

Readings: This problem set focuses on the “modern” approaches in CA adjustment, especially the TNT and IT and approaches, see S&L [Chapters 6 & 21](#) plus for PhD students, see [Frankel & Razin Chapters 5 and 17](#) and/or [Obstfeld and Rogoff chapter 1 pp. 1-21](#) Also please see the class handout on [sustainable debt](#).

3.1 The traded non-traded goods (TNT) model stresses the adjustment problems created by movements of workers in the short-run and capital in the long run between traded and non-traded goods sectors (a) Provide an intuitive explanation of why a RER appreciation discussion is required to get workers to move between traded and non-traded goods sectors (illustrate this [using a curved TNT PPF](#) as opposed to the straight ones in [Sachs & Larraine Chapter 21](#)). What motivates firms (workers) to switch sectors (jobs)? Why is this switch likely painful and slow? (b) Use a curved TNT PPF and the price level equations from S&L chapter 21 demonstrate that: with a fixed nominal exchange rate “e” capital inflows are generally inflationary. Aid or capital inflows can also cause the RER to appreciate. Demonstrate this using the bowed TNT PPF (see the [lecture notes](#) or the [Gillis et al. Appendix](#) or [S&L Figures 21-8 and 21-9](#)). In this context explain how the TNT model can help explain the Dutch Disease and the real estate boom that preceded Asia’s crisis in Thailand for example (see [Goldstein chapter 2](#)) and reduce traded goods output. The effect of capital inflows or a resource discovery or price boom on the older, “traditional” pre-resource boom tradable sector activity is sometimes referred to as deindustrialization or the “Dutch Disease” But is this really “disease” in the sense of being not optimal? Explain: how for example are the Dutch doing these days? (c) When capital flows out the price of non-traded goods relative to traded goods must fall. Explain and show if possible how this happen with a fixed nominal exchange rate (hint: Argentina in the late 1990s, what was the inflation rate? Finally, Argentina’s peso plunged in 2001, which sort of adjustment was more painful for workers? Discuss parallels between Argentina’s severe 2001 crisis and collapse of gold standard ([de Vries](#)). What does this tell us about the viability of fixed exchange rates in countries such as Argentina whose neighbors have floating exchange rate (e.g., Brazil)? (e) optional: How did Argentina recover so quickly from its 2001 crisis (see [Calvo et al. 2006 on Phoenix recoveries](#) or the most recent [IMF WEO database](#) or the WB LAC [Virtuous Circles Volume Page 48](#))

3.2 Neither a debtor or creditor be:¹ CA surplus, $CA_t = TB_t - r^*D_{t-1} + \Delta F = D_{t-1} - D_t$, where D is foreign debt obligations (in S&L, 1993 use B, bonds or assets held by a net creditor nation, such as China). Assuming for now the change in other private capital inflows or outflows ΔF is zero, the current account deficit is equal to the change in debt $\Delta D_t = D_t - D_{t-1} = -CA_t$. Rewrite equations 6.1-6.7 in [Sachs and Larraine Chapter 6](#) for a net debtor nation using this current account deficit or change in debt (ΔD_t) definition. (b) The IMF often claims countries that run CA deficits are “living beyond their means.” Show this using the absorption approach. How does the intertemporal (IT) approach change our view of borrowing for the future? Use the IT budget constraint 6.2-6.24 to elaborate this idea. Assuming capital inflows are invested in the traded goods, how does the IMF argument and S&L’s long term budget constraint have to be qualified? Masters students: show the smoothing, tilting and augmenting functions of the CA using the Metzler diagram. (c) *PhD students: Discuss the above consumption augmenting, smoothing and tilting functions of the current account using the diagrams of [Frankel and Razin Chapter 5](#).* (d) *PhD only: In view of Frankel and Razin equations 21-16 pages 171-73 it does seem if countries run deficits they must eventually run surpluses (and vice versa for the case of China, or other surplus countries). If countries live forever (so to speak) do they have to repay their debts? See the next question. What crucial assumption in Chapter 6 make long lived countries more like people (who die and must settle their debts eventually). Can China run a CA surplus forever, or the U.S. run a deficit forever? Explain with reference to the [sustainable debt handout](#).*

¹ In Hamlet Act I scene 3, Polonius warns his hotheaded son Laertes “Neither a borrower nor a lender be, for loan oft loses both itself and friend, and borrowing dulls the edge of husbandry.” Until recently most countries took Polonius’ advice: finance domestic investment mainly with domestic savings, what is known as the [Feldstein-Horioka](#) puzzle, because the IT view of the CA suggests there is nothing wrong with countries borrowing or lending, but recently “global rebalancing” arguments suggests countries have gone too far in the other direction....

Fordham University ECON 5450 Crises, Adjustment and Poverty Problem Set #3 v2 (cont.) Fall 2015

3.3 Sustainable CA deficits: Answer questions SD-1 and SD-2 included at the bottom of the [sustainable debt handout](#). Be sure to write down in the formula you are using (show your calculations, not just the answer). Put your answers to the “does this make sense” test, check the formulas again and then ask in class. When working with percentages always use the decimal form (e.g. use .1 for 10%) to avoid units problems. (a) Which of the “sustainable” current account deficit formulas presented in the class handout is probably most relevant for developing countries and why. (hint: “original sin”) Explain intuitively why countries can run a current account deficit forever. How does rapid export growth and/or high traded goods productivity growth affect the sustainable CA deficits? (b) Apply the concept of sustainable debt to public debt focusing on the definition of a primary [balance or surplus](#). Is the CA analogous to [the primary surplus](#)? If not, what is? Does Greece have to run a primary surplus (more important, why might it be essential that Greece run a primary surplus. Comparing Greece to Mexico during the 1990s, when did [Mexico have a primary surplus](#) during the 1990s? What options do most governments have for dealing with [public debt that they may not have](#) for external debt? Why according to [De Grauwe is](#) this important for the Eurozone (he calls the lack of it a “design failure” starting on page 99) (c) *Given the East Asian growth strategy pre-1998, how might the Balassa effect act to reduce borrowing costs and contribute to the Asian financial crisis, to the extent that this crisis was driven by over optimistic capital flows and borrowing in Asian nations? What happens to “sustainable” current account deficits when export growth slows? After 2000 the most Asian and a few Latin American countries have become net creditors... discuss the three reasons a relatively low income country might accumulate reserves and/or become capital exporter (China for example) with its over \$4 trillion in fx reserves?*

3.4 The inter-temporal (IT) approach to CA adjustment: (a) Use the Metzler current account two-period diagrams reviewed in lecture and S&L chapter 6 to discuss the costs of capital controls (such as [S&L Fig 6-11](#) assuming the country on the left is China and the other is poor OECD country such as the USA, for example). Show how a domestic investment boom affects CA balances in both countries. What happens if the either has a closed capital account? Show this graphically. How does this affect economic growth in the two countries? (b) Explain why countries might want to borrow or encourage incoming FDI, referring to the consumption smoothing, tilting and augmenting roles of capital inflows. Masters students should use the Metzler diagrams as in Sachs Chapter 6 while the Phd students should use the IT diagrams from [Frenkel and Razin chapter 5](#) or [Obstfeld and Rogoff Chapter 1](#). Which types of capital inflows might best fit each purpose (where types include ST borrowing, LT debt, FDI or portfolio investment)? (c) Why might capital inflows and access to credit markets be more important to low income compared to OECD countries? {hint: LDC primary commodity exporters; low savings rates, low per capita incomes, and lots of young people). (d) *Given that GDP and welfare costs of being excluded from international credit markets may high for poor countries, should poor countries be good credit risks? Explain using the IT CA framework. Have they been good credit risks? What happened to EMBI spreads during the five years prior to the current crisis (see the WB [2006 GDF Chapter 2](#) page 47)? What accounts for this trend? What happened in 2008 (see page [GDF 2008, p. 133](#))? Were EM bond investors wrong? If they were wrong, explain how you know (hint: where are problems loans in this crisis?).*

3.5 Asia’s currency crisis: Cooper and Goldstein argue the Asian currency crisis of 1997-98 started with China’s devaluation, others focus on a burst of capital inflows from Europe and Japan. a) Use the elasticity approach to the CA to discuss how a downward shift in exports affects Asian current accounts. Similarly, how would China’s 1994 devaluation affect Thailand and Korea’s current account assuming they compete in the same export markets? (b) Use the absorption and IT CA approaches to show how an FDI investment boom might have affected Indonesia and Thailand’s current account. (c) Use financial programming to discuss how rapid credit expansion affected real estate prices and the real exchange rate when nominal exchange rates are fixed. Use this to help explain the IMF’s obsession with inflation? Why might they be less obsessed today? (c) Use the IT approach to the CA to show how Japan’s low interest rates might affect Thailand (other Asia) CAs

during the 1990s. (d) Tirole [chapters 1 and 2](#) describes the 7 components of a typical currency crisis, and then lists the “seven pillars” of the consensus view on how to solve them. What does he say is wrong with the consensus view? Contrast his views broadly with those of Eichengreen (see his *Copenhagen Consensus paper*). Optional: three “generations” of currency crisis models are discussed by [Eichengreen Appendix B](#). How did large short-term borrowing by banks contribute to the severity of the crisis in Korea, Thailand and Indonesia? Based on what you know so far, which model best fits the Asian crisis?

3.6 Is or was a common currency a good idea? Parts a and b are alternatives, though you should know the answer to both by the time you take the final exam. (a) Should EU leaders and economists have known better? Could Greece, Ireland, Spain, Portugal and Italy have done worse? On motivation and optimal currency area see Drazen, *Political Economy in Macroeconomics*, [Chapter 12](#) (sorry for the highlighting, this is a used pdf). Did anyone foresee problems for the Eurozone (see Krugman, 2015 “[Europe’s Impossible Dream](#)” mocking [Lars Jonung and Eoin Dreare \(2010\)](#) though their title is provocative). (b) Is a common currency a good idea for the CFA countries in West Africa? Why they both more at risk and also have greater opportunities (see my 2013 comments [pptx](#) –smaller- or [pdf](#)). Are West African countries more likely to suffer asymmetric or symmetric shocks? Why might the remedy for each sort of shock be different? On the WAEMU merits see [IMF vs. African Development Bank vs academics \(Journal of Macroeconomics article\)](#).

References (local color Professor Hepp has written on this topic as well):

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