

The Debate over Deficits: Bestsellers, an Odd theory, and Implications in Macro Trading

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This is my personal view and interpretation and is not GS Research. The attached relies upon a simplified understanding of the applicable economics. For discussion purposes only.

I take a LOT of liberty with blanket categorizations. There are notable oversimplifications used here just as a frame for the discussion.

Hard Money Economics

Strongest Influence: Milton Friedman

Home of the “Deficit Hawks” or “Deficit Vigilantes”

(Frequently aligned with the Supply-side and Monetarist schools of thought, but that’s extreme oversimplification)

“The greater concern is the potential inflationary time bomb that grows as governments continue to borrow, print and “stimulate.” What happens to inflation when the velocity of money goes from zero to 100?”

– Kyle Bass, Hayman Advisors Letter to Investors, “The 38-Year Experiment”, March 2, 2009

“Basically, It’s Over: a parable about how one nation came to financial ruin.”

– Charles Munger, Slate.com, February 21 2010

“As we sit here today, the Federal Reserve is propping up the bond market, buying long-dated assets with printed money. It cannot turn around and sell what it has just bought...I believe there is a real possibility that the collapse of any of the major currencies could have a similar domino effect on re-assessing the credit risk of the other fiat currencies run by countries with structural deficits and large, unfunded commitments to aging populations.... For years, the discussion has been that our deficit spending will pass the costs onto “our grandchildren.” I believe that this is no longer the case and that the consequences will be seen during the lifetime of the leaders who have pursued short-term popularity over our solvency.”

-David Einhorn, Greenlight Capital, “Liquor before Beer... In the Clear,” October 19, 2009

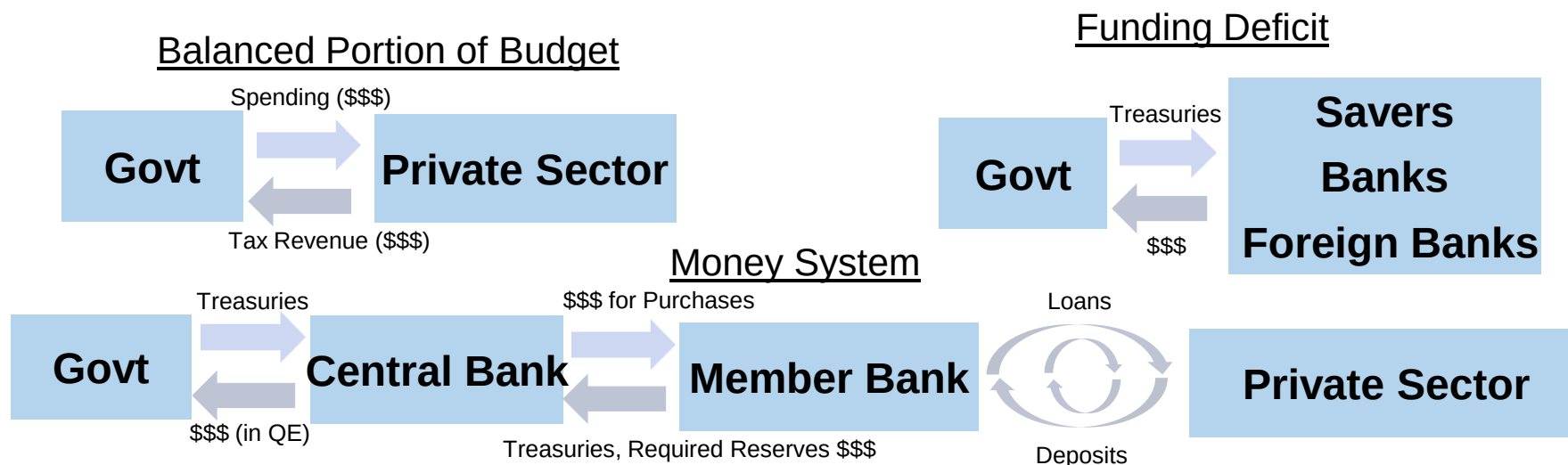
“Not only have credit default expectations begun to widen sovereign spreads, but initial condition debt levels as mentioned in the [McKinsey] study will be important as they influence inflation and real interest rates in respective countries in future years.”

– Bill Gross Investment Outlook, “The Ring of Fire,” February 2010

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Hard Money Economics – Money, Treasuries, and the Fed

- Money → medium of exchange, store of value, unit of account
- Debt → future tax liability → drain on future growth

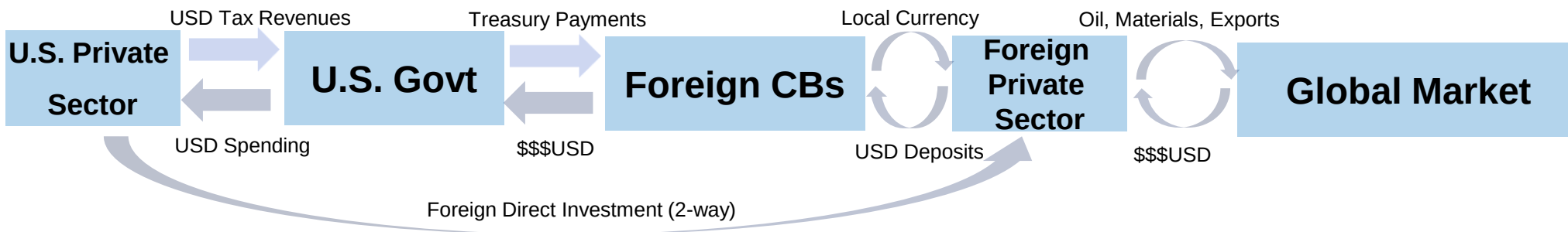


- Central Banks - regulate money supply, maintain fiat currency value
- Money creation – Central Bank buys Treasuries (SOMA portfolio), wires proceeds into banking system
- Money has a multiplier for expressing how much each dollar of “Fed created money” (Reserves) gets deposited, lent, spent, re-deposited, etc.
- Interest Rates – cost of money, controlled by Central Bank
- Central Bank - moderates inflation during expansion, stimulates growth in times of contraction (w/Taylor Rule)
- QE – Central Bank monetizes part of the Government’s deficit, dramatically expands reserves in the system, relies upon volume to offset the drop in the multiplier and to psychologically combat deflationary stress

In instances of “asset price exuberance, monetary policy is a very blunt instrument.”

– Charles Evans, Chicago Fed President, 2/23/2012

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U.S. Deficit Funding Cash Flow

- Sustainable spending → what can be recovered from future tax revenue
 - Weaker currency and/or inflation - direct results of debt level as required to attract funding
 - Default and/or currency crisis – Domestic and Foreign savings needs insufficient vs spending level + coupons
- U.S. suffers from Fiscal and Trade Deficits (plus low household savings rate)
- USD special status as a global reserve – Foreign Central Banks accumulate USDs
 - to maintain purchasing power (and/or defend local currency) in the global market
 - to facilitate exports
- U.S. cash flow problem if the world un-pegs from USD or doesn't fund private and public under-saving (via BBoP)
- Exacerbated by belief U.S. will attempt inflation or devaluation (the “only two ways out of a debt spiral”)

“Well, we are out of money now.” – Barack Obama, C-Span, 5/23/2009

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Hard Money Economics – Niall Ferguson – *Ascent of Money* (Summary)

- *Money is trust inscribed*
- Governments periodically violate this trust by borrowing from people and paying them back with debased currency (often after internal shocks like bubbles and external shocks like wars)
- 1914 is not known for a Great Depression because exchanges were closed and the Federal Reserve responded with looser money in modern textbook fashion; Result was dramatic inflation
- Effort to get price levels back to pre-war levels contributed to gold imbalances, 1929, Depression, fascism, etc.
- You cannot solve a crisis by printing money (Argentina in 1989 actually had a strike at the mint at time of default)
- China is the US's banker and the US is China's consumer; if conflict arises between them, the relationship can break

Ahamed, Liaquat. *Lords of Finance*, New York: Penguin Press 2009.

"There is no such thing as a Keynesian free lunch. Deficits did not "save" us half so much as monetary policy ... explosions of public debt incur bills that fall due much sooner than we expect."

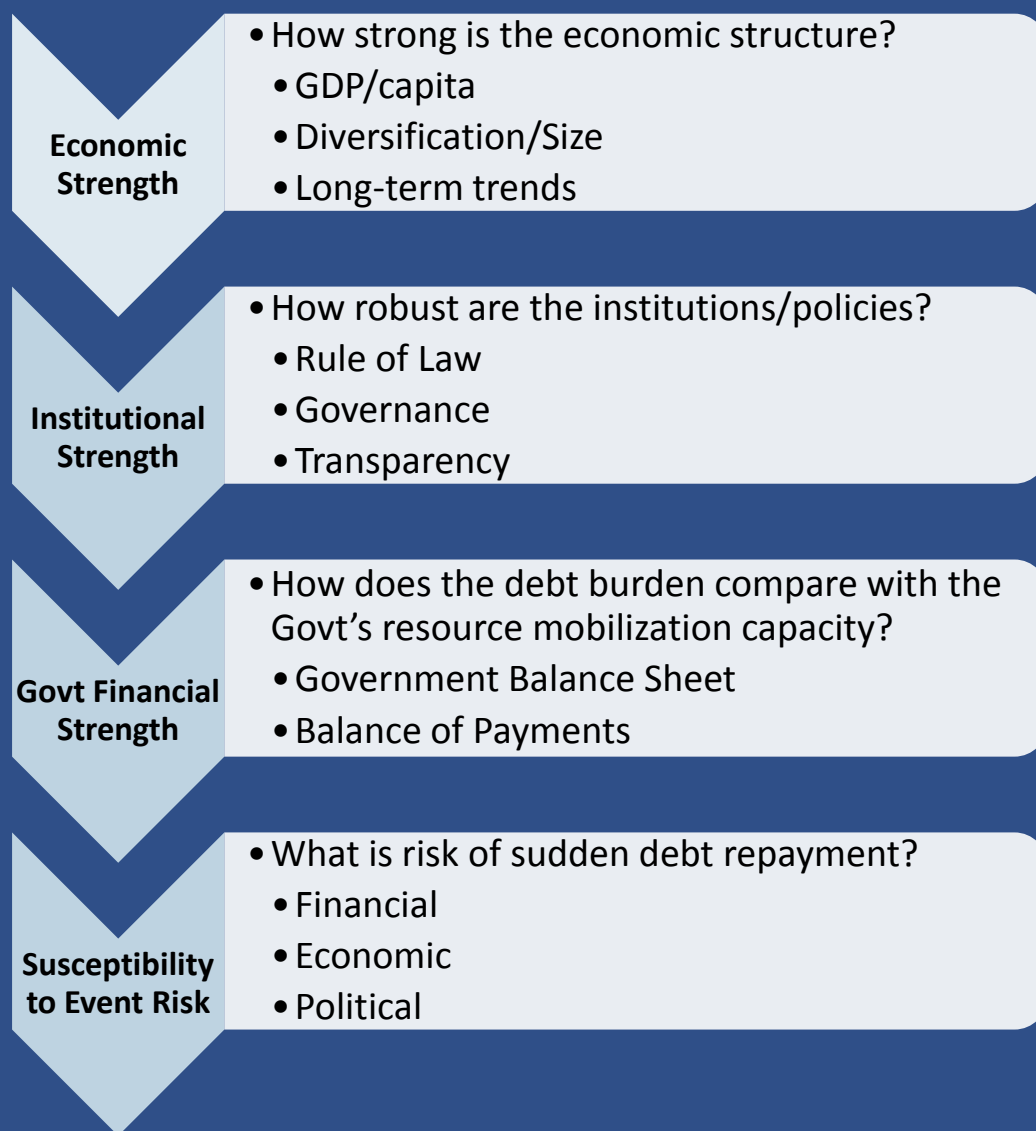
-- Niall Ferguson, "A Greek Crisis is Coming to America," *Financial Times*, 2/19/2010

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Hard Money Economics - Reinhart/Rogoff – *This Time is Different* (Summary)

- Currency debasement, inflation, and devaluation are different forms of *reneging on obligations to debtors*
- We delude ourselves into thinking that times have changed and that risk premium should structurally adjust downward... until some “un-shocking” shock jolts that misguided thinking
- Conditions that foster complacency/profligacy contribute to banking crisis and default risk: financial innovation, asset price appreciation, positive systemic stories, etc.
- Cultural factors and compositions of the debtors impact defaults, but there are observable debt/GDP ratio triggers

Hard Money Economics – Moody's Sovereign Ratings Criteria – (Summary)



- Ratings transitions are meant to preempt breaking points
- Local currency ratings typically higher than foreign currency ratings
- Local vs Foreign currency ratings gaps have been shrinking
- Basically no differentiation between fixed and floating currencies
- Draws heavily from Rogoff Research

"Historical evidence on domestic debt and the frequency of domestic debt defaults since 1800... reveals that domestic debt defaults have been much more common... there is no statistically significant difference in the incidence of default on local versus foreign debt in the period since World War II."

Hard Money Economics – Moody's - *Aaa Sovereign Monitor* - (Summary)

- Floating and fixed FX basically the same
- Revenue shock is a measure of risk
- Parallel between Govt and Private Enterprise
- “Where does the Aaa-Aa boundary lie? Historically, countries with single digit debt affordability ratios do not experience... interference to policy formulation and execution... When the affordability ratio moves into double-digit territory, policy becomes... constrained. This 10% threshold marks the Aaa-Aa boundary.
- The assessment is... dynamic: Moody's defines a Aaa government as a government whose debt is highly affordable and whose balance sheet flexibility allows it to keep debt highly affordable across cycles and crises. Rating assessments are forward-looking... Balance sheet flexibility has two components:
 - » Debt finance-ability
 - » Debt reversibility
- Governments are rated on the same rating scale as corporations or banks, but benefit from a greater degree of balance sheet flexibility than other issuers... because they can... increase their revenues (through taxation) and... influence the amounts that they can borrow and the price at which they do so.”

Soft Money Economics

Strongest Influence: J.M. Keynes

Moslereconomics.com (Warren Mosler)

MMT (Bill Mitchell)

“Deficit Doves”

**Periodically appears in institutional staff papers (BIS, ECB, Fed, OECD)
(Frequently, though sometimes incorrectly, aligned with Keynesian and
Demand-side schools)**

“In truth the gold standard is already a barbarous relic.” J.M. Keynes, Monetary Reform, 1924

“Lenin was certainly right. There is no subtler, no surer means of overturning the existing basis of society than to debauch the currency. The process engages all the hidden forces of economic law on the side of destruction, and does it in a manner which not one man in a million is able to diagnose.” J.M. Keynes, The Economic Consequences of the Peace, 1919

Government

- Government spending is wiring new money into your account
- Government spending is not revenue-constrained
- Government spending/borrowings allow the private sector to have financial savings. No spending, no money
- The Government is the net supplier of all financial assets in its currency

Taxation

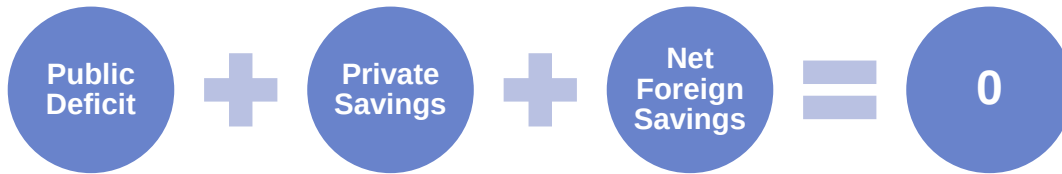
- Taxation is removing money from private sector
- Creates need for people to exchange real goods and services for fiat dollars
- Otherwise serves only to constrain aggregate demand and distribute economic output
- Does not impact or enable spending

Money

- In a floating, fiat currency system, money is power to pay taxes and avoid penalty
- All the money available to fund Government spending comes from the spending itself in a zero-sum closed loop
- Most of our obsession with money obscures the reality of what is going on (how goods and resources are really moving around)

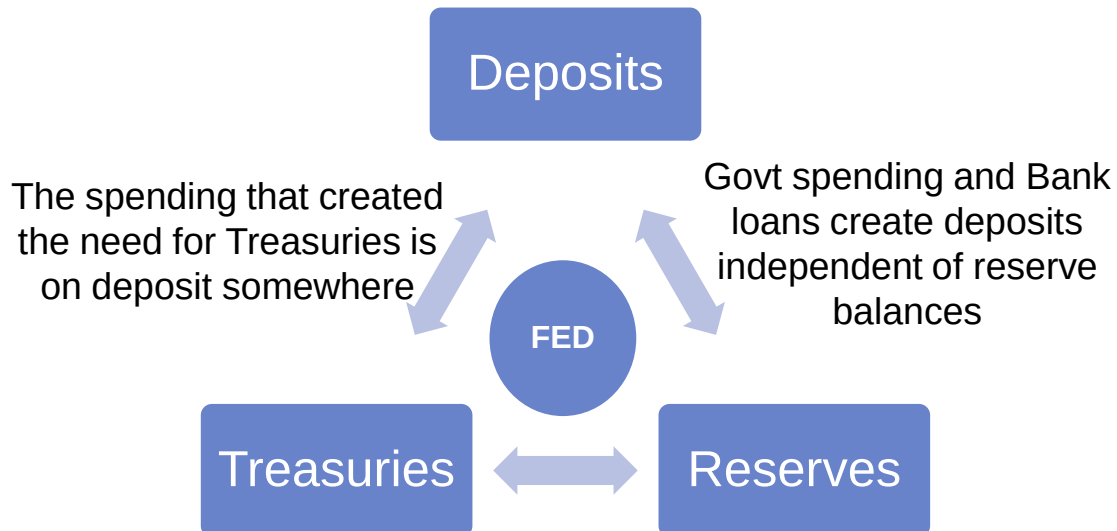
Soft Money Economics – Treasuries and the Fed

Flow of Funds Accounts



- Public sector savings = Private sector deficits by accounting identity
- Money and Treasuries represent the total accrued net amount the Govt has ever spent by IDENTITY

Reserve Accounting - Fed as a Passive Party



Functionally identical Fed liabilities; Fed must create enough reserves to fund Treasury auctions to fund the Fed

Treasuries and The Fed

- Treasuries are a Term Deposit at the Fed
- The Fed sets a price of money (Interest Rate)
- Govt spends when it wants goods and services
- Banks lend when they see a profitable opportunity
- If banks are short on reserves, the Fed must supply them, no matter their tightening preferences
- So the Fed has little (or no) control over the supply of money
- Treasury market is not about funding the Government; it's about Duration
- Term interest rates are the meeting place of the savings needs vs the duration of Treasury issuance
- QE is duration extension by the Fed – swapping around duration in its SOMA portfolio
- QE is not necessarily stimulative – with a steep yield curve, it deprives investors of coupon income. Look at 45b in Fed NIM as Bank NIM dropped last qtr!
- Low rates and QE might be deflationary and reinforce deflationary psychology

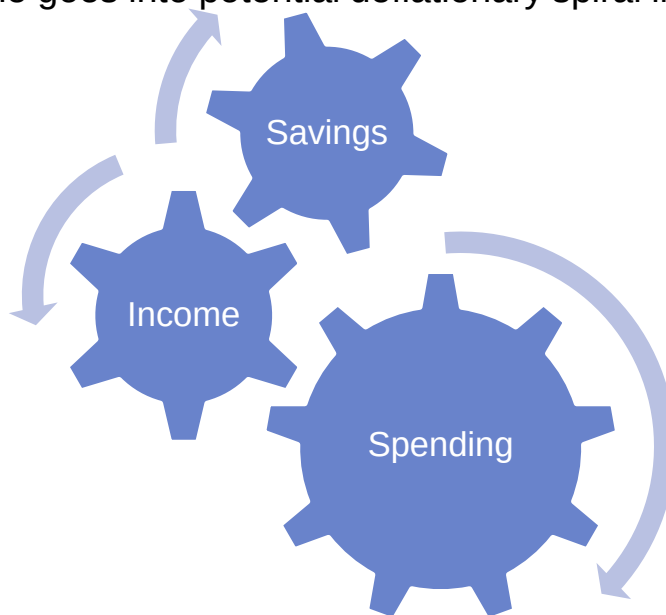
- Importing = positive real terms of trade, getting real goods for a tax coupon
- Exporting = real cost, trading away real production for foreign savings
- Chinese UST purchases = trading from checking (o/n reserves) to savings (Treasuries) account at the Fed
 - Chinese USD accumulation nothing to do with ‘lending’; just its own public purpose; option is USTs or USDs
 - Change in Chinese duration preference can be offset by issuance or SOMA
- Intergenerational debt burden doesn’t exist. The foreign USD purchasing power doesn’t change at maturity. When the debt comes due, the Fed will exchange back its term deposits for some overnight deposits

- Questions
 1. Doesn’t the Treasury have to issue debt BEFORE it can spend? Isn’t that the point of the Fed overdraft rules?
 2. What about the debt ceiling – doesn’t this also constrain spending?
 3. Are reserves and treasuries really the same thing? Fed notes $\neq$ Treasury notes – isn’t one of them much more high-powered money?
 4. Isn’t there still a concern about China crowding out a domestic saver if it swaps out of the financial asset into a real asset? Couldn’t Asia just build a massive SPR instead of a Treasury portfolio tomorrow?

- Let’s talk it through.
 - 1. Hint – What would the Fed do if there were insufficient reserves
 - 2. Hint – Who decides the debt ceiling limit? Or even the Treasury overdraft procedure?
 - 3. Hint – Overnight deposit vs overnight T-bill any different?
 - 4. Hint – See next section

Soft Money Economics - Savings STOPS Investment

- A recession is a shortfall in the aggregate demand in the economy (Keynes)
- When household savings rates rise, outputs gets unsold, income contracts, and tax revenues go down. Overall savings and income then actually go down further (Paradox of Thrift)
- Likewise, when household spending rises, income rises, investment rises and aggregate savings rise
- In times of economic shock, without fiscal stimulus, income goes down, savings on the whole goes down, tax revenues also go down, and one goes into potential deflationary spiral like the US saw in its earlier depressions



“The UK and US governments have the ability to borrow long term and the option to roll over their borrowing. Rather than abruptly raising taxation and cutting government expenditure, they should adjust fiscal policy over the long term... debt must rise for a significant period. The required increase in debt may appear unsustainable for years. But, in the very long term, fiscal adjustment brings down the level of debt.”

-- Andrew Scott, “US and UK Can Handle Decades of Debt,” Financial Times, 2/28/2010

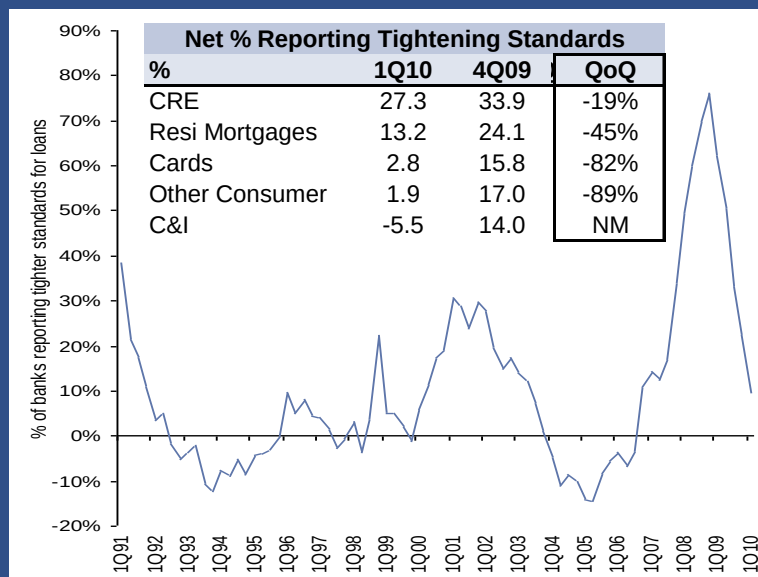
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Richard Koo – *Holy Grail of Macroeconomics* – (Summary)

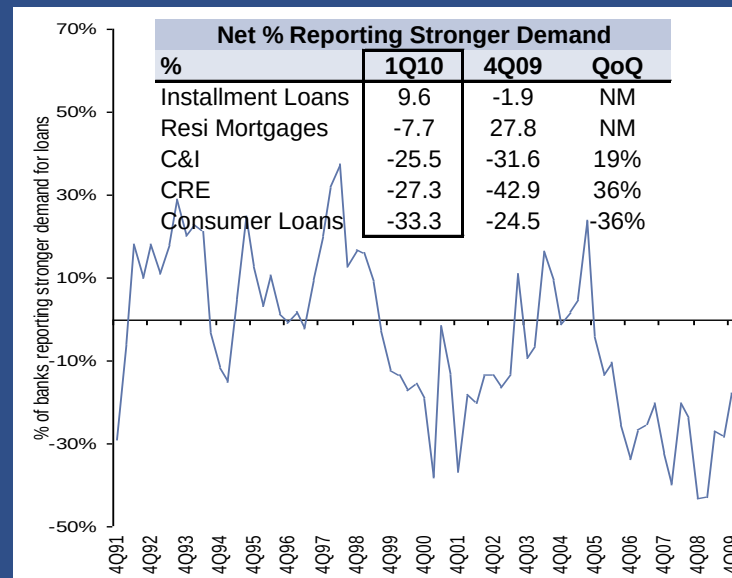
- Balance Sheet Recession – a special kind of recession
 - Massive asset price shocks cause firms/households to use operating cash flow to pay down debt
 - Monetary policy becomes ineffective (lower rates $\neq$ more borrowing)
 - Fiscal adjustments necessary to restore aggregate demand shortfalls in the economy
 - Risk asset purchases by a Central Bank undermines confidence so Bernanke's recommendation that BoJ "buy ketchup" (or "drop money from helicopters") is not viable. Can go straight from deflation to hyperinflation

Lack of Loan Demand - Is the U.S. in a Balance Sheet Recession?

Lending standards moderating



Demand remains weak



Source: Company data, Goldman Sachs Research, Richard Ramsden et al, SNL.

Quote from GS Economics Daily Thurs March 11:

The Federal Reserve's latest Flow of Funds Report revealed that public sector borrowing and private sector deleveraging continued in the fourth quarter:

- 1. A further slowdown in domestic nonfinancial debt growth...** Excluding the financial sector, nominal domestic debt grew at only a 1.6% annual rate in the fourth quarter – the slowest rate in the history of the Flow of Funds data, which begin in 1952. Over the two decades leading up to the financial crisis, domestic nonfinancial debt typically grew at 5%-10% annually.
- 2. ...reflecting ongoing private sector deleveraging...** Deleveraging continues in every major category of private sector debt – household, nonfinancial businesses, and the financial sector. Within the household sector, outstanding amounts for both mortgage and consumer credit declined, the latter at the most rapid pace since 1980... Nonfinancial business debt shrank at a 3.2% pace, which... is just shy of the all-time steepest contraction of 3.8% in the fourth quarter of 1991... From the fourth quarter of 2008 to the fourth quarter of 2009, financial sector debt fell by 8.4%, by far the biggest one-year decline on record.
- 3. ...against a less rapid pace of debt accumulation by the public sector.** Federal government borrowing slowed somewhat from its breakneck pace earlier in 2009, growing at “only” a 13% annual rate in the fourth quarter, down from an average of 33% over the previous five quarters. State and local government debt has been growing steadily at aound 4% rate.

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Comparison Chart

	Hard Money Economics	Soft Money Economics
Taxation	Govt taxes to spend	Gov taxes to give money value and reduce aggregate demand
Nominal Debt Level	Represents future tax liabilities and claims against growth	Represents past spending and often fuel for future growth
Intergenerational Debt Burden	Taking on debt and running deficit leaves burden to our children	The only “liabilities” we leave are real liabilities. The bigger burden is when Real GDP < Potential GDP
Sustainability	Game ends when tax incomes can never fund coupon payments	Debt /GDP ratio doesn’t enter into it
BBoP	US depends upon BBoP to fund twin deficits	US benefits from better real purchasing power to invest in present happiness and future growth
Savings	Fuel investment	The record OF previous investment which comes from income which comes from spending
Asset Price Appreciation	Highly economically stimulative. Fuels Corp investment and private MEW earnings	For the most part zero sum and usually does little to ‘enrich’ the overall economy
Sovereign Default Risk	Exists when reach “unsustainability”	Non-existent in free floating currency
Policy response	Reduce interest rates, QE, More QE	Cut taxes and hire until unemployment hits target
QE	Increases money supply and supports growth via asset prices	Deprives economy of coupon income. Possibly deflationary.
Money Multiplier/ Reserves	Excess reserves result in growth of overall money supply as banks “lend them out”	Capital – and profit opportunity – are what matter in lending, not “reserves in the vault”

JJNomics

75% “Soft Money” + 25% “Hard Money”

How I think this all shakes out

*“All truths are easy to understand once they are discovered;
the point is to discover them.” – Galileo*

“We contend that for a nation to try to tax itself into prosperity is like a man standing in a bucket and trying to lift himself up by the handle.” – Winston Churchill

“ Lawrence: ...What would you do [if you had a million dollars]?”

....

Peter Gibbons: Nothing.

Lawrence: Nothing, huh?

Peter Gibbons: I would relax... I would sit...all day... I would do nothing.

Lawrence: Well, you don't need a million dollars to do nothing, man. Take a look at my cousin...

- Office Space, 1999.

- Money = instrument for Govt to commandeer and allocate the resources of an economy
- The Greenback and the Income Tax - born in tandem in the the Civil War (when Govt needed resources)
- Then, 1933: Govt completely changes the terms of the dollar. World changed completely but ppl didn't react. Why?
- The transition to fiat money is slow and ongoing. We are weaning off of thousands of years of thinking about the world a certain way, of Money as being independent of the sovereign
- We create artificial relics of Gold standard – and our officials use the terminology – even though it's incorrect
- ***We are still on a quasi-real standard*** (debt ceiling, Fed)
- Money (and inflation) partly trade like an option to revert to a real standard
- There's inherent conflict between goods that “savers” want and what the Govt might want; this protects savers
- Debt ceiling and lack of treasury overdraft = Intentional curbs on Govt command over economy
- Theoretically fiat money empowers Congress almost limitlessly over economy. We put checks in place
- Downside of those checks, though, is needless periodic Depressions; fiscal ‘fixes’ to combat deflationary spirals are overturned by concerns over Govt economic involvement
- Fiat money is a PROCESS. Once the process is complete, disinflationary forces in business cycles will diminish
- In this sense Ferguson is right. Money is “trust inscribed.” But not “trust government won't spend too much.” It's equally “trust government won't spend too little.” It's most of all “trust in your overall political and Constitutional system.”

“And, indeed, since the late '70s, central bankers generally have behaved as though we were on the gold standard... So I think central banking, I believe, has learned the dangers of fiat money, and I think, as a consequence of that, we've behaved as though there are, indeed, real reserves underneath the system.”

– Alan Greenspan, Semi-Annual Testimony, July 20 2005

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JJNomics – Deficits, QE, Sustainability

- Objective is EFFICIENT allocation of resources. Govt needs to do this well in fiat money or it's problematic.
- Deficits – resource allocation still needs to be intelligent. Buying junk does not help future generations and still leaves them with real (for example, environmental) and (in a way) financial liabilities
- What if exporters chose not to exchange real goods or oil for fiat dollars?
- Since importing is actually a benefit to output and enjoyment, it's important to propagate belief in 'semi-gold' standard, as this supports a positive Real term of Trade for importers. Don't fight trade deficit.
- In normal economy, Gold Standard behavior can actually improve purchasing power and quality of life
- QE is a savings tax – cash holders should have better rewards in deflationary shocks
- People save to have something exchangeable for goods and services in the future (for the Peter Gibbons dream)
 - Note dream is highly elusive; why? Resources are always redistributed by Govt
 - This might be a strong capitalist incentive lost if the perception becomes that Govt could command whatever resource it wants at any time
 - For example Crash of 1907 was exacerbated by concerns of Govt friction with industry at the time
 - So again, quasi-gold standard keeps the population more motivated and productive, even if a bit deceived
- Intergenerational debt burden exists only with respect to real obligations. If you have 300mm elderly and only one person still working, does it matter how much they saved? Or what was projection of social security cost? And how about all the interim investment that didn't happen bec those 300mm were saving rather than spending? Obviously the issue is REAL obligations. Future output of economy unaffected by debt levels, hurt by savings.
- Default is a political event. Hyperinflation is a political event. It's about the strength and trustworthiness of political institutions, not debt/GDP ratio and supposed deficit forecasts. Future generations will allocate resources as they deem fit (like Soft Money)

“Q: Do you think there is any realistic prospect of America's defaulting on its debt in the near future?”

Bernanke: Not unless Congress decides not to pay” – Semi-Annual Policy Testimony, 2/24-2/25/10

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JJNomics – Limitations of Hard and Soft Thinking; Real Commitments

- Partially a disagreement in terminology
- Soft Money school is technically and operationally right but it's very hard for people to accept
- Much of the deficit talk is really about Real outlays and Real resource allocation; fiscal projections a distraction
- Government does not run out of money, but real promises might exceed what future political willpower will offer
- China concerns about competition with domestic savings in the global marketplace, i.e. future purchasing power
- Greater JJNomics details, meeting-in-the-middle of the theories:
 - Deficit Spending – Hard Money camp much too rigorous and damaging response to a crisis
 - Rights – Soft Money partially subjugates the individual for the greater good, which contradicts implied rights of Constitution ; Rights come at a very real cost in recessionary environments
 - Purpose of Taxation – Hard Money position only necessary in terms of propagating an inaccurate view of money
 - Rates – clear example of deflationary trap in which deficits had no impact on rates or 'ability to pay'. Be concerned domestically if fiscal stimulus impaired by 'balance budget' attempts, or in places that have structural restraints (like Eurozone). Can be highly deflationary.
 - Inflation – Soft Money underestimates the impact upon efficient planning and the ability of Govt to spend less in economic booms
 - Gold and/or Hard Commodities – Would rather own something people use; gold is still a bet on a psychology that works until it doesn't
 - QE – Soft Money is right generally, although asset price appreciation can help spur businesses loan demand and investment, especially since most corporate officers own equity and it affects their aggressiveness
 - Perception vs Reality – Soft Money camp probably goes too far in denying inflations expectations theory
 - Trading Partners – Hard Money completely misses; the importer, particularly in reserve currency, has all the cookies
 - Sustainability/Default – Hard money plays fast and loose with the idea of default, while Soft Money runs into trouble in times of diminished political will (it's worked under a well-run dictatorship, but this isn't feasible, sustainable, or necessarily desirable)

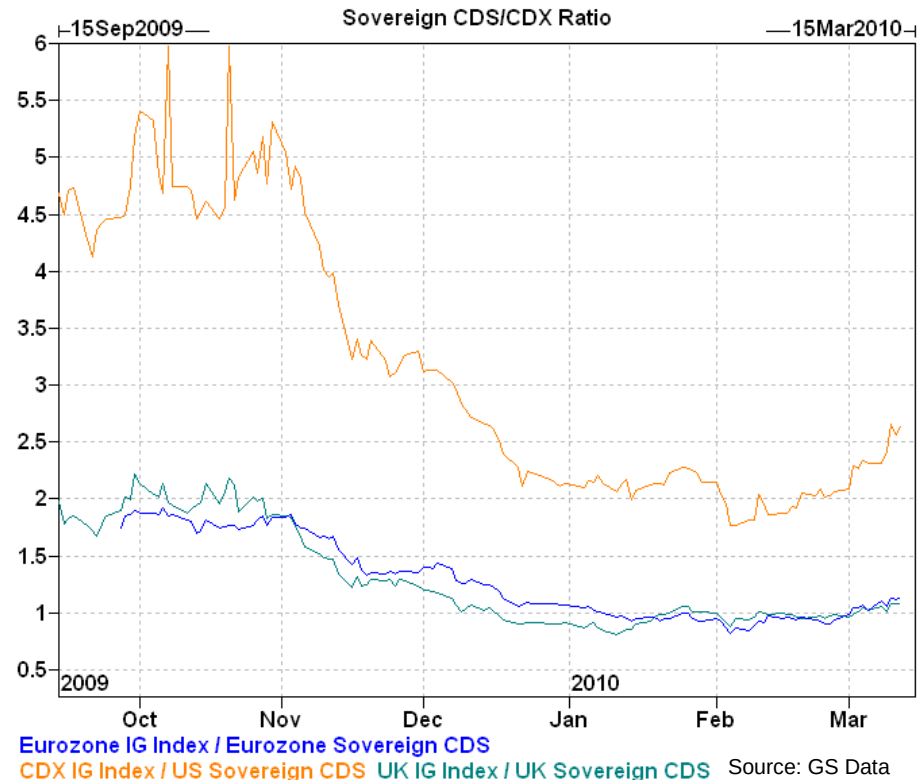
"The problem isn't the money. The problem is the entitlements which no one seems to have the political will to tackle."

– Alan Greenspan [Paraphrase], GS Macro Conference, New York, February 4, 2010

Practical Applications Ideas for Future Research

Practical Applications – Public vs. Private Credit

- Developed Sovereigns with a floating currency will not default except by political choice
- Corporates do not have the same infinite solvency
- Therefore, the ratio of sovereign CDS in developed countries w/floating FX vs corps (with domestic FX revenues) should be less than 1 (multinational corps can be tricky)
- Meanwhile, in the Euro-zone, Sovereigns do NOT have free-floating currencies, and the stresses to that system may be underestimated (see the paradox of thrift paradigm earlier)
- *Potential Strategy (if agree w thesis):* Sell Sovereign protection (in fiat currencies) vs. buying corporate protection when $SovX/CDX > 1$
- *Hedge:* Buy SovX protection vs. selling Eurozone corporate protection
- Ideally strip out the UK (floating) from SovX
- (In any sovereign CDS one must take care that there is always a risk of a technical trigger, which might erode the value of the CDS protection as the underlying bonds still recover principal)

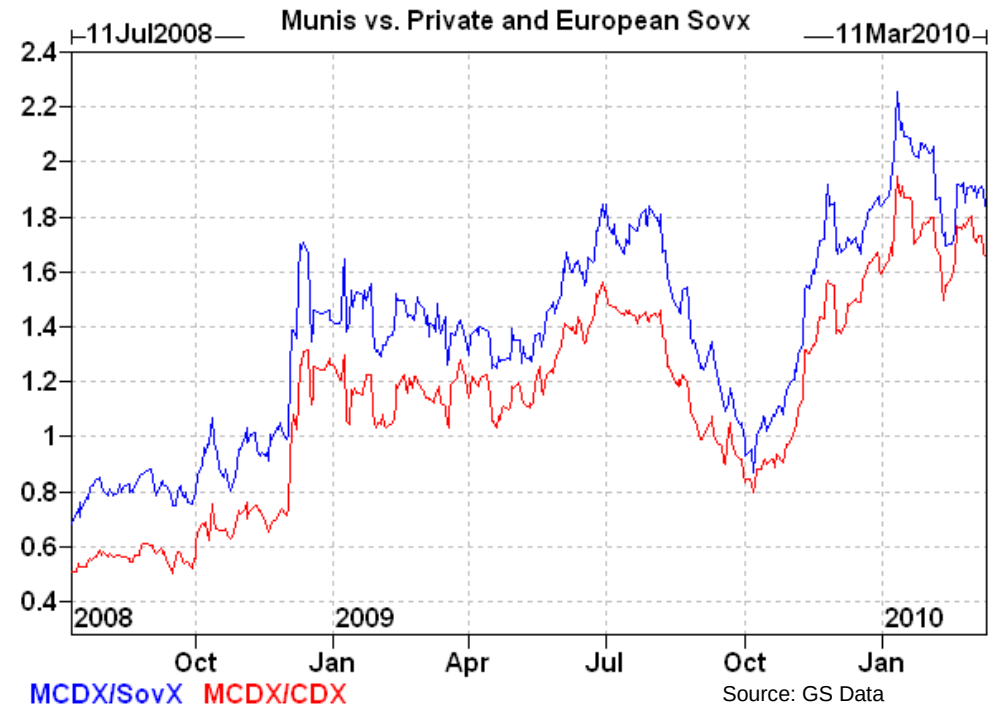


Past performance figures are not a reliable indicator of future results.

Practical Applications – US Munis vs. Private Credit and European Sovereign Credit

- Munis are an interesting case of limited taxation powers without monetary powers
- Munis broadly fiscally supported by broader sovereign power, though there are some near-term refunding issues
- Additionally there is rhetoric against naked shorts, CDS, and Muni derivatives
- Basel 2.5 capital requirements on structured credit might also make Munis favorable vs structured credit
- Implied probabilities of default – MCDX implies 30% of names will default in 5yrs vs. just 7% in the IG index
- Municipals' access to liquidity in the U.S. is likely closer to a sovereign (i.e. political) issue than people think
- *Potential Strategy (if agree w thesis):* Sell Muni default protection vs. buying European Sovx and/or US corp CDS

Municipal Deficits vs. European Deficits

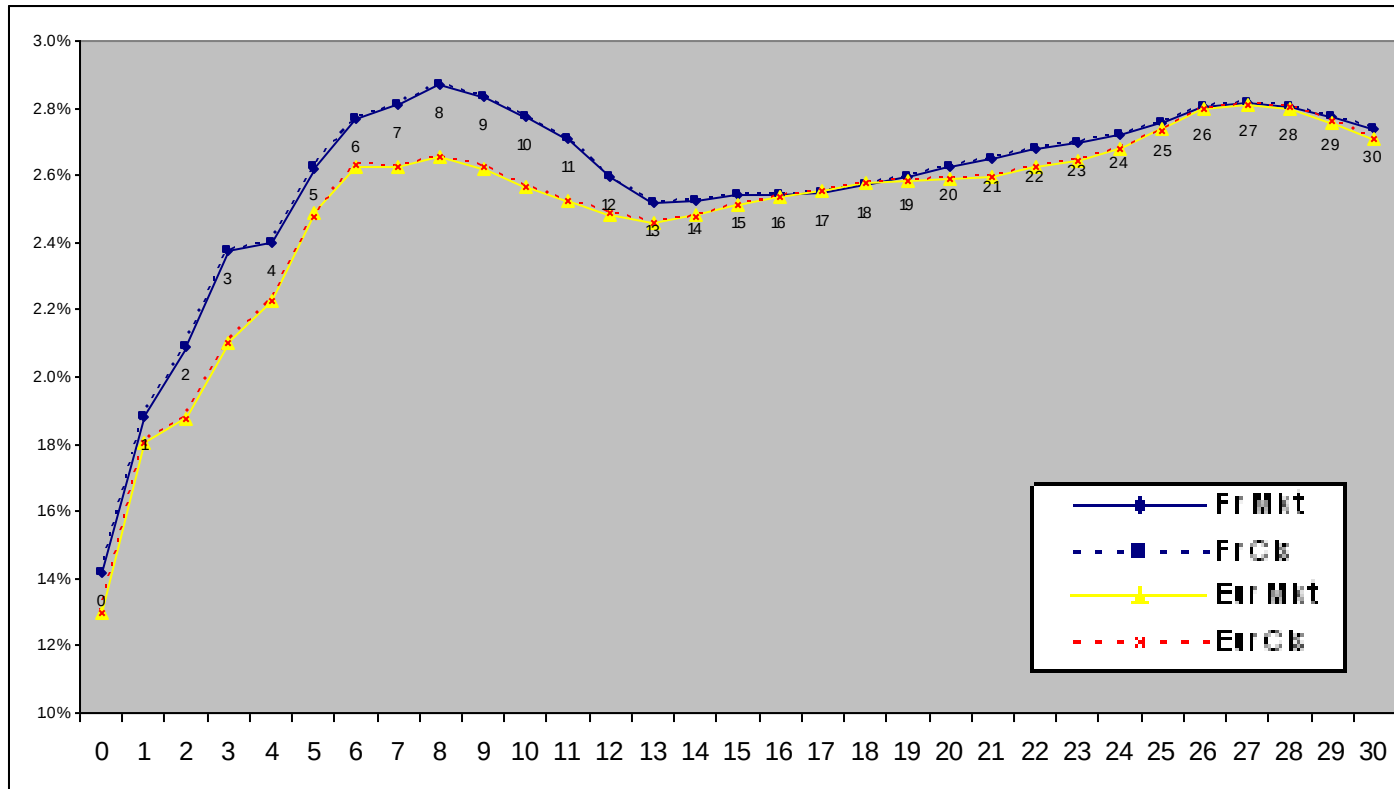


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Practical Applications – Fiscal Adjustments Constrained by Monetary Union

- European fiscal adjustments are constrained by the Monetary Union and are possibly severe; this has the capacity to be highly deflationary, particularly for those countries suffering the most economic shock
- European and French inflation YoY forwards show benign outlook for first few years before shifting higher
- Indicatively as of 3/9/2010, Eurozone 5y5y is inflation at 2.60 and French 5y5y is at 2.78
- Other interesting deflation candidates include Eurozone periphery, where shock is greater, but liquidity can be difficult
- *Potential Strategy (if agree w thesis):* Pay on a 5y5y inflation swap (vs receive fixed) to capture Eurozone deflation risk story



Source: GS Data

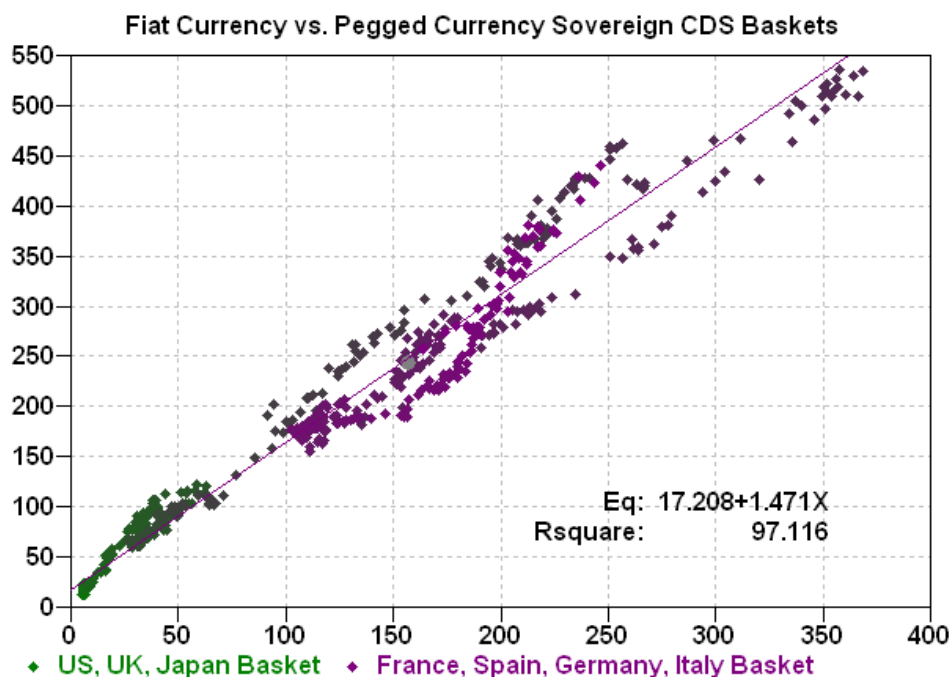
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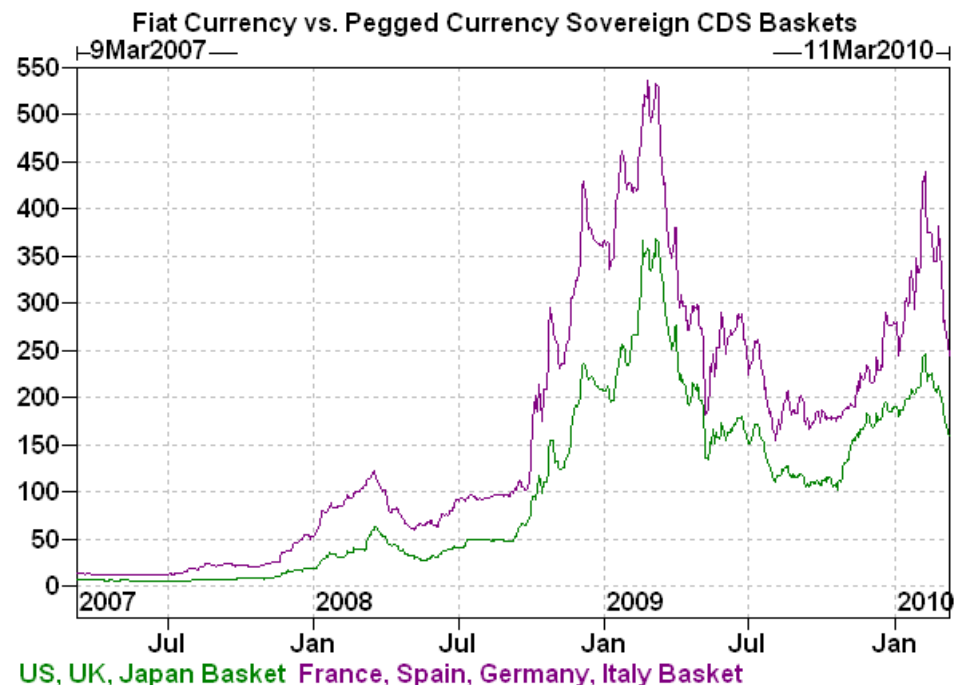
Past performance figures are not a reliable indicator of future results.

Practical Applications – Trade Fixed vs. Floating Sovereign Credit Baskets (in G10)

- Non-political sovereign default risk only exists for countries with pegged currency
- Candidates for floating currencies with media focus on deficit/debt problem: US, United Kingdom, Japan
- Candidates for pegged currency with similar growth, story, and demographics: Italy, Germany, France, Spain
- *Potential Strategy (if agree w thesis):* Trade baskets of sovereign CDS on countries with pegged vs. floating currencies
- Consider hedging this with some FX



Source: GS Data

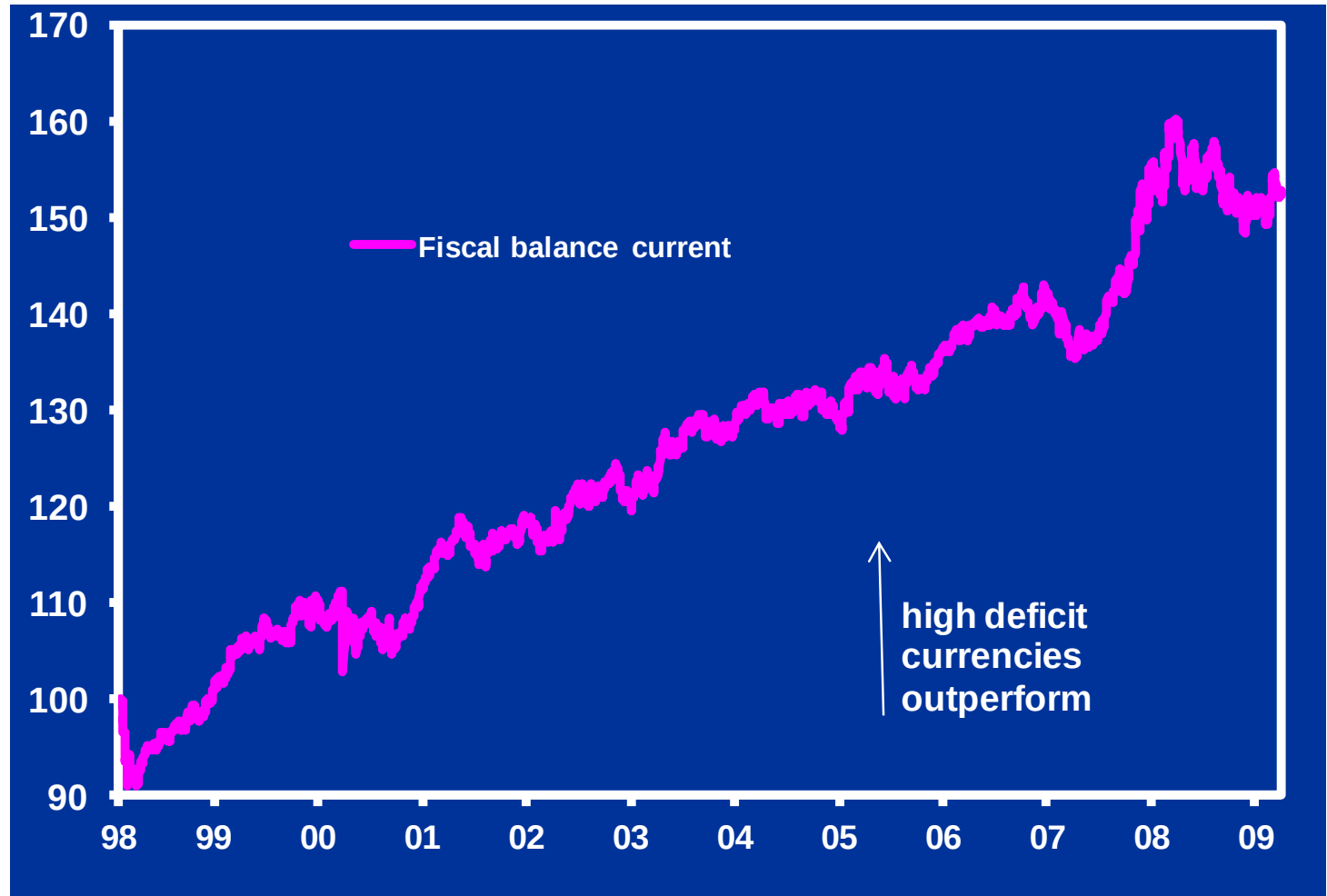


Source: GS Data

Past performance figures are not a reliable indicator of future results.

Practical Applications – Deficit Vigilante-ism in FX – Even there, often a trap

- Generally, the FX market has shown a clear preference for high deficit currencies
- Possibly because economic growth has been fueled by fiscal stimulus
- This is VERY confusing for the deficit vigilantes!
- The index on the right doesn't distinguish between floating and non-floating currencies, and still doesn't understand Japan, which is why many were baffled by the results

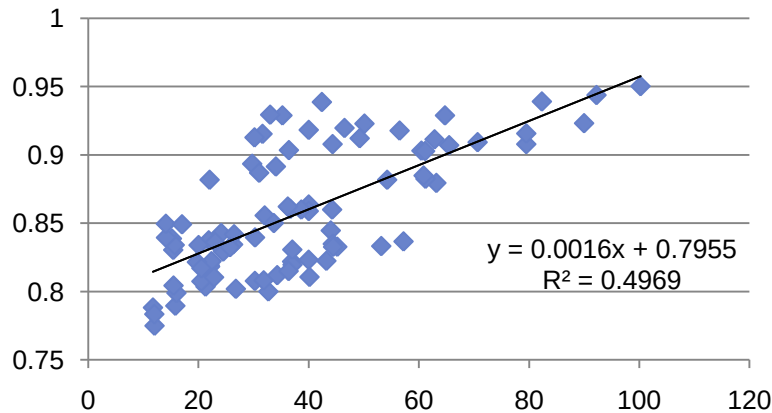


Source: GS Economic Research, Thomas Stolper, et al Past performance figures are not a reliable indicator of future results.

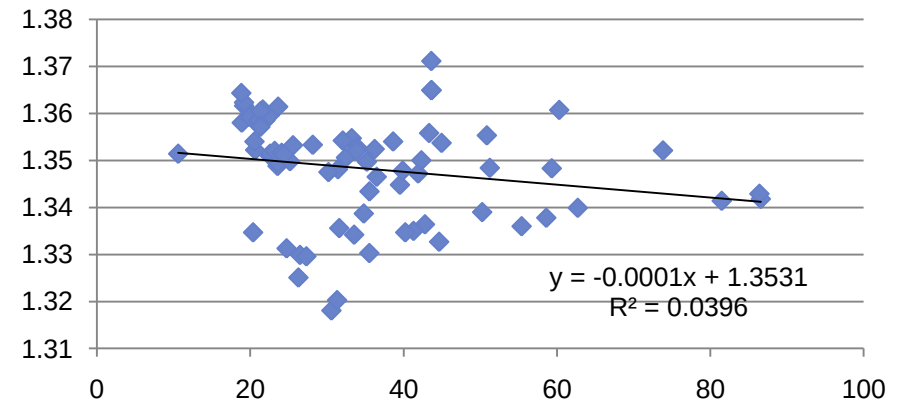
Practical Applications – Deficit Vigilante-ism in FX – Trade versus CDS (in G10)

- Therefore, when FX AND the Sov CDS weaken at the same time (downward-sloping line below), and the currency is floating (the GBP here qualifies), consider selling the FX and selling protection
- Consider the opposite for a positively-sloping line below in a fixed currency; analyze across the board

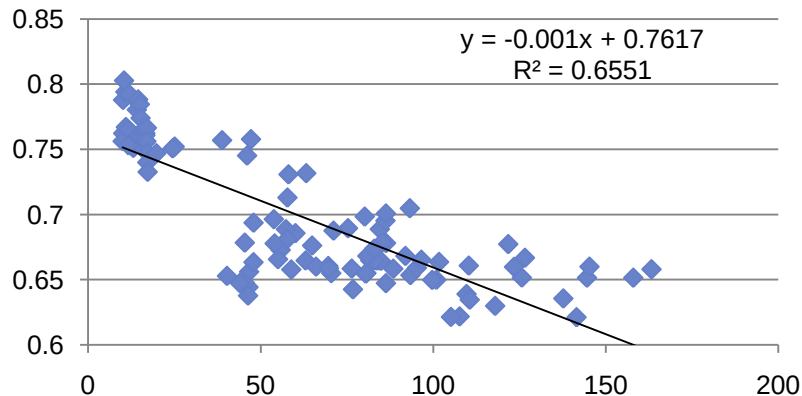
US Sov CDS vs. Trade-wtd USD



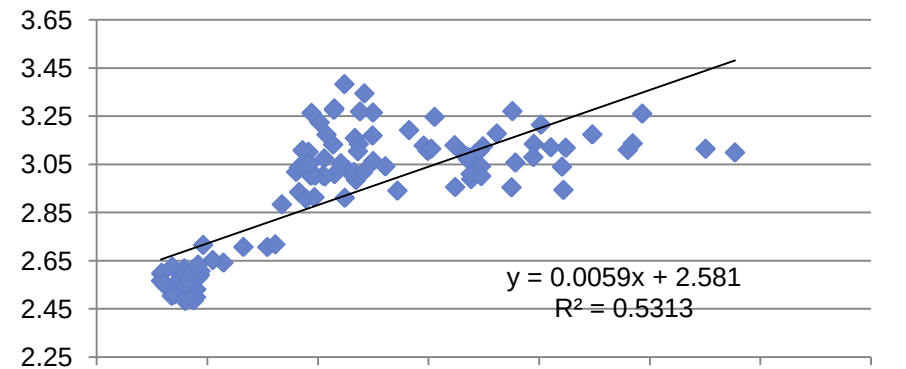
Germany Sov CDS vs. Trade-wtd EUR



UK Sov CDS vs. Trade-wtd GBP



Japanese Sov CDS vs. Trade-wtd JPY



Past performance figures are not a reliable indicator of future results.

Source: GS Data

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Future Research Idea – Real Outlays Matter; Nominal Deficit/GDP Does Not

- Since default is a political choice for a country with a floating currency, assessment of credit should depend on political structure and real outlays
- This is an extremely difficult matter to assess, especially as forecasts for future health care costs are prone to extreme deviations. Sometimes, current cost is the best estimation we have, as it measures resource demands in the economy
- Rather than looking at things like Debt/GDP ratio or Deficit projections, consider evaluating future political stress (in floating currencies) or future fiscal stress (in pegged currencies) along the following lines:
 - Chose developed countries that already have a social security infrastructure
 - Assume that income per capita is an approximation for the real carrying cost of a quality life
 - Look at the pre-crisis budget as a proxy for the real operating budget
 - Look at the income generation per capita of workforce (productivity)
 - Look at the developing demographics of the country
 - Create an index along the lines of: $[(\% \text{over } 65 * \text{Avg household Income}) / (\text{Productivity} * \% \text{working age}) * \text{Non-crisis Budget Balance}]$
 - This is a different perspective on evaluating long-term political challenges, which is the true source of the issue in matters of floating currency sovereign default (in the “JJnomics” compromise)

1. Ahamed, Liaquat. *Lords of Finance: the Bankers Who Broke the World*. New York: Penguin, 2009.
2. Audrin, Cyril, A. Fratantaro, and J. Abad. "AAA Sovereign Monitor," *Moody's Investor Services Quarterly Monitor No. 3*, March 2010.
3. Bass, Kyle. "The 38-Year Experiment" *Letter to Investors*, Hayman Advisors, L.P., March 2009. Web. Feb 2010. (<http://s3.amazonaws.com/iehi-img-mli/files/Hayman-letter.pdf>).
4. Cailleteau, Pierre. "Sovereign Bond Ratings" *Moody's Global Sovereign*. Rep. Moody's, Sept. 2008. Web. Feb. & March 2010. (http://v3.moody's.com/researchdocumentcontentpage.aspx?docid=PBC_109490).
5. Cailleteau, Pierre, Tristan Cooper, and Elena Duggar. "Narrowing the Gap – a Clarification of Moody's Approach to Local vs. Foreign Currency Government Bond Ratings" *Moody's Global Sovereign*. Rep. Moody's, February 2010. Web. Feb. & March 2010. (http://v3.moody's.com/researchdocumentcontentpage.aspx?docid=PBC_118820).
6. Einhorn, David. "Liquor before Beer... In the Clear." Greenlight Capital. Value Investing Congress, October 19, 2009.
7. Koo, Richard. *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession*. Singapore: John Wiley & Sons, 2009.
8. Ferguson, Niall. *The Ascent of Money: a Financial History of the World*. New York: Penguin, 2008.
9. Gross, William. "The Ring of Fire" *Investment Outlook*. Pimco, February 2010. Web. Feb & March 2010. (<http://www.pimco.com/LeftNav/Featured+Market+Commentary/IO/2010/February+2010+Gross+Ring+of+Fire.htm>).
10. Mosler, Warren. *The 7 Deadly Innocent Frauds of Economic Policy*. Mosler Economics, December 2009. Web. Feb & March 2010. (<http://moslereconomics.com/2009/12/10/7-deadly-innocent-frauds/>).
11. Munger, Charles. "Basically, It's Over" *Slate*, February 2010. Web. Feb 2010. (<http://www.slate.com/id/2245328/>).
12. Reinhart, Carmen and Kenneth Rogoff. *This Time is Different: Eight Centuries of Financial Folly*. New Jersey: Princeton University Press, 2009.
13. Scott, Andrew. "US and UK can Handle Decades of Debt," *Financial Times Online* 28 Feb 2010. Web. March 2010. (<http://www.ft.com/cms/s/0/7adb90a2-24a3-11df-8be0-00144feab49a.html>).

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