DaMina Advisors LLP

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"The 0% growth era: The risks of zero interest rates and zero economic growth"

DaMina's 'HEPTA' Economic Crisis Risk Index forecasts a new era of zero percent global economic growth

China, the global economic engine sputters with growth rate down by 50% from 2008 high

40% of total global growth since 2008 came from China; with the US producing less than 20%

USA, Russia, Nigeria, Spain, Sweden and Saudi Arabia among the most vulnerable economies to crisis in new era

US Fed's zero-interest rate policy loses punch as 10-Year US Treasuries yields diverge from US Fed Funds rate

Eurobond Interest payment crisis to hit over-indebted emerging and frontier markets

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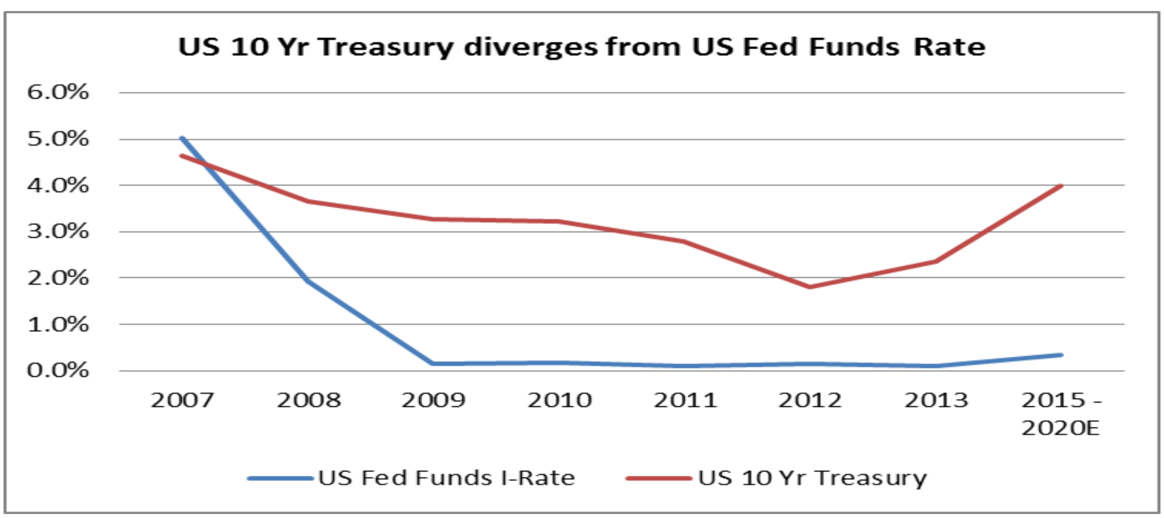
September 18, 2015

TORONTO: DaMina'a Advisors HEPTA Economic Crisis Index, which forecasts the risk of national economic crisis based on the statistical sensitivity of national economic growth to exogenous changes in US interest rates and Chinese economic growth, is strongly signaling that the world is sliding into a 'zero percent growth era.' The turmoil in Chinese markets, and the US Fed's inability to raise interest rates, (hamstrung by China's stalled economy), both powerfully signal an oncoming global economic growth crisis. A growth crisis will see the currencies of many formerly high-growth emerging and frontier markets chaotically devalued.



Source: US Fed/ DaMina Advisors

With the US Fed's zero-interest rate policy having lost its punch, the 10-Year US Treasury yield is bucking the dictates of the central bank. This divergence will have dire consequences for highly indebted Eurobond sovereign and high yield corporate issuers. The 10 Year US Treasury could rise to 4% by 2020, despite the US Fed maintaining a zero or even negative interest rate policy.

DaMina's 'HEPTA' Economic Crisis Risk Index

	Current GDP as % of global GDP	Correlation to Chinese GDP since 2008	Sensitivity to Changes in US 10-Year Treasuries since 1990	Last 12 Month Change in USD FX Reserves as % of Total Reserves	DaMina 'HEPTA' Economic Crisis Risk Index
Russia	2.8%	85%	-75%	-34%	100.22
Nigeria	0.7%	94%	-84%	-26%	100.21
USA	22.2%	97%	-94%	-13%	100.12
Spain	1.8%	-80%	-82%	14%	100.09
Saudi Arabia	1.0%	93%	-86%	-10%	100.08
Sweden	0.8%	78%	-82%	-12%	100.07
China	12.1%	99%	-86%	-6%	100.05
Venezuela	0.5%	48%	-85%	-10%	100.04
Thailand	0.6%	98%	-83%	-5%	100.04
Turkey	1.1%	80%	-85%	-5%	100.04
South Africa	0.5%	73%	-84%	-6%	100.04
Belgium	0.7%	37%	-86%	-10%	100.03
Germany	4.9%	29%	-83%	-10%	100.02
Denmark	0.4%	-11%	-86%	12%	100.01
Japan	6.5%	35%	-69%	-3%	100.01
Canada	2.4%	89%	-87%	0%	100.00
Norway	0.7%	81%	-88%	0%	100.00
Iran	0.7%	81%	-84%	0%	100.00
UAE	0.5%	87%	-88%	0%	100.00
Austria	0.6%	32%	-86%	0%	100.00
Poland	0.7%	38%	-89%	1%	100.00
France	3.7%	-10%	-85%	-9%	99.99
Brazil	3.0%	79%	-81%	1%	99.99
UK	3.5%	25%	-85%	10%	99.98
Mexico	1.7%	80%	-91%	5%	99.97
Indonesia	1.1%	94%	-82%	5%	99.96
Italy	2.8%	-57%	-81%	-9%	99.96
Korea	1.7%	94%	-87%	5%	99.96
Colombia	0.5%	98%	-85%	6%	99.95
Switzerland	0.9%	91%	-86%	9%	99.93
Netherlands	1.1%	-51%	-87%	-17%	99.92
India	2.6%	91%	-87%	14%	99.89
Argentina	0.8%	97%	-61%	20%	99.88
Index MEAN	*87.7%*	*60%*	*-86%*	*-3%*	*103.05*

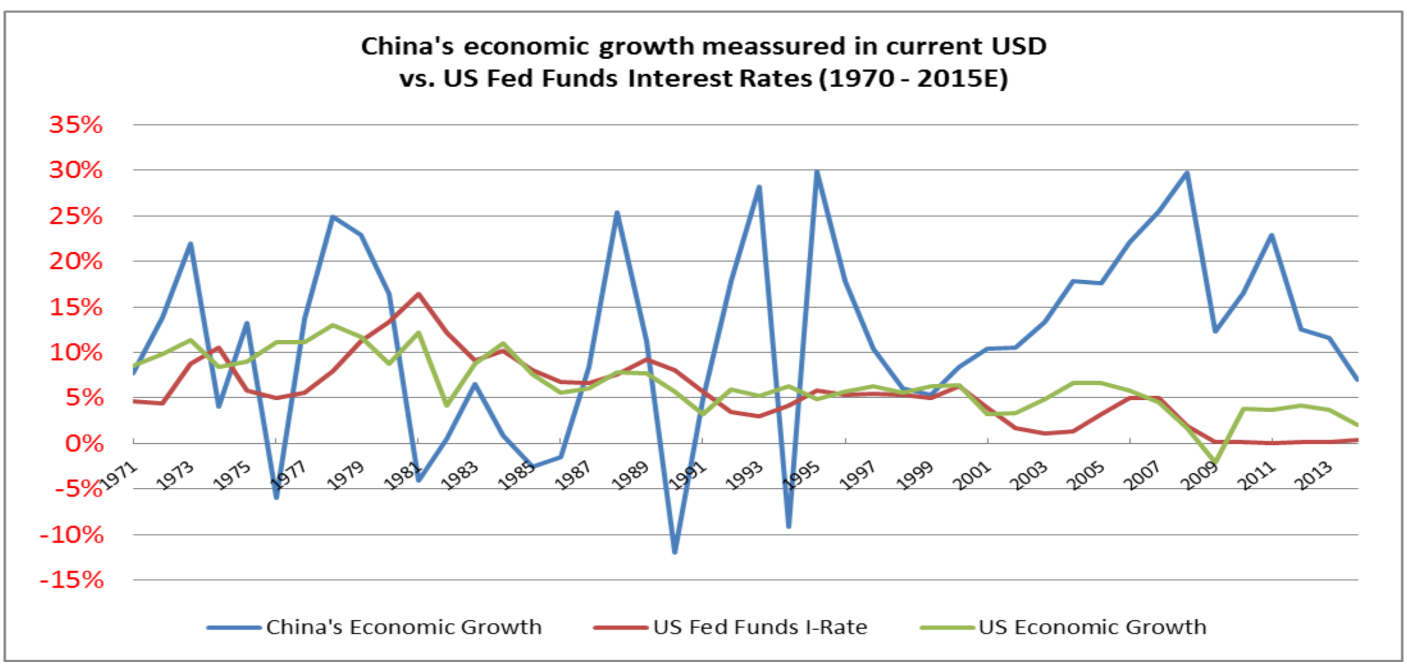
Data Sources: UN Stats/ US Fed/ World Gold Council/ DaMina Advisors

	Avg US Fed Interest Rate	Avg US Econ Growth Rate	Avg US Annual CPI Inflation	Effective Real US Economic Growth Rate
1970s	7%	10%	7.10%	3%
1980s	10%	8%	5.60%	2%
1990s	5%	5%	3%	2%
2000 pre 2008 crash	3%	5%	2.80%	2%
Since 2008 crash	0%	3%	1.90%	1%
2015-2020E	-1%	***0%***	1.00%	-1%

Source: US Fed/ UN Stats/ DaMina Advisors

Several market signs signal the emerging zero growth era: the recent wild gyrations of the Chinese stock markets, (signaling a collapse in domestic Chinese corporate profit margins and revenue growth), the unexpected recession in Canada, fiscal crisis in Brazil, as well as the unexpected return to the Eurobond market by OPEC leader Saudi Arabia and Glencore's massive multibillion dollar cut to capital expenditures, among many other strange global market phenomenon such as wild swings in the Krone, Kwacha and Tenge.

China's average GDP growth rate *(calculated in current US dollars terms)* which averaged 9% after the launch of Deng Xiaoping's economic reforms in 1978, and remained largely above 9% in the decades following has probably dropped to about 5% from the 7% published government target (a 30% drop-off). After the 2008 global economic crisis, China's actual economic growth accelerated to an average annual rate of 16% *(in current US dollars terms)* – much higher than the government published GDP growth rate on the back of the massively lowered weighted average cost of US dollar capital. China's economy was ironically therefore more boosted by the US Fed move to a zero rate policy than even the US Economy. However that happy era has ended and China's stock market is powerfully signaling so. It is now all but certain that with Chinese Premier Li Keqiang panicked 14 September announcement of a wholesale privatization of all remaining state owned Chinese companies – (a variant of Mikhail Gorbachev's economic glasnost); following on President Xi Jinping's September 3 dramatic 20% cut to defense expenditures to below 2% of GDP by laying off 300,000 active duty soldiers all signal that China is facing a major internal administrative challenge in maintaining its currently unrealistic government target economic annual growth rate of China's 7%.

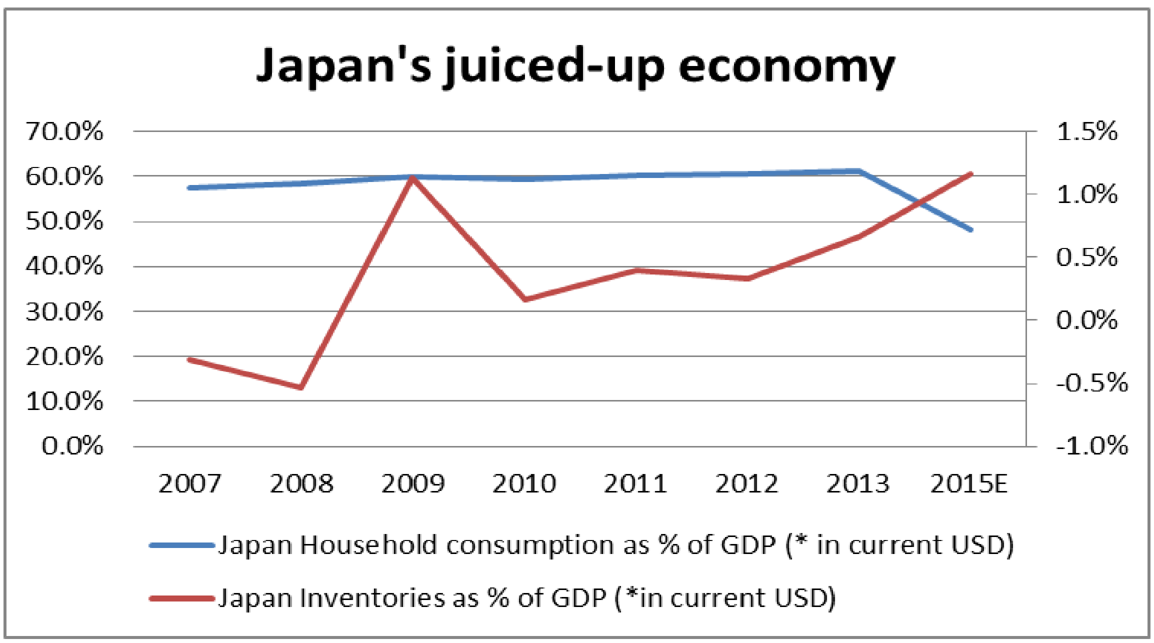


Source: UN Stats/ US Fed/ DaMina Advisors

Ironically, China's economy has since 2008 become much more sensitive to changes in US interest rates. Between 2000 and 2007, (before the 2008 crash), while Chinese economic growth and changes in US interest rates were weakly correlated at just 17%, by the end of 2014, changes in Chinese economic growth was over 81% correlated to changes in US interest rates. While the zero percent interest rate regime has helped artificially boost US GDP growth by almost 4% annually since the commencement of the QE policy, China's economic growth (in current USD) has actually declined by almost 50% from its 2008 high in current USD current terms.

	Avg US Fed Funds Interest Rate	Avg China GDP Growth Rate (*in current USD)
1970s	7%	13%
1980s	10%	6%
1990s	5%	10%
2000 pre 2008 crash	3%	16%
Since 2008 crash	0%	18%
2015-2020E	1%	10%
Source: US Fed/ UN Stats/ DaMina Advisors		

Beyond the US and China, the world's two next largest economies are also facing serious growth headwinds. In current US dollar terms, Japan is presently deep into recession territory, with the anomaly of a massive buildup in unsold inventory accounting for most of its recent positive GDP growth. Having long ago passed its Minsky Moment, with consumer spending and investment no longer sensitive to monetary policy stimulus, a revaluation of the Japanese Yen is likely imminent.



Source: UN Stats/DaMina Advisors

Germany's manufacturing sector has continued its multi-decade contraction, (and with a slowdown in China and Japan), Germany's export markets are even more vulnerable in coming months. In a zero growth global economy, and aggressive competitive currency devaluations, German exports will become more expensive and export volumes are likely to shrink.

Source: US BLS/ DaMina Advisors

Beyond China, the US, Japan and Germany, who together contribute almost 50% of the global economy, the worlds next 30 largest economies are all in various ways showing signs of economic growth strains. Together the top 33 largest economies contribute almost 90% of global GDP.

Africa's 54 economies, who together constitute only ***3%*** of total global GDP however contributed 5% of global economic growth on the back of a strong China and low US interest rates between 2008 and 2014. With China stalled and the US 10 Year Treasury yield poised to rise, despite the US Fed inaction, many of Africa's 54 economies are poised to slide back into recession with state instability very likely in countries such as Libya and South Sudan among others*. (See DaMina HADES Commodity Price Crash Index).*

DaMina's 'HEPTA' Economic Crisis Risk Index uses a proprietary Praxeological economic framework and a Bayesian statistical methodology to calculate the degree of sensitivity of the top 33 global economies, (who constitute nearly 90% of global GDP, and over 80% of global economic growth since 2008), to changes in the term-structure of US interest rates and economic growth patterns in China.

DaMina Advisors is a preeminent Africa-focused independent frontier markets risk research, due diligence and Africa M&A transactions consulting and strategic advisory firm. DaMina Advisors is legally registered and has offices in the US, Canada, the UK, Australia and Ghana.

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