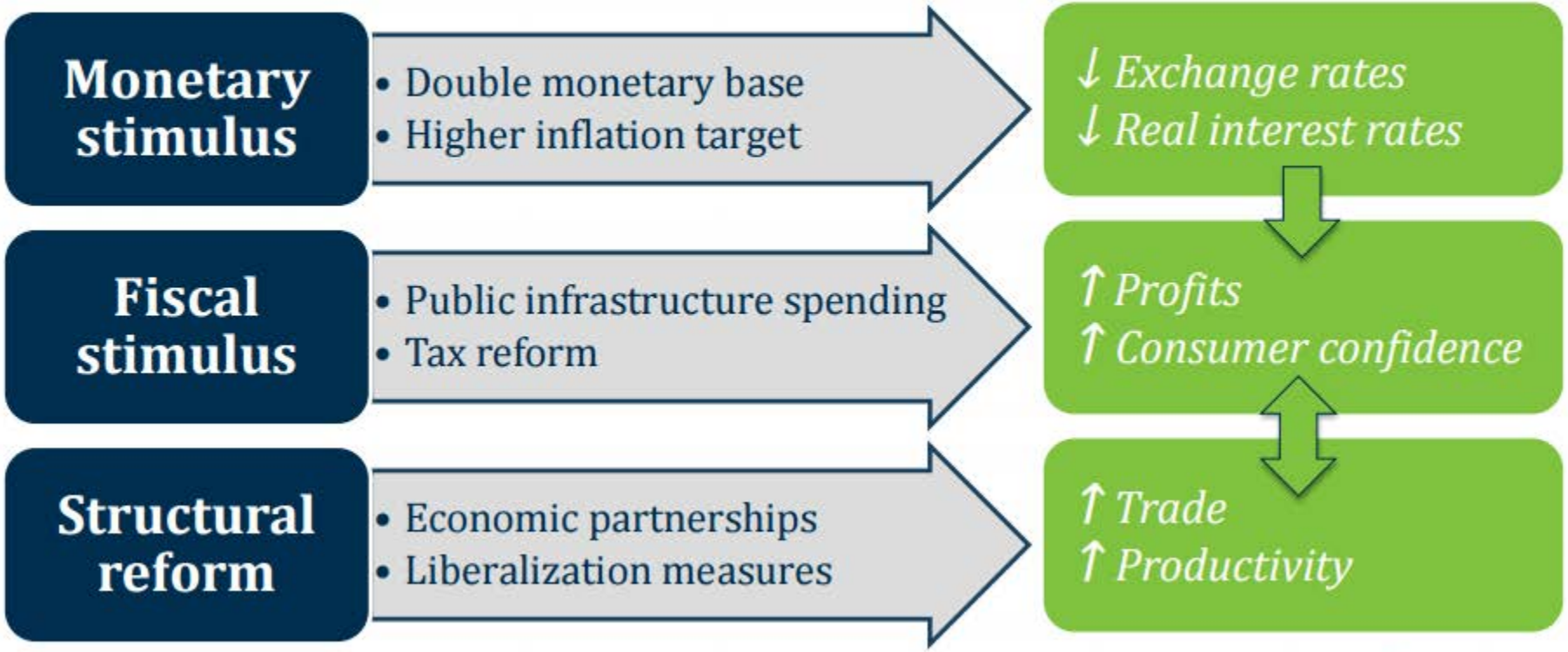


The Dutch Disease involves a shift in the RER



Old traded goods employment falls but note that B is still on PPF, this means as long as resource boom lasts the RER appreciates from q_A to q_B replacing old exporters with new: this is the Dutch Disease (not really a disease, an adjustment problem)

The three arrows of Abenomics



Source: Banque de Luxembourg Investments.

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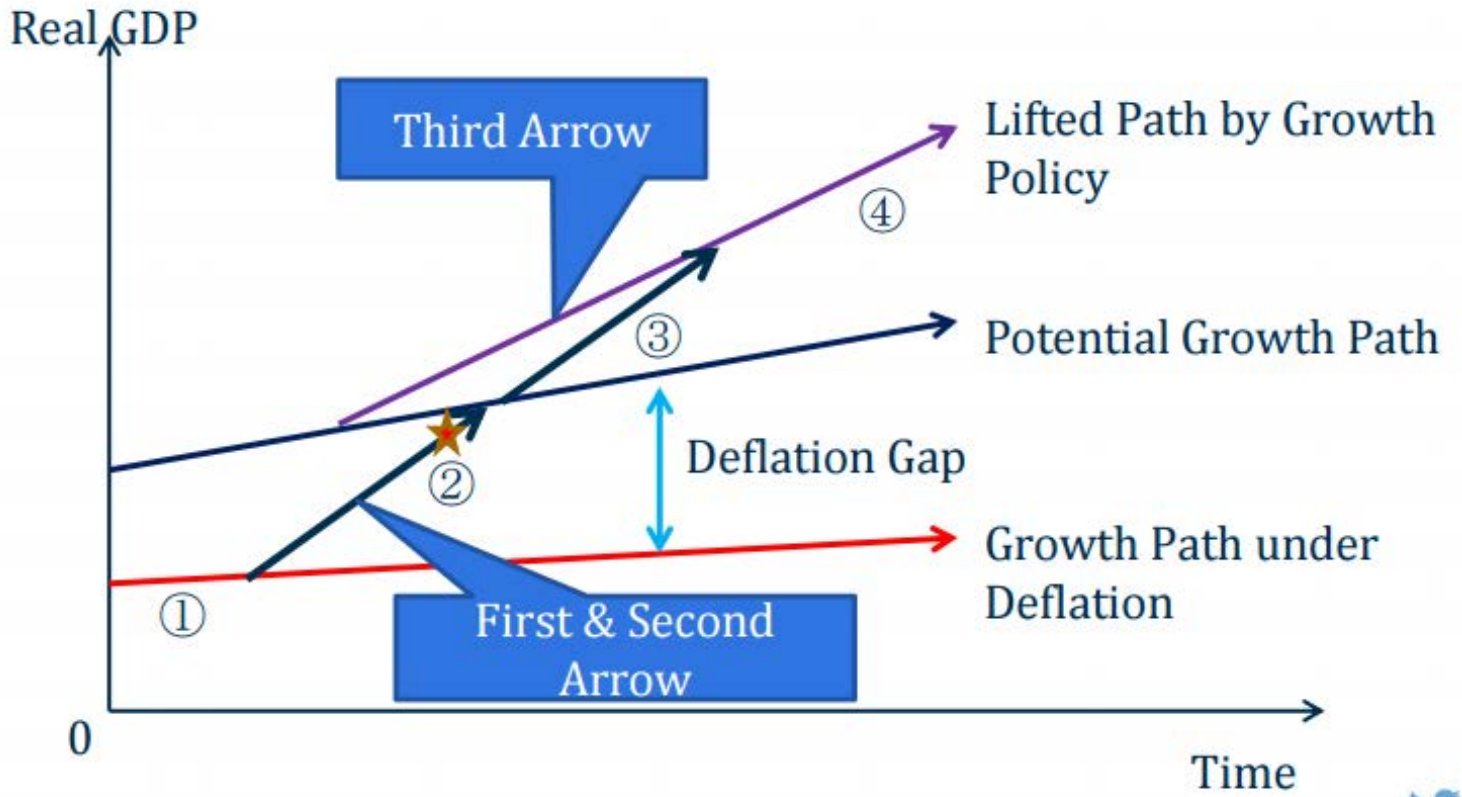
http://assets1c.milkeninstitute.org/assets/Events/Conferences/GlobalConference/2014/Slide/GC14-4921.pdf

Roles of "Three Arrows"



Source: Etsuro Honda.

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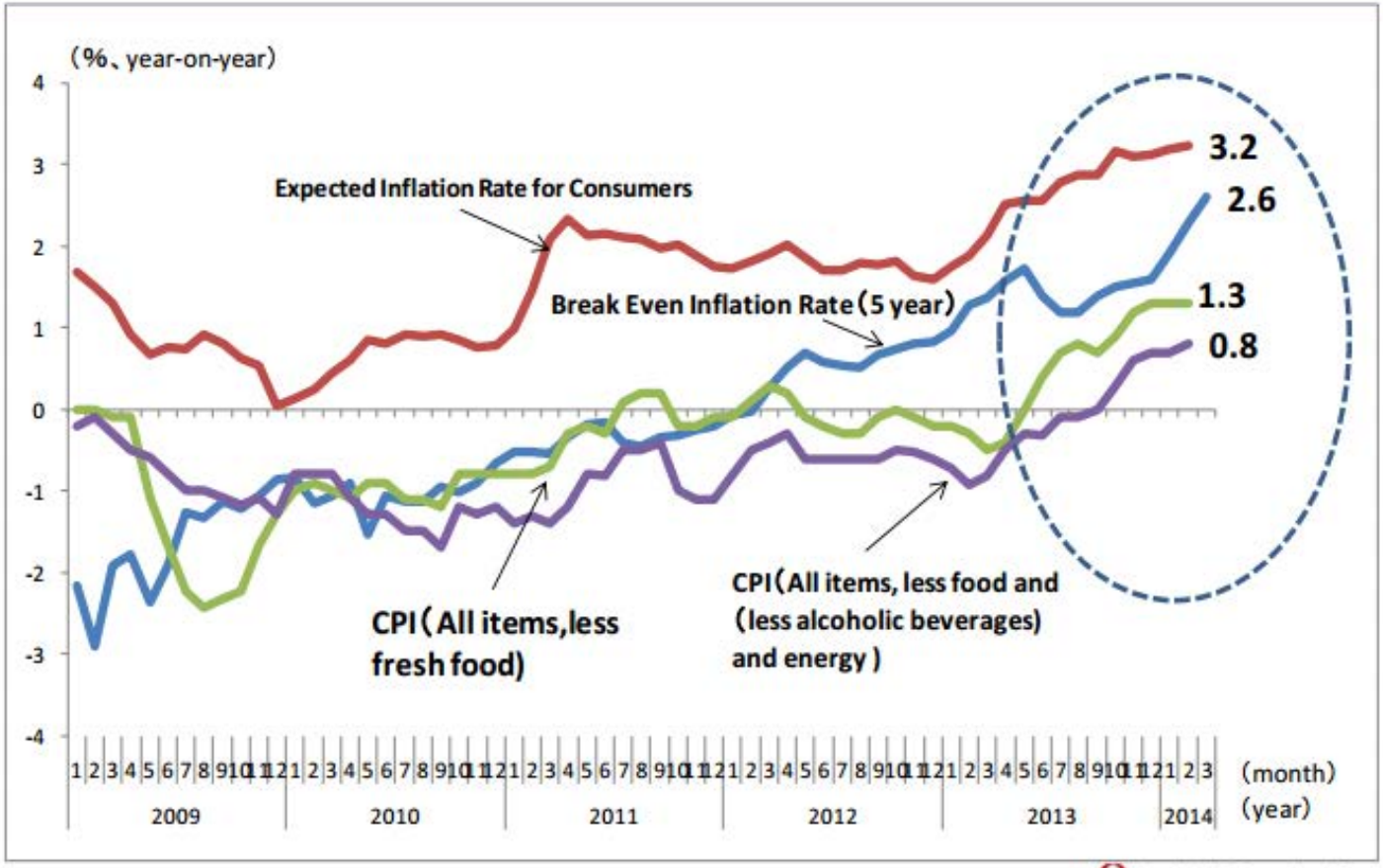
Inflation Expectation and CPI Rise



s: Statistics Bureau, Consumer Price Index, Reuters.

Mitsubishi UFJ Research and Consulting

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Prime Minister Shinzo Abe came to power in Japan advocating economic policies based on the "three arrows" of monetary easing, fiscal stimulus and structural reform. The first arrow was designed to address chronic deflation, the second to reignite economic growth and the third to attract investment and ease stifling regulations… Yet since Abe took power in 2012, his program has not stimulated fundamental change in Japan's economy…..how Abenomics affects Japan's future: its commitment to the Trans-Pacific Partnership, its aging population, the impact of Fukushima and how… Japan influences the global economy. http://www.milkeninstitute.org/events/conferences/global-conference/2014/panel-detail/4921

Does studying emerging markets help us understand the 2008 GFC and 2010 Eurozone Crisis yes and no, each crisis is different…

1. ***Yes, current account Imbalances Sudden Stops***– Reinhart & Rodrik, 2010, Geithner's savings glut, and Krugman too in end this depression now…. Chimerica U.S. and China… see the Metzler diagram
2. ***CA imbalances caused Real Estate boom here and in Europe see new Eurozoen book***
3. **Yes, white Swan events** (Krugman & Wells, Roubini) ***Real estate bubbles common denominatior?*** (Thailand, Spain, Ireland, U.S. Poland largest of all?--