ENDING OVER-LENDING

AVOIDING FINANCIAL CALAMITIES

SUMMARY PAPER

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FOREWORD

Ending Over-Lending presents a direct, unique and innovative approach to understanding the leverage of nations and the causes of crises. Rather than rehashing how the 2008 and other continuing financial crises fit within traditional competing economic theories, the paper presents a simple new mathematical underpinning to macroeconomic systems and monetary economics.

INTRODUCTION

Ending Over-Lending is possible. By applying a trusted analytical tool--the Debt / Cash Flow ratio--to the finances of nations, leverage becomes directly measurable. Nations can then be assessed and categorized into a Four Zone Framework delineating debt loads as prudent or problematic. History continues to exemplify crisis-bound nations who have ignored the predictive Warning Zone, and gone on to encounter the Calamity Zone. Ending Over-Lending proposes a macro-prudential foundation for 21st century monetary economics in which nations manage their affairs within an Optimum Zone of leverage, thereby avoiding financial calamities.

BASICS BEHIND THE DEBT TO CASH FLOW RATIO

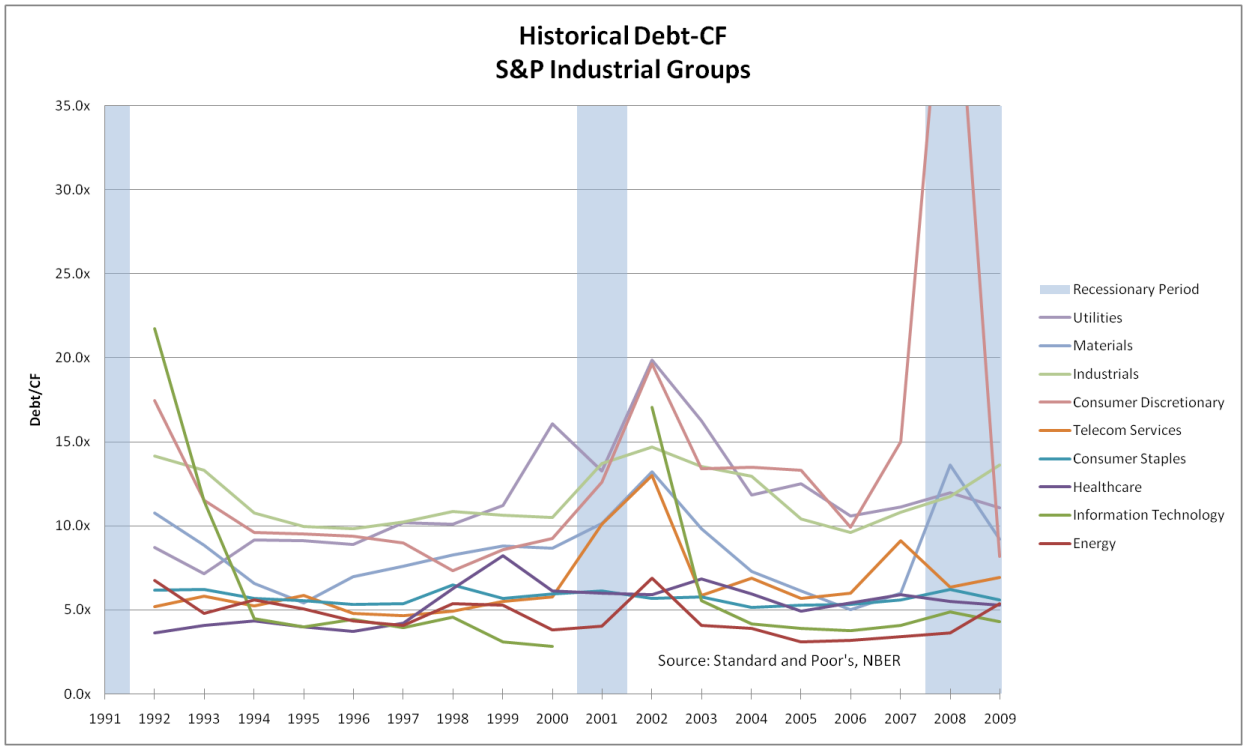
Numerous studies from the 1960s onward have concluded that cash flow ratios including the Debt / Cash Flow ratio (the "Debt/CF" ratio) are effective predictors of loan covenant violations, Chapter 11, and bankruptcy. The Debt/CF ratio expresses the total third party debts owed by an entity, in relation to the amount of cash flow generated by the entity. The higher the ratio, the more 'levered' the entity. In its most simplistic form, the Debt/CF ratio measures the number of years of cash flow required to retire outstanding debt.

The Author proposes the hypothesis that Debt/CF ratios can be applied to nations. Based on the results presented, Debt/CF can be characterized as a simple, reliable, predictive metric that should be considered in assessing the financial health of a nation.

DEBT / CF RATIOS OF INDUSTRIES

Ending Over-Lending explores how the Debt/CF ratio can be applied to nations as a monitor of fiscal health. To set context for appropriate levels of debt and the consequences of over-leverage, the paper first studies historical data of individual companies, utilities, banks, industries, and households. The corporations comprising the industry aggregates of the Standard & Poor's Composite Index, for example, tend to operate with Debt/CF ratios substantially less than 15x. Only in exceptional years of poor cash flow, typically coincident with recessionary periods, have the S & P industry average ratios temporarily exceeded 15x. Long term average Debt/CF ratios for most industry sectors are clustered in the 5x to 10x range as depicted in ***Figure 1***.

Figure 1 – S&P Sectors Debt/CF Over Time with Impact of Recessionary Periods



The most stable industries such Utilities are characterized by Debt/CF ratios at the higher end of the spectrum (approximately 10x to 11x), whereas the more volatile Energy and Information Technology sectors' ratios are concentrated at the lower end (approximately 4x to 5x). Recessions and other factors may cause spikes in a sector's ratio, but collectively the firms manage themselves (or are forced by lenders) back to normal historical Debt/CF ratios.

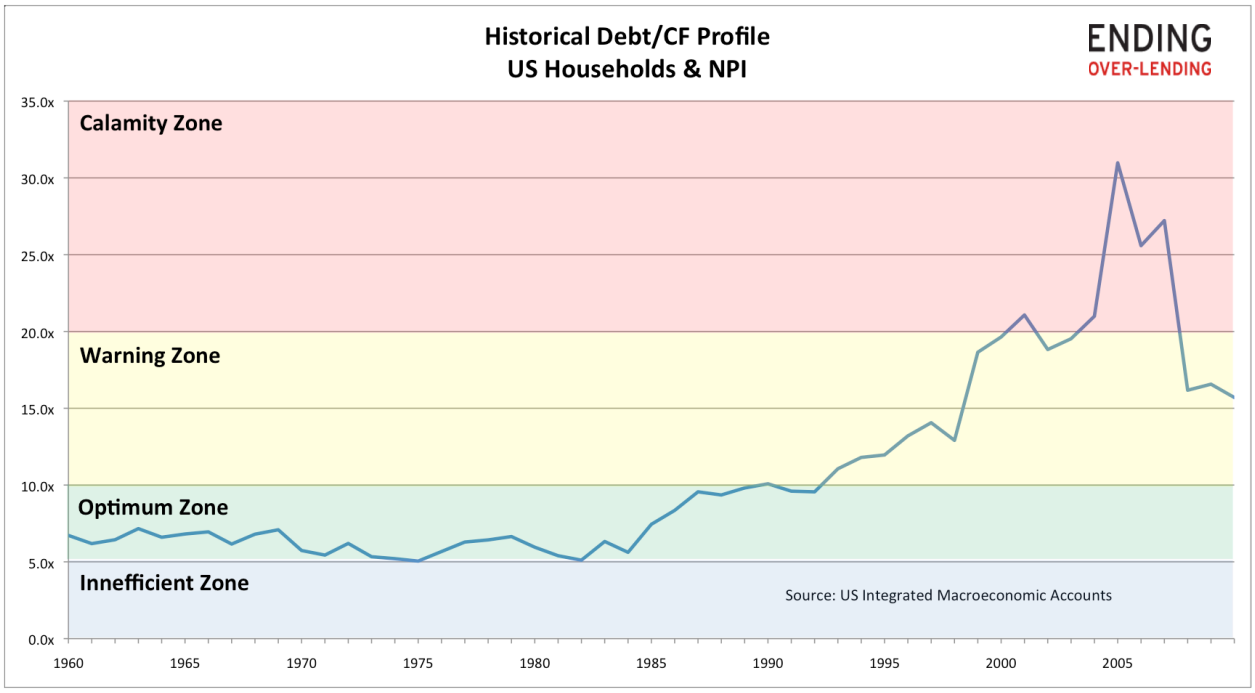
Berkshire Hathaway, considered one of the best-managed companies in the world, averaged a Debt/CF ratio of 12.5x over the 10 years since 2001, and in 2010 the ratio was 11.7x. A country may not be capable to manage affairs as well as Warren Buffet and his team, and therefore targeting a more conservative (lower) Debt/CF than 12.5x for a nation may be prudent.

DEBT / CF RATIOS OF HOUSEHOLDS

The Debt/CF ratio was also be tested in a context away from typical corporate and industry financial analysis. U.S. Households cash flow data, referred to as Gross Savings, is available as is the total debts of the Households Sector, permitting a standard Debt/CF calculation. Households maintained Debt/CF ratios in a range of 5x to 10x--a possible Optimum Zone for Households--for the three decades 1960s to 1980s. Households then escalated to above 20x in 2001 and to over 25x by 2005 as the Sector then began to collapse. A process of reversion started subsequently, with Households Debt/CF ratio retreating to approximately 16x by 2010.

In ***Figure 2***, a history of the U.S. Households sector Debt/CF ratio is depicted.

Figure 2 - Debt/CF Ratio of U.S. Households and Non-profit Institutions



The Households example shows a typical pattern: Debt/CF ratios tend to regress back to a mean level over time. These reversions may result from entities proactively managing their affairs (e.g. Households saving more and borrowing less), from the impositions of lenders and trustees (e.g. corporate Chapter 11 events), or from other causes. Nations would also be expected to follow patterns of reversion, although the time frames involved are likely longer than corporate situations.

DEBT / CASH FLOW RATIOS OF NATIONS

Table 1 summarizes comparable terminology of key financial and economic measures for households, corporations and countries.

Table 1 - Terminology Equivalents

Households	Corporations	Nations
Incomes	Revenues	GDP
Net Savings	Net Profit	Net Savings
Capital Consumption Allowance	Depreciation and Amortization	Capital Consumption Allowance
Gross Savings	Cash Flow	Gross Savings
Gross Savings Margin	Cash Flow Margin	Gross Savings Margin
Total Debt	Total Liabilities	Total Country Debt
Bankruptcy	Chapter 11	Financial Calamity

The Debt/CF ratio for a country is derived by compiling the aggregate outstanding indebtedness for the nation, and dividing by the aggregate cash flow produced by that nation. The domestic portion of Total Country Debt data is typically segmented into four categories: Household Debt; Corporate Debt; Financial Sector Debt and Government Debt.

Cash Flow is measured by the Gross Savings generated by that country. The Gross Savings calculation first adds together the nation's corporate and banking profits, household savings, and deducts government deficits (a government surplus would be added). To this Net Savings amount, a capital consumption allowance (i.e. a depreciation equivalent) is then added to arrive at Gross Savings.

The Debt/CF statistic for a nation can therefore be measured as Total Country Debt / Gross Savings.

The paper suggests that a range of Debt/CF ratios centered on approximately 10x may be a reasonable starting point for the Optimum Zone of nations.

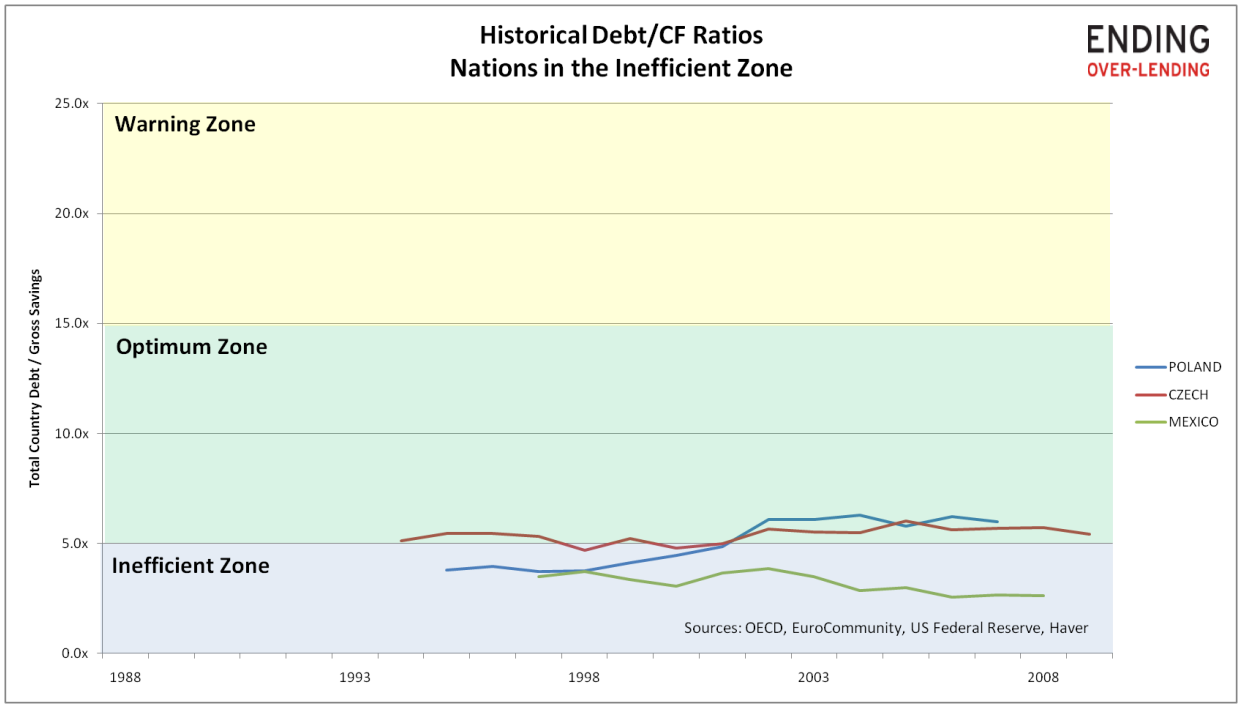
Ending Over-Lending proposes 4 categories of leverage for Nations as measured by the Debt/CF ratio. First, the Inefficient Zone of up to 5x, where nations are under-levered. Next, the Optimum Zone of 5x to 15x, where nations are appropriately levered. Third, the Warning Zone of 15x to 25x, in which a nation is over-levered. Finally, the Calamity Zone of 25x and higher where a nation is at serious financial risk or in fact experiences a financial calamity.

In Figures 1 – 4 the Debt/CF ratios for various countries are presented over time and segmented according to the Four Zone Framework. The 20 countries were selected on the basis of availability and consistency of data.

INEFFICIENT ZONE

Figure 3 depicts three nations considered to be in the Inefficient Zone.

Figure 3 - Nations in the Inefficient Zone



Nations in the Inefficient Zone may be under-levered to the extent that debt capital is being underplayed, and their economy may therefore not be operating at its most optimum potential. Perhaps such a country 'learned a lesson' as a consequence of a recent calamity and has become reluctant to borrow. Alternatively, perhaps lenders are reluctant to lend due to historical, political, social or other issues. The state of development of capital markets and liquidity would also influence the availability of debt capital.

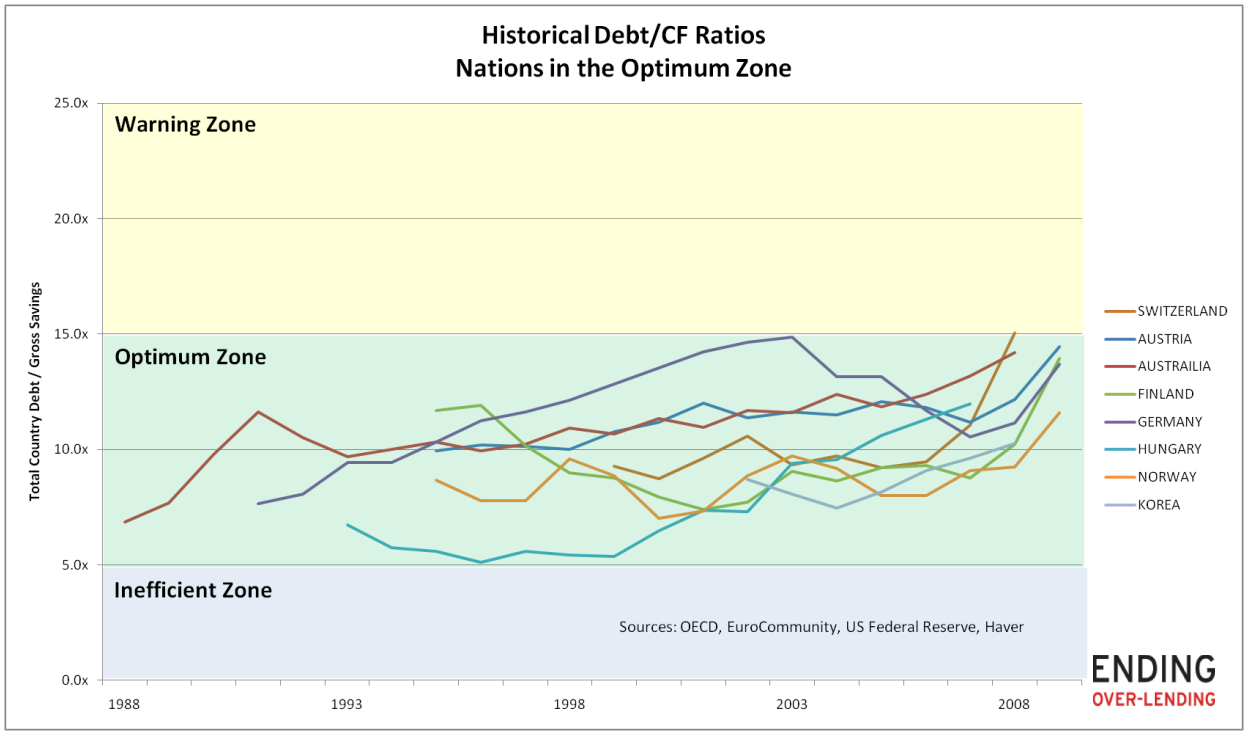
Mexico, Poland and Czech Republic would all be presumed to be in a safe, but possibly under-levered financial position.

The upper bound of the Inefficient Zone is a level at which a nation crosses from under-levered to appropriately levered. Rather than thin lines delimiting between Zones, the concept is better conceived as wide grey areas of overlap.

OPTIMUM ZONE

Eight nations with Debt/CF under 15x on the basis of 2009 data (or latest available), considered to be in the Optimum Zone are illustrated in ***Figure 4***.

Figure 4 - Nations in the Optimum Zone



Nations in the Optimum Zone are presumed to be characterized as having a prudent level of overall leverage in their economies. For countries which operate in the Optimum Zone, economic crises are less likely, will be less severe, occur less often and can be more easily managed.

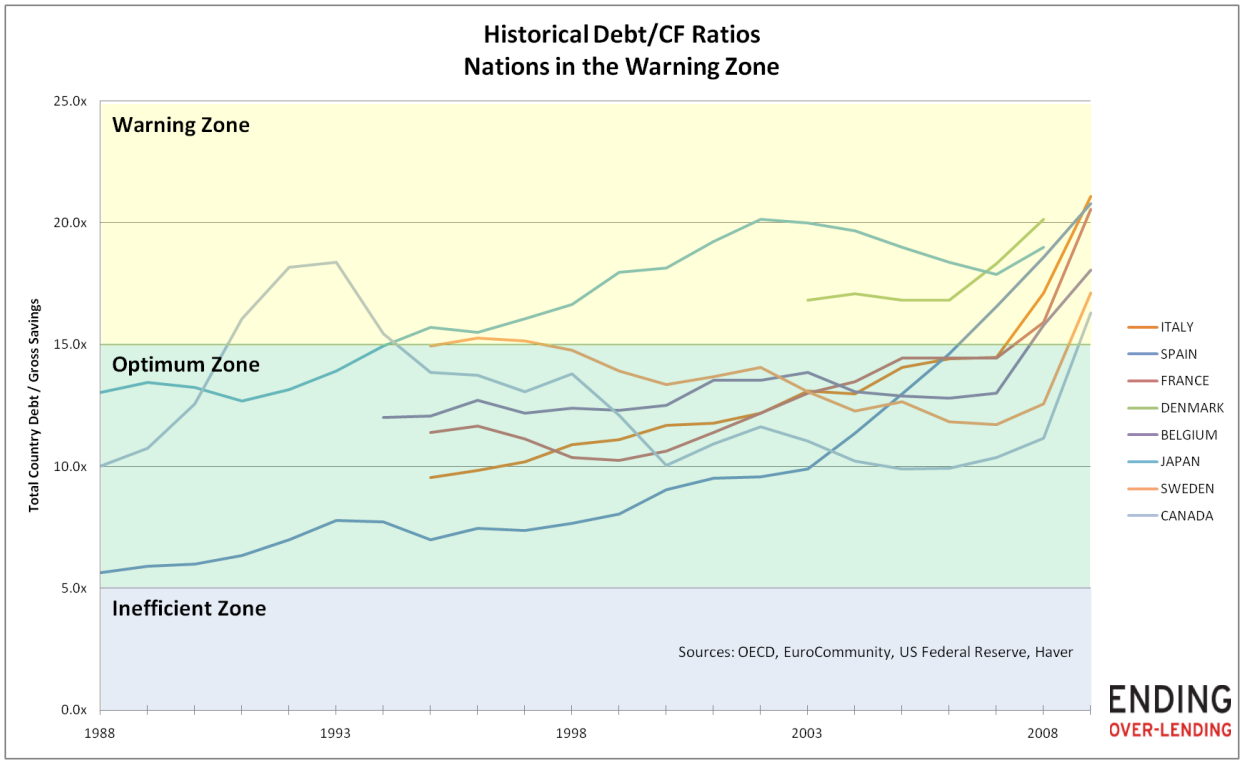
Norway's strong Gross Savings Margin contributes to its inclusion in the Optimum Zone group. Austria adopted the Euro similar to Greece, Portugal and Ireland, but did not follow down the path of excessive leverage and has remained in the Optimum Zone. Finland and Australia's economies, weighted to commodities, may be subject to greater volatility of Gross Savings, but are presumed to be in a prudent position. Hungary suffered a banking crisis in 1991-1995 which was followed by a five year period where the Debt/CF ratio rested near the bottom of the Optimum Zone range. Germany and Switzerland experienced calamities within the financial sector, but were well enough positioned within the Optimum Zone to escape nation-wide calamity.

The upper delimit of the Optimum Zone is a level at which a nation crosses from appropriately leveraged to being somewhat over-levered. Crossing this level acts as a nation's first warning stage in the guard against adverse events.

WARNING ZONE

Figure 5 illustrates nations segmented into the Warning Zone on the basis of a 2009 (or latest available) Debt/CF ratio above 15x but below 25x.

Figure 5 - Nations in the Warning Zone



Many of the nations currently in the Warning Zone have migrated upwards with the recent global recession and were previously positioned in the Optimum Zone.

Spain is the only PIGS country to have avoided calamity thus far, although its steady upwards trajectory may be cause for continuing concern. Italy, France, Denmark and Belgium show similar patterns of impact of the 2008-2009 recession. Japan has maintained relatively high Gross Savings Margins (above 25%) which has assisted in carrying the nation's debt load.

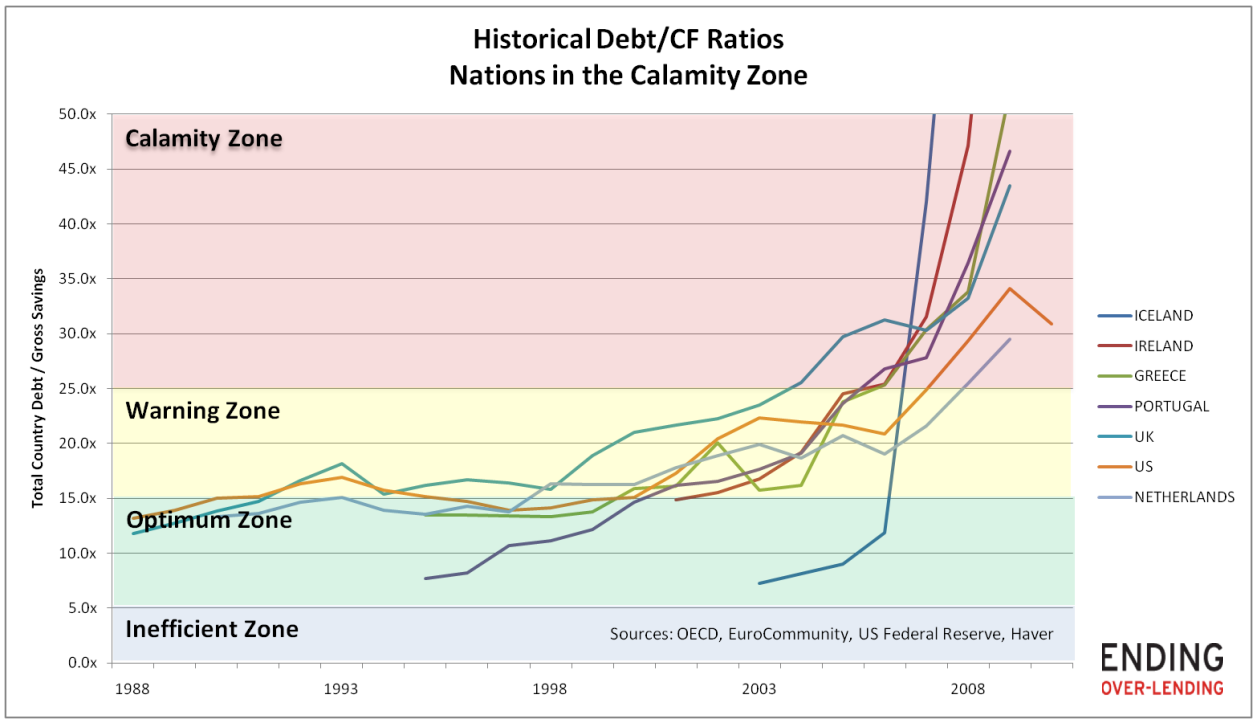
Canada previously entered the Warning Zone in the early 1990s. During this period, Canada's federal government debt was roughly 70% of GDP and the budget deficit had peaked at 9.2% of GDP. The country lost its triple A debt rating with references made to Canada's currency as a 'northern peso'. Counter measures were taken in the mid-1990s and Canada steadied into the Optimum Zone for approximately the next 15 years. Canada's example shows how nations can potentially revert to a mean Debt/CF through pro-active management. Canada recently re-entered the Warning Zone in conjunction with the 2008-2009 recession.

Some countries are able to support higher debt levels relative to others. At some point, however, excessive debt relative to cash flow may reach a tipping point.

CALAMITY ZONE

Figure 6 provides a grouping of countries with Debt/CF ratios of 25+, considered to be in the Calamity Zone.

Figure 6 - Nations in the Calamity Zone



All seven Nations allocated to the Calamity Zone have experienced calamities within the preceding three years.

Iceland collapsed in dramatic fashion in 2008 as a result of an over extended banking system. Prophetically, three of the named PIGS nations are now fully engulfed in financial calamity (Greece, Ireland, and Portugal). These nations had gained a new level of credibility with the adoption of the Euro as currency, and with eager investment banking assistance accumulated unsustainable debts. The remaining three Calamity Zone countries – Netherlands, U.K. and U.S.– were all forced to rescue banking systems in the 2008 financial crisis, although a sovereign-debt crisis has not occurred.

The United Kingdom has had a trend of escalating Debt/CF since the country departed the Optimum Zone in 1992. After twelve years in the Warning Zone, the UK became the first nation to cross into the Calamity Zone in 2004. In the case of the US, banking system Debt/CF ratios retrenched in the 2000-2002 period but began escalating again in 2003. Coincidentally, as the obverse of the same coin, Household debt levels expanded beyond prudent levels. The U.S. corporate sectors were largely prudently levered at the time, but the simultaneous collapse of the banking and housing sectors was catastrophic. The U.S. crossed into the Warning Zone in 2000, and experienced its Calamity eight years later in 2008.

CLOSING

This group of Calamity Zone nations averaged 8.7 years transpiring between leaving the Optimum Zone until the Calamity occurred. The shortest of these was Iceland which collapsed within two years of departing the Optimum Zone. The longest running was the U.K., which exited the Optimum Zone in 1992.

The Debt/CF ratio can be used as a leading indicator to assess whether an entity is nearing a financial distress situation. The slope of the Debt/CF trajectory and level within the Zone framework should forewarn as to the severity of potential risks. Further research will provide additional comparative data to assist in the development of specific early warning tools and more thoroughly researched Zone delimits.

Like other macro-prudential tools, the Debt/CF ratio could be managed at the country level using policy levers. Each nation should consider establishing a target Debt/CF level, within the bounds of an Optimum Zone. The lower bound would be set at the Debt/CF ratio viewed as prudent and conservative leverage, but not under-levered. The upper bound of the Optimum Zone would be determined by the country's ability to safely mitigate the potential implications of an economic or monetary shock.

In summary, the Debt/CF ratio for a nation is a simple, reliable predictive metric that should be considered in assessing the financial health of a country.