ENDING OVER-LENDING: How the Debt/GDP Metric has Contributed to the Financial Crises of the 21st Century

ABSTRACT

I examine the ways in which the Debt/GDP metric has failed the credit assessment of nations and contributed to the renewed economic crises of the 21st century. I explore how the Debt to Cash Flow ratio ("Debt/CF") can be utilized to assess the credit worthiness of nations in contrast to the widely relied upon Debt/GDP approach.

The reasons Debt/GDP is so pervasive are many, but this metric is flawed in several ways. First, the metric only accounts for government debt, while ignoring Household, Corporate and Banking sector debt. More importantly, GDP measures the total output of a nation and as such is akin to its aggregate revenue. In financial and credit analysis, debts are not normally compared to revenue, and very little literature pursues this approach. Debts are normally compared to another accounting measure--cash flow--which more directly affects an entity's ability to source and service debt. Further failures of Debt/GDP include ignoring the importance of a nation's gross savings margins, and accounting for GDP which is in fact unearned via the credit consumption process.

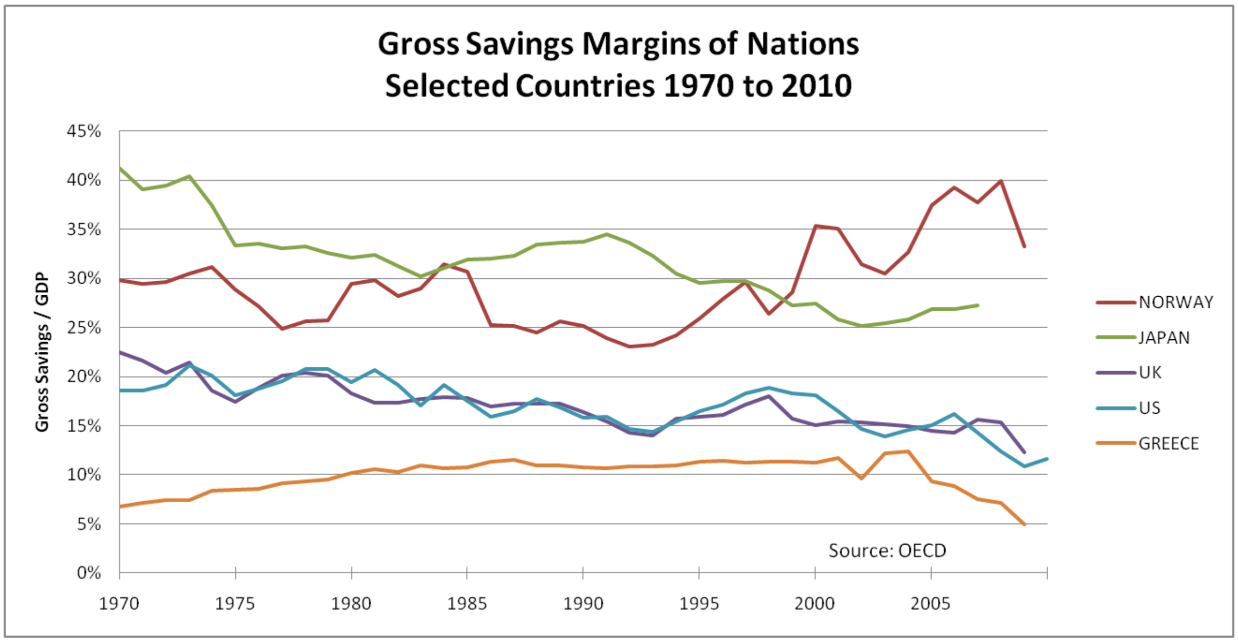
Cash Flow statistics, including the Debt/CF ratio, have been shown in numerous academic studies to be effective predictors of corporate loan covenant violations, bankruptcy, and Chapter 11 events. Debt/CF is often specified as a covenant in loan agreements. Simplistically, the Debt/CF ratio measures the number of years of cash flow required to retire an entity's outstanding debt. The higher the ratio, the more 'levered' the entity. The Debt/CF of a nation is measured as Total Country Debt/Gross Savings. Prior papers contemplating the use of Debt/CF ratios for nations were not located.

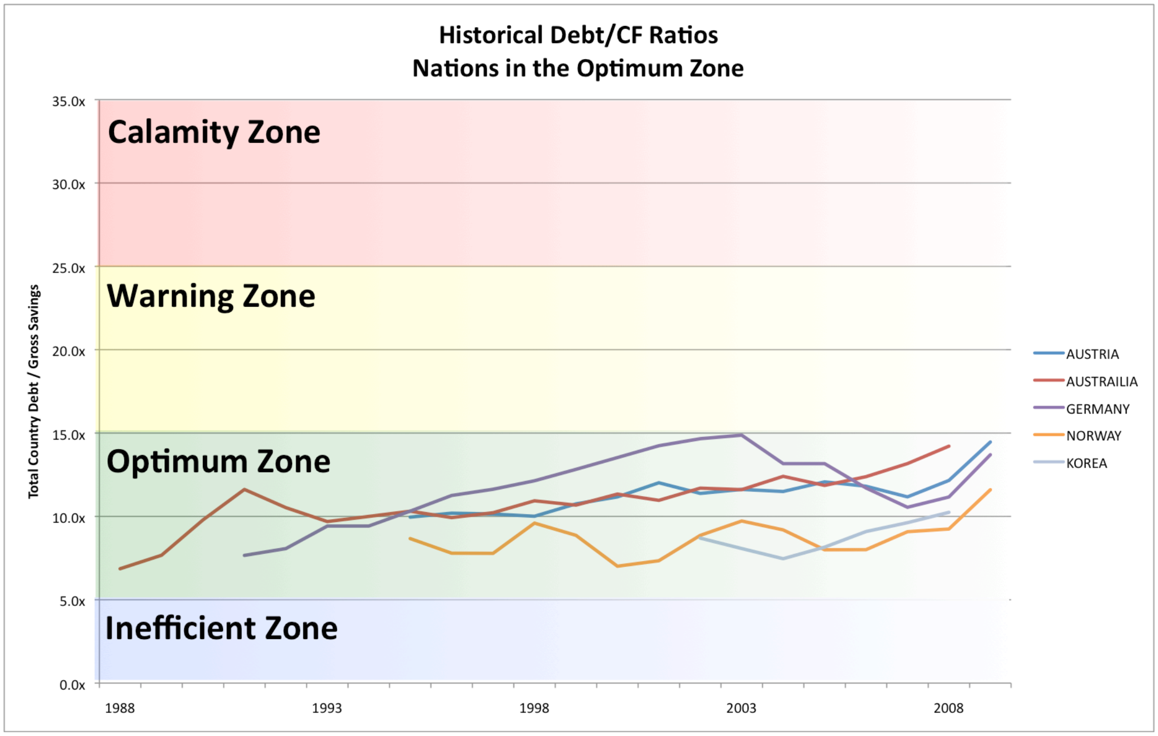
What is the history of the Debt/GDP ratio? How has the use of Debt/GDP failed in the credit assessment of nations? If Cash Flow has a well-known direct connection to the ability to service and repay debt, can relating the cash flow generated by a nation to that nation's total debt provide a meaningful metric? Why has this alternate approach not been utilized historically?

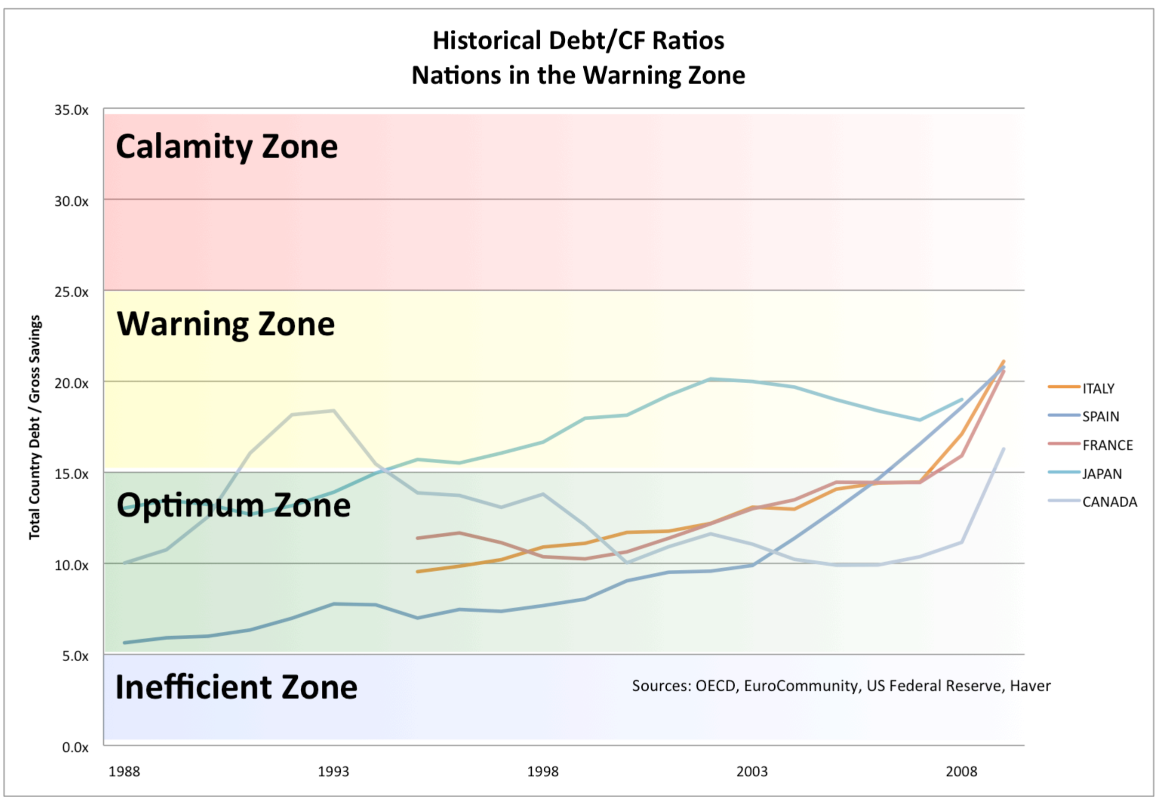
I start by presenting a brief history of the Debt/GDP statistic. I review some of the contexts in which this metric has been utilized for sovereign credit assessment. I then discuss several important flaws of Debt/GDP, incorporating time series data in some cases, which have contributed to poor sovereign lending decision-making. Next, I explain how the Debt/CF ratio is calculated. I utilize time series data to examine historically appropriate levels of corporate, banking and household debt and expose the devastating consequences of flawed credit assessment. I then provide a sample calculation of a Debt/CF ratio for a nation. Debt/CF ratios and statistical trends for 26 countries are compiled utilizing time series data. I then group several of these nations into 4 categories of credit worthiness—Inefficient, Optimum, Warning, and Calamity—according to a Four Zone Framework I propose. I conclude with comments regarding the comparative credit assessment effectiveness of Debt/CF versus Debt/GDP in establishing early warning mechanisms and macro-prudential policy tools. An appendix hereto provides sample graphics to be included in the completed paper.

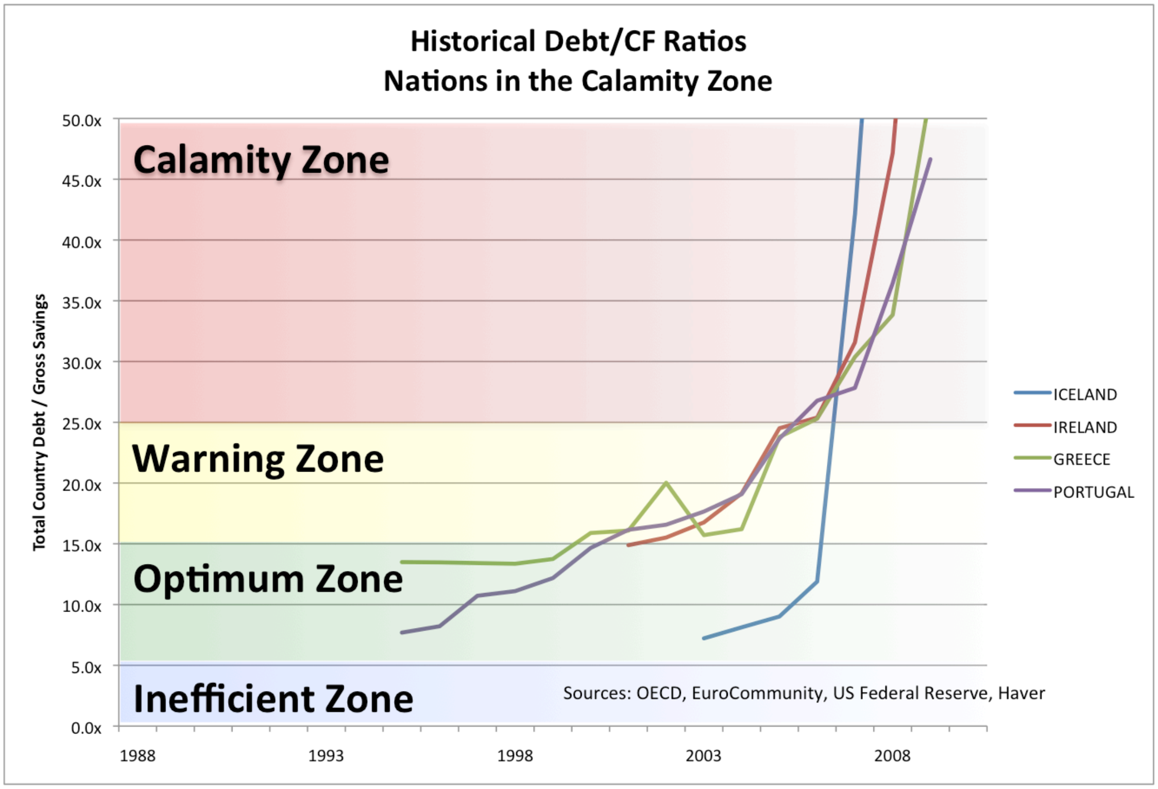
APPENDIX – SAMPLE TABLE AND CHARTS

	Nation A	Nation B
GDP	1,000	1,000
Gross Savings	250	100
Gross Savings Margin	25%	10%
Total Country Debt	2,500	2,500
Debt /GDP in %	250%	250%
Debt /CF	10.0x	25.0x




Historical Debt/CF Ratios
Nations in the Optimum Zone
Total Country Debt / Gross Savings
35.0x
30.0x
25.0x
20.0x
15.0x
10.0x
5.0x
0.0x
Calamity Zone
Warning Zone
Optimum Zone
Inefficient Zone
1988
1993
1998
2003
2008
AUSTRIA
AUSTRAILIA
GERMANY
NORWAY
KOREA


Historical Debt/CF Ratios
Nations in the Warning Zone
Total Country Debt / Gross Savings
35.0x
30.0x
25.0x
20.0x
15.0x
10.0x
5.0x
0.0x
Calamity Zone
Warning Zone
Optimum Zone
Inefficient Zone
Sources: OECD, EuroCommunity, US Federal Reserve, Haver
1988
1993
1998
2003
2008
ITALY
SPAIN
FRANCE
JAPAN
CANADA


Historical Debt/CF Ratios
Nations in the Calamity Zone
Calamity Zone
Warning Zone
Optimum Zone
Inefficient Zone
Sources: OECD, EuroCommunity, US Federal Reserve, Haver
Total Country Debt / Gross Savings
50.0x
45.0x
40.0x
35.0x
30.0x
25.0x
20.0x
15.0x
10.0x
5.0x
0.0x
1988
1993
1998
2003
2008
ICELAND
IRELAND
GREECE
PORTUGAL