Advanced Macroeconomics

13.10.2016   Christian Groth

Errata to course material[1]

Symbol glossary: "l." means "line"; "f.b." means "from below"; "eq." means "equation"; "q" means question. In the third column, in square brackets, occasionally appears a remark.

page	reads	should read (or my comment)
Elmendorf & M.		
1628-29		[see comment below]
Mishkin		
4, middle	$\Rightarrow Y \uparrow$	$\Rightarrow Y \downarrow$
King & Rebelo		
945, eq. (3.8)	$u(c, L) =$	$u(C, L) =$
955, l. 2 f.b.	$N\frac{dN_t}{N} + L\frac{dL_t}{L} = 1.$	$N\frac{dN_t}{N} + L\frac{dL_t}{L} = 0.$
955, n. 33	about $\hat{N}_t = 0$ is $\hat{N}_t.$	about $\hat{N}_t = 0$ is $1 + \hat{N}_t.$

Comment on Elmendorf and Mankiw (E&M, 1999), p. 1628-29

As I see it, the national income accounting here is a mess. Or to say it in a more polite way: the authors' national accounting is only valid if net factor income from abroad is vanishing and there is no government debt.

First, on p. 1628 the symbol Y is used in two different meanings, as gross national income and as GDP. Using Y to denote the latter (as usual), we have the output-expenditure identity

$$Y = C + I + G + NX. \tag{1}$$

With Q denoting gross national income, we have

$$Q = Y + rA_f + wL_f, \tag{2}$$

where rA_f is return on net foreign assets and wL_f is net labor income from abroad. Thus, using Y to denote both GDP and gross national income can only be valid if net factor income from abroad, $rA_f + wL_f$, is vanishing.

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[1] Errata to the lecture notes are listed at the course website.

Secondly, with rB representing interest service on the government debt, we may split Q into government income, $T - rB$, and private disposable gross income, Y^p, and the latter into private consumption and private gross saving, S^p:[2]

$$Q = Y^p + T - rB = C + S^p + T - rB. \tag{3}$$

Isolating S^p gives

$$S^p = Q - C - T + rB, \tag{4}$$

But in connection with their first equation on p. 1628, E&M speak of "private saving" as $Q - C - T$. So they implicitly assume there is no government debt − which is surprising in view of government debt being the topic of the article.

Substituting (2) and (1) into (4) gives

$$
\begin{aligned}
S^p &= Y + rA_f + wL_f + rB - T - C \\
&= I + G + rB - T + NX + rA_f + wL_f.
\end{aligned}
$$

If all of G is public consumption, $S^g = T - rB - G$, where rB is interest service on government debt. So *aggregate gross saving* is

$$S = S^p + S^g = I + NX + rA_f + wL_f. \tag{5}$$

That is, aggregate gross saving must equal the sum of gross investment, net exports, and net factor income from abroad.

Denoting the current account surplus CAS, we have

$$CAS = S - I = NX + rA_f + wL_f = NFI, \tag{6}$$

where NFI is net foreign investment. The latter is also equal to the increase per time unit in net foreign assets or what is in Ch. 12, 13, and 16 of Lecture Notes denoted $\dot{A}_f$.

Substituting (6) into (5) gives

$$S = I + NFI, \tag{7}$$

saying that aggregate saving is used for investment at home and abroad.

Comparing (5), (6), and (7) with the three equations on p. 1629 in E&M, we see that E&M also here implicitly assume that net factor income from abroad = 0.

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[2] "Gross" because we have not subtracted capital depreciation. E&M denote private gross saving S, but this symbol usually stands for aggregate gross saving (as in the lecture notes for this course). Therefore, we instead use S^p for private gross saving.