

Global Solvency

Despite five years of deleveraging by financial institutions notably those in the US, the world still is awash in debt. World debt ratios remain close to all-time highs as the rise in public debt – shown in Figure 1 – has countered the meager progress in containing credit extended to the private sector (Figure 2 below).

Figure 1
World: Public debt (as % of nominal GDP)

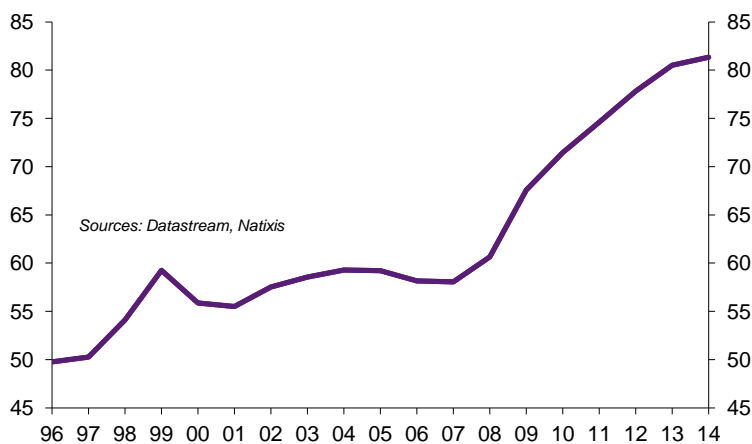
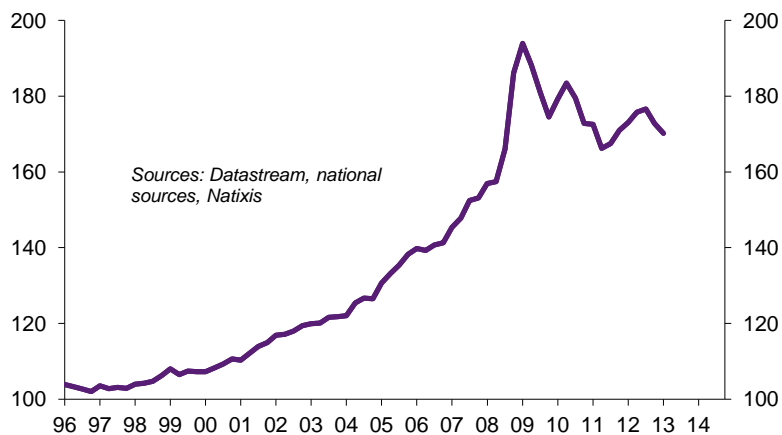


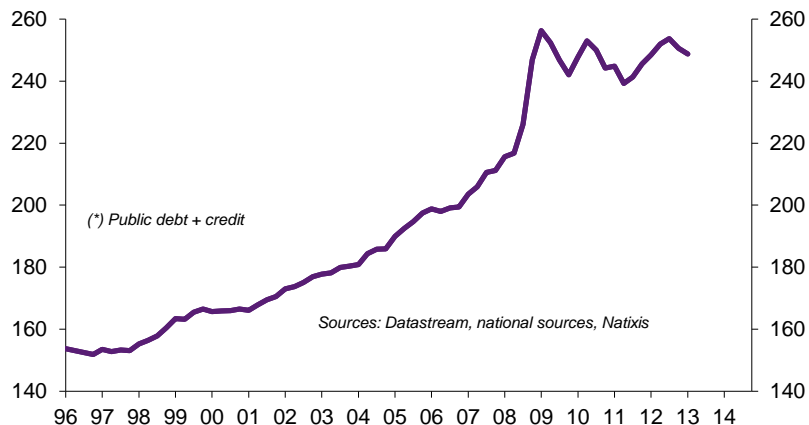
Figure 2
World: Credit (as % of nominal GDP)



The world debt ratio (Figure 3) has risen from 150% of GDP in 1996 to 250% in 2013, little changed from the record high of 256% in 2009. Note that the debt ratio actually has risen over the past year even as many governments have struggled to contain fiscal deficits. Low or negative real interest rates undoubtedly has helped many households and companies to refinance debt at lower costs but also may have discouraged debtors

from deleveraging as much as one might have expected during the worst of the recession years.

Figure 3
World: Total debt* (as % of GDP)



Circumstances have changed now that real long term interest rates have reverted toward more normal levels. The easy and noncommittal option of rolling over long-term debt is more expensive and the choices are more problematic. Debtors can either kick the can down the road by issuing short-term debt with its attendant refinancing risk or choose among the three basic options dictated by debt arithmetic. Namely, to deleverage a debtor must accept some combination of i) austerity; ii) inflation; and growth. These options entail inherent tradeoffs and, as the debt burden grows (i.e. debt ratios rise), the tradeoffs become more severe and thus deleveraging becomes more painful. In short, a high debt ratio raises the risks of insolvency unless growth or inflation eases the transition to lower debt levels.

In mathematical terms, the condition for sovereign debt sustainability is

$$v + (r - g)b \leq 0$$

where **v** = primary budget deficit as a % of GDP, **r** = real interest rate, **g** = potential growth in real GDP and **b** = ratio of debt to GDP.

The key to holding the line on a country's debt burden is the relationship between **r** and **g**, or equivalently between nominal interest rates and nominal GDP. When real interest rates rise or potential growth falls such that $r > g$, then the debt burden will increase inexorably unless the country runs an offsetting primary budget surplus (which means **v** is a negative number). Any disparity between **r** and **g** is amplified if the debt ratio, **b**, is high, thereby necessitating greater austerity to prevent an ever-increasing debt burden. During transitory recessions, such anti-Keynesian austerity makes little sense. However, if a country's recession is merely a prelude to a major downshift in its long-term

potential growth, then the logic of debt sustainability could override the otherwise compelling rationale for fiscal stimulus. The choice between growth, which tends to be the preferred option and the last resort of austerity, is heavily conditioned by the debt ratio. A country with a high debt ratio is lighting a short fuse if it chooses fiscal stimulus and growth fails to materialize anytime soon; its debt burden will balloon quickly and it soon may run the risk of insolvency. By contrast, a country with a low debt ratio will have plenty of time to redress any structural issues before it faces a debt crisis.

The second option – to magically inflate away the value of debt - is an alluring palliative that distracts from the core of the conundrum facing debtors. Because nominal interest rates tend to react slowly to an upward trend in inflation, real interest rates (r) are reduced - at least temporarily - as inflation rises and debt is repaid with cheaper currency. Conversely, potential growth (g) is a structural concept that only is tangentially related to inflation and if so with considerable delay. Thus, as inflation trends higher, $r - g$ does fall, but the benefits for debtors tend to be short-lived and eventually illusory if the debtor does nothing else to remedy its financial condition. Inflation expectations invariably do catch up with reality. And ultimately debtor countries pay the price, as the knife cuts both ways: as inflation recedes, real interest rates often remain inordinately high for a long time. A case in point is Brazil's long suffering with unmanageably high real interest rates almost two decades after the Real Plan broke the back of debt-induced hyperinflation. Hence, inflationary periods tend to be good for debtors and politicians but bad for bondholders. The opposite tends to be true during periods of disinflation, although debtors do not necessarily suffer too badly if they are fortunate enough to share in the boon to growth that usually accompanies disinflation.

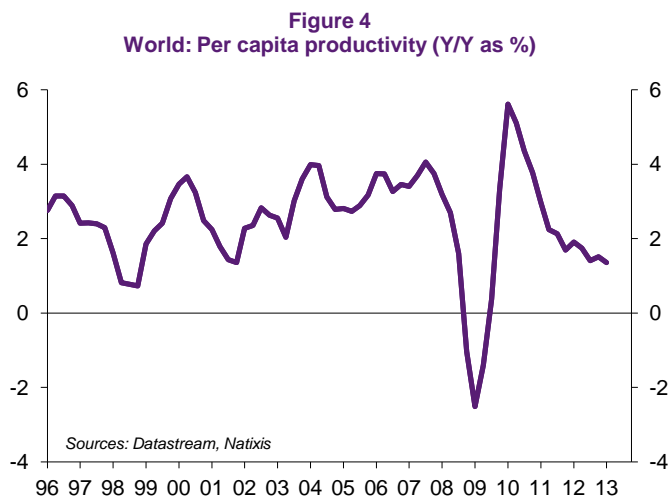
By contrast, deflation, or the outright decline in the price level, tends to be disastrous for heavy borrowers whose debts loom larger and more expensive. Worse yet, periods of deflation invariably are accompanied by slow economic growth that promulgates beggar-thy-neighbor economic policies. Such an economic climate leaves debtors with counterproductive austerity as their only expedient option to sustain solvency.

The tipping point between deterioration in global solvency and increased defaults is hard to predict¹, but the data in Figures 1-3 indicate that global debt ratios still are undeniably high by historical standards and that the world in aggregate has made little progress toward deleveraging since the peak of the credit binge of the 2000s. Since the recent backup in bond yields has little to do with global inflation expectations, one is tempted to conclude that global solvency has slipped a notch at a time when economic recovery should be serving as a natural deleveraging agent. Instead, it appears clear that

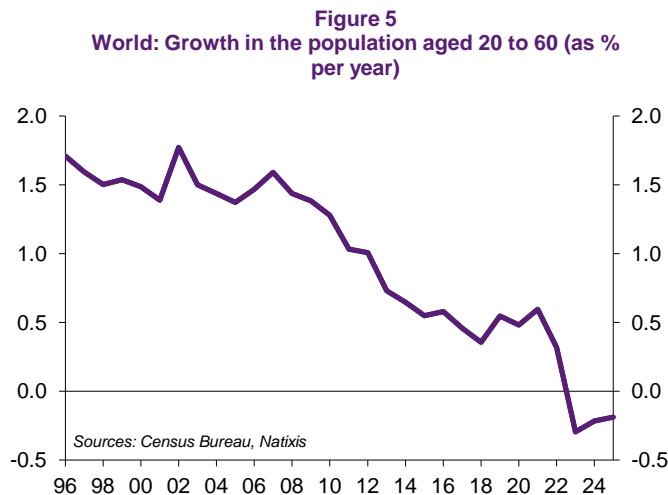
¹ A recent IMF study finds that the likelihood of an external debt crisis increases sharply when a country's net foreign liabilities exceed 50% of GDP and when its current account deteriorates dramatically. See External Liabilities and Crises, *Luis A. V. Catão and Gian Maria Milesi-Ferretti, IMF Working Paper 13/113*. Conversely, no creditor country with net foreign asset holdings has ever defaulted.

global growth is impeded in part by a major downshift in potential growth. Indeed, almost every major country and many emerging ones apart from a few in Latin America are experiencing slower potential growth due to aging populations, a deceleration in productivity growth or wasteful overcapacity .

Figure 4 shows an estimate of global productivity growth per capita over the past two decades. The late 1990s and early 2000s were the heyday of productivity performance with annual increases of 2% to 4%. Since the cyclical peak in 2008, however, the trend is decidedly lower. Although measures of productivity tends to have a countercyclical bias, the past five years of sub 2% growth on average is a fairly sign convincing sign that the trend has downshifted.



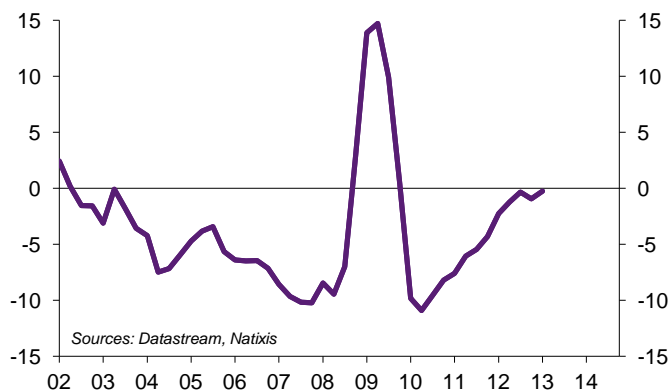
Similarly, there is little doubt that the world’s population is getting older. Figure 5 shows estimates of growth in the cohort aged 20 to 60, which broadly represents persons of working age. In 2013 that cohort is contributing only 0.6% to world potential growth compared with 1.5% during the previous business cycles. By 2022, the prime age population actually will shrink; in Japan and soon China, it already is.



This and other evidence indicates that potential growth (*g*) has slowed to about 2% in the United States and less than 1% in Europe. Japan probably cannot manage much more than ½% to 1% annually on a sustained basis. The big change, though, has occurred in China where potential growth probably has dropped in half to about 5%. Without major structural reforms, the world economy probably cannot sustain growth of more than about 3% to 3-1/2% without rekindling inflation sometime next decade.

The bottom line is that unless real interest rates remain under 2% or else governments and the private sector will remain under considerable pressure to deleverage for a long time to come. Indeed, after a brief experiment with fiscal stimulus, many governments now already feel compelled to contain their high debt ratios by running primary surpluses (*v*). As shown in Figure 5, governments in aggregate almost have primary non-interest budgets in balance. A further rise in long-term interest rates simply will turn the screws tighter, and fiscal policy will become a counterproductive drag on world growth. Conversely, if the world’s financial markets manage to recycle the surplus of saving primarily from Asia and resource-rich countries with large net foreign assets, then real interest rates could stay low enough for long enough to whittle away the world’s debt overhang. Too much debt sadly has sown the seeds of an inescapable cycle of protracted deleveraging.

Figure 5
World: Overall primary surplus to stabilise debt (as % of nominal GDP)



Dr Robert S Gay
3 September, 2013