Required Adjustments for U.S. Current Account

Sustainability: A Discussion

Daniel Hui
Quantitative Global Economics
Professor Marquez
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The United States has been running a current account surplus almost continuously for the last 22 years⁴. As the size of this deficit has increasingly grown in the last couple of years, so has the volume of literature and commentary regarding this situation, with numerous pundits, watchers, commentators, and most fearfully, economists weighing in on the relative severity of this situation (if at all), proposing various remedies, predictions, and policy prescriptions. This paper attempts to bring perspective and analytics to the current debate surrounding the US current account deficit. The paper will not seek to elaborate on a definition of current account sustainability, nor will we try to calculate and predict concrete thresholds of sustainability. Instead, given a generalized assumption of the existence of unsustainability, the paper will focus on examining the question of the potential adjustment requirements of a unsustainable situation. The concept of a required adjustment will be analyzed within a logical framework of overall sustainability, and the quantification of these adjustments and their implications will be analyzed within an analytical framework. Finally, we will attempt to draw implications from this exercise on the overall question of current account sustainability in the United States.

**Perspectives on the U.S. Current Account balance**

**Historical View and Recent Numbers**

According to the most recent statistics from the Economic Report to the President and the Bureau of Economic Analysis, the current account (CA) balance for the last 60 years as well as the net international investment position (NIIP) for the last 25 years can be seen below:

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⁴ There was one year of CA surplus recorded in 1991.
As can be seen graphically, the start of consistent current account deficits beginning in 1982 accelerating into a precipitous fall in the late 90’s coincides with a ballooning net external debt. Shown as percentages of GDP reveals a similar story:
Especially since 1998, the current account deficit has fallen rapidly from -2.34% of GDP to an estimated 5% of GDP in 2003, while the growth accumulated debt has accelerated from an 8.37% debt-to-GDP ratio to 22.31% in 2003.

Is the Current Account Sustainable?

A casual observation at the figures above should lead the reader to an observation and two questions. First, it could be casually observed that the current account deficit is increasing, possibly at an increasing rate, and is showing no indication of a slowdown or reversal. This is to say that the overall level of external debt is increasing at an increasing rate. If we take this casual observation to be true, than the casual question arises: is our trend of current account deficits sustainable? That is to ask, will we soon reach unsustainable levels of external debt? Then, if we assume that by some interpretation of unsustainability the current account deficit is indeed not sustainable, how should we address this issue, and what steps would it take. The remainder of this paper will take this casual observation and these casual concerns and attempt to analyze them in a rigorous manner.

A Brief Review of Literature

As a starting point, it is useful to examine briefly the body of existing work looking at this issue. Two papers stand out in particular in terms of defining the problem and addressing it in a rigorous analytical manner. In each paper, the author first introduces the issue of potential current account unsustainability by producing stylized facts pointing to a growing current account deficit and net international investment debt position, similar to what we have done above. After exploring proximate and root causes
of the US current account deficit and international debt, the authors then provide their definitions of sustainability as well as frameworks with which to gauge the current account sustainability.

David Howard in his article “Implications of the U.S. Current Account Deficit,” (1989) defines current account sustainability with respect to a particular constant debt-to-GDP (d) ratio. Howard argues that the debt-to-GDP ratio is a measurement of the “country’s capacity to service its debt,” and that there exists some discrete level of debt-to-GDP that is the limit of debt sustainability, and therefore there exists some corresponding level of current account deficit-to-GDP (CAB/GDP) ratio that will maintain this limit of sustainability debt-to-GDP constant. Using a debt dynamics formula:

\[ \Delta d/d = [r-(\Delta Y/Y)] - (TB/D) \]

Howard concludes that given a constant debt-to-GDP ratio d*, the constant sustainable current account deficit will equal:

\[ (-CAB/Y) = d*(\Delta Y/Y) \]

Catherine Mann in her paper “Perspectives on the U.S. Current Account Deficit and Sustainability” elaborates on the definition of current account sustainability stipulating that a current trajectory of current account deficit that all things equal will eventual engender forces that cause that trajectory to change is by definition an unsustainable current account deficit. As it is the accumulation of external debt that ultimately cause these forces of change, like Howard, the analysis is framed around notion of a level of sustainable external debt. She differentiates between sustainable debt in terms of the borrower constraint and sustainable debt in terms of lender constraint.
Like Howard, she argues that at a certain level of external debt, the burden of servicing and other requirements of maintaining a level of external debt will override other forces maintaining the previous trajectory of current account deficits, and therefore will alter that trajectory. While presenting these concepts in general terms, she does suggest, like Howard does more explicitly, that the relevant indicators are contained within measurements of current account balance-to-GDP and Net International Investment Position (NIIP)-to-GDP.

Mann’s lender constraint analysis follows a similar argument. Ignoring borrower constraint terms, at certain level of external indebtedness, foreign lenders will cease to be willing to continue to expand US positions to their portfolio because of constraints suggested by portfolio diversification. From this point of view, the relevant indicators seem to be current account balance-to-world savings and NIIP-to-world savings.

**A Logical Framework for Inquiry**

As stated previously, the focus of this paper will not be on elaborating definitions or analytics of current account sustainability, nor on quantifying it, but rather to gauge the implications of adjustment necessitated by potential unsustainable current account deficits. That said, it is still important that the subsequent discussion on adjustment be tied to an underlying concept of current account sustainability. We therefore use Howard and Mann’s work as a base.

First, we assume, as Howard and Mann does that there exist some level external debt that is unsustainable. We work within the borrower constraint framework and define
this level of external debt to be $d^* = D/Y^2$. We could also frame the question in terms of lenders constraint by substituting GDP with total pool of world savings. Our discussion will limit itself to discussion based on borrowers constraint without any loss of generality.

We know that the current level of US debt-to-GDP $d_1$ then is less than or equal to $d^*$. When the current level of $d$ has reached $d^*$, then the US will be forced to run a current account deficit such that the growth of $d$ is $0$ (i.e. so that $d$ does not grow above $d^*$). Using the debt dynamics equations given by Howard, the associated level of current account balance-to-GDP ratio $CA/Y$ will then need to be equal to the difference between interest rates and growth. Let us define this level of current account balance-to-GDP as $(CA/Y)^*$

Suppose the current US current account deficit is $(CA/Y)_1$. If $(CA/Y)_1 \leq (CA/Y)^*$, then there is no issue, $d$ be falling and therefore will not reach an unsustainable level. The more relevant and interesting case is if $(CA/Y)_1 > (CA/Y)^*$.

If $d = d^*$, then the CA adjustment in the current year $\Delta(CA/Y)$ must be $(CA/Y)_1 - (CA/Y)^*$. In other words, if we have already reached our limit of external debt-to-GDP, then the adjustment of the current account deficit to $(CA/Y)$ must occur immediately.

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2 It is less important why $d^*$ would be unsustainable than that there exists a such a level at all. $d^*$ could be the level at which the US perceives to be the limit of domestic borrowing, or could be the level at which foreigners perceive the borrower constraint to be and therefore will be the point at which foreigners cease to lend, all things equal.
Now suppose that we have not yet reached our limit of external debt-to-GDP such that that \( d < d^* \). Assume without loss of generality, that the government prefers to minimize both the total amount of adjustment and to smooth out required adjustments equally across time. Then there exists one rate of change of current account to GDP ratio \( \Delta(GDP/Y) \), such that when \( d = d^* \), \( (CA/Y)_t = (CA/Y)^* \).

Therefore, in the remaining discussion, a particular explicit suggested required change in the current account deficit in any one period can be seen as implicitly suggesting a particular perception as to level of sustainable debt \( d \), and zero debt growth level of current account deficit-to-GDP.
Given a certain current account deficit adjustment in a given period, such an adjustment must occur as a result of a combination of various macroeconomic variables, mainly the US growth rate, the growth rate of the rest of the world, the import elasticity of the US and the rest of the world, and finally the exchange rate. In the following section we will use an analytical tool developed by Professor Jamie Marquez to predict required levels of one macroeconomic variable given the values of the others.

**Two recent views on U.S. Current Account Sustainability**

In approaching the question of required US current account adjustment due to unsustainable trends in the current account deficit, we will use two recent articles discussing this topic as points of departure.

**Devaluation: The Economist**

In a recent article entitled “Shrink-proof” published in the September 20th 2003 edition of *The Economist*, the authors frame the discussion of addressing current account balance adjustments from the point of view of the trade balance as determined by the terms of trade. Implicitly assuming constant rates of US and world growth, they also note the import elasticity disparity between the relatively import-hungry US and the rest of the world, and take these values as given. The article then relays several studies suggesting the need to reduce the current account deficit in the next period to between 2% to 3.5%. The predicted required devaluation is shown below:
<table>
<thead>
<tr>
<th>Study</th>
<th>CA balance adjustment</th>
<th>Required devaluation</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bergsten</td>
<td>3%</td>
<td>15-20%</td>
<td>Increase in relative demand from abroad</td>
</tr>
<tr>
<td>Rogoff</td>
<td>3%</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>O’Neill</td>
<td>2%</td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td>Rosenberg</td>
<td>3.5%</td>
<td>40-50%</td>
<td></td>
</tr>
</tbody>
</table>

As can be seen, especially taking into account the divergent views as to required reduction in CA balance, the predicted required devaluation varies quite widely. By using the Marquez tool, we will illuminate assumptions implicit in the studies shown above. In doing so, we will also gain a greater grasp requirements for current account sustainability using the exchange rate as the primary tool. First we take income elasticity for domestic (1.8%) and foreign import consumption (0.8%) as given as well as the price elasticity for domestic (0.3%) and foreign import consumption (1.5%), based on a preponderance of empirical data as calculated by Hooper, Johnson, and Marquez (1998), also cited by the Economist article. We then assume the US GDP growth to be 3.7% in 2004, based on the most recent estimates (SF Chronicle 2004). With this, we determined the relationship between required foreign growth rate and required dollar devaluation in order to reduce the US current account deficit-to-GDP ratio to 2%, 3%, and 3.5% of GDP:
As can be seen, according to our calculations, while reducing the current account deficit will require a significant devaluation of the dollar, the amount of devaluation required is much less than in the studies relayed in the economist article. Given a predicted world growth rate of 5% (Duncan 2004), to reduce the current account deficit back down to 3.5%, 3%, and 2% of GDP would require devaluations of the dollar by only 7.6%, 11.3%, and 18.7% respectively.

Since, as mentioned before, measurements of price and income elasticity of import and exports are based on a preponderance of empirical data, the most likely areas of differences in assumptions of domestic and foreign growth. However, even with the assumption of very strong US domestic growth of 6%, and feeble foreign growth of 1%, the required devaluation only grows to 23.3% for a reduction of the current account deficit to 2% of GDP (Scenario 1 in Appendix D). In analyzing the most extreme claim: Rosenberg’s prediction of a required devaluation of 40-50% to achieve a reduction of
the current account deficit to 3.5% of GDP, we ran several scenarios first keeping the assumption of domestic growth of 6% and foreign growth at 1%. Only letting one of the four variables for elasticity vary, we looked at what the predicted values would be in order to achieve both a devaluation of 50% as well as reduction of the CAB to 3.5% of GDP. What resulted was required foreign income elasticity of -74, foreign price elasticity of 0.00258, domestic income elasticity of 9.66, or domestic price elasticity of 0.64 (Scenarios 2-5 in Appendix D). The fact that it required sign changes in all but one of the price elasticities indicates the overriding effect of the exchange rate adjustment in our model. Adjusting the two price elasticities in uniform, all things equal, it would require price elasticities of 0.18 for both foreign and domestic imports to have a 50% dollar devaluation result in a reduction of the current account deficit down to 3.5% of GDP.

**Foreign Growth: The Levy Institute**

A recent article published by the Levy Institute entitled “Is International Growth the Way Out of U.S. Current Account Deficits? A Note of Caution”, focuses the question of required current account balance adjustments primarily on foreign growth instead of exchange rate adjustments. Instead of making predictions as to required adjustments, the authors decompose the foreign growth component of determinants of changes in current account balances, and use this to caution on reliance of policy makers on foreign growth to solve the current account deficit sustainability problem. Our Marquez analytical model reduces the foreign growth component down to one factor, the income elasticity of imports, and therefore we are unable to support or refute the authors intermediate claims. However, we can support the report’s underlying conclusion that one cannot expect
foreign growth alone to affect necessary changes in the US current account balance.

Going back to our analytical model, we can see that returning to our original assumptions, assuming no devaluation, we would need a foreign growth rate of 23.8% in order to achieve a reduction of the current account deficit to 3.5%. Looking back at the graph above, we can see that it would require a minimum devaluation of 6% to achieve current account deficit reduction to 3.5% of GDP, if we were to rely on the upper bound of possibility of 9% (China’s average growth rate) for foreign growth.

**Implications and Conclusion**

If indeed there exists a level of debt unsustainability, and therefore a related level of current account deficit unsustainability, then the evidence indicates that the US, with an ever increasing current account deficit and a related increasingly growing external debt, is approaching that level at an increasing rate. We have shown with our logical framework, that without having to pinpoint exact levels of debt and therefore current account unsustainability, that conversations about required adjustments due to unsustainable concerns can still be relevant, and given levels of required adjustments implicitly include assumptions as to limits of external debt and therefore current account sustainability limits.

Taking the above into consideration, we then delved into a discussion on hypothetically required adjustments of the current account balance. First we focused on the devaluation option of current account balance, and second we focused on the foreign growth option. Several conclusions can be drawn from our results. First, even a modest adjustment of the current account deficit to 3.5% of GDP would require either a large devaluation of a little less than 10%, or a huge boost of foreign growth of 23.8%, both of
which are either rather painful, or unfeasible. A preferable option would be a coordinated combination of the two policies in order to be able to create lesser adjustments in each area. This would also have the added benefit of encouraging and allowing US importers to deal with the contractionary affects of a loss of terms of trade due to a dollar devaluation. The second primary conclusion from our analysis, is that the premium on starting proactive adjustments to the US current earlier rather than later. Since sustainability is ultimately tied to the overall stock of external debt, starting adjustments earlier implies smaller per-period adjustments as compared to adjustments starter later. As our analysis has shown, even relatively modest adjustments to the current account balance will already require substantial and coordinated policy. Waiting longer may leave policy makers with policy options they are unwilling to undertake at which point the only option would be a unavoidable future currency crisis, where the value of the dollar is forced to drop precipitously.
Works Cited


