Notes on the US Wealth Effect of Border Adjustment   Alan J. Auerbach   2/13/17

Suppose that the US adopted a 20% border adjustment and all other currencies depreciated by 20% against the dollar. What would be the impact on the wealth of US individuals?

According to BEA (International Data Table 1.2, U.S. Net International Investment Position at the End of the Period, Expanded Detail: https://www.bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=6&isuri=1&6210=5&6200=144)

At the end of 2016Q3, US-held foreign assets were $24.861 trillion, of which $22.086 trillion was in non-derivative assets and $2.775 trillion in financial derivatives. For liabilities, the corresponding values were $32.642 trillion, $29.922 trillion, and $2.720 trillion.

A naive estimate of the loss the US individuals would be 20% of the US foreign asset position, or $4.972 trillion. However, this ignores important factors.

1. Some of the US-held foreign assets were in dollars, and some of the US liabilities were in foreign currencies. One would not expect the values of these assets and liabilities to follow the same patterns as those of dollar-denominated assets and liabilities.

According to data from Benetrix, Lane and Shambaugh (2015, available at: http://www.philiplane.org/BLSJIE2015data.htm), in 2012 (the last year for which their data are available) the share of US-held non-derivative assets in foreign currencies was 68.340% of the total and the share of US liabilities denominated in foreign currencies was 15.910% of the total. Assuming that the dollar denominated share of foreign assets would not be affected by dollar depreciation, the net assets subject to depreciation would be the assets denominated in foreign currencies less the liabilities denominated in foreign currencies. This reduces the value of non-derivative assets by $22.086 trillion * (1-.68340) = $6.992 trillion and increases the value of non-derivative liabilities subject to depreciation from 0 to $29.922 * .15910 = $4.761 trillion.

If one applies the same percentages to derivatives, there would be a further reduction on the asset side of $2.775 trillion * (1-.68340) = $0.879 trillion and $2.720 * .15910 = $0.433 trillion on the liability side. (Note that this adjustment for derivatives may understate the appropriate adjustment to the extent that US residents are using derivatives to hedge foreign exchange risk. Such behavior would imply being long dollars and short foreign currencies.)

Subtracting these asset and liability adjustments ($13.065 trillion = $6.992 trillion + $4.761 trillion + $0.879 trillion + $0.433 trillion) from the US foreign asset position of $24.861 trillion yields $11.796 trillion; multiplied by 20% yields a loss of $2.359 trillion; this represents 12.632% of 2016Q3 GDP, which was $18.675 trillion. This estimate is in line with that of Farhi, Gopinath and Itskhoki (2016: https://www.project-syndicate.org/commentary/trump-tax-plan-hurts-competitiveness-by-emmanuel-farhi-et-al-2017-01) using similar methodology and sources.

2. The international investment position of the US includes foreign assets held by US businesses and individuals. But many shareholders in US corporations are foreign. It makes little sense to include the changes in value of their share of the US foreign investment position in this calculation. According to Rosenthal and Austin (2016: http://www.taxpolicycenter.org/publications/dwindling-taxable-share-us-corporate-stock/full), Table 2, 24.299% (= $5.543 trillion out of $22.812 trillion) of C corporate shares were held by foreigners in 2015. Thus, one would want to subtract this percentage of the foreign assets held by US corporations before undertaking the previous adjustments for foreign currency exposure. It is hard to determine from the BEA data how large the foreign investment position of US corporations is. The number should include essentially all assets held through foreign direct investment, or $7.349 trillion. It also should include some portfolio investment, but the BEA data do not break portfolio investment into that held by US companies and that by US individuals. Adjusting only for FDI means that we should subtract 24.299% of $7.349 trillion = $1.786 trillion from total assets of $24.861 before making the previous adjustments in step 1. This reduces the value of assets subject to a loss in value by $1.786 trillion * .68340 = $1.221 trillion, and reduces the loss from a 20% foreign currency depreciation by .20 * $1.221 trillion = $0.244 trillion, yielding a loss of $2.359 trillion -$0.244 trillion = $2.115 trillion, or 11.325% of GDP. Given that foreign assets held via portfolio investment in 2106Q3 were $10.137 trillion, a reasonable fraction being held by corporations would magnify this correction substantially.

Thus, we have an upper bound on the loss of $2.115 trillion or 11.325% of GDP. But the loss could be considerably smaller, given that adjustments have not been made for derivative hedging of foreign currency risk or foreign ownership of corporate foreign portfolio investment.