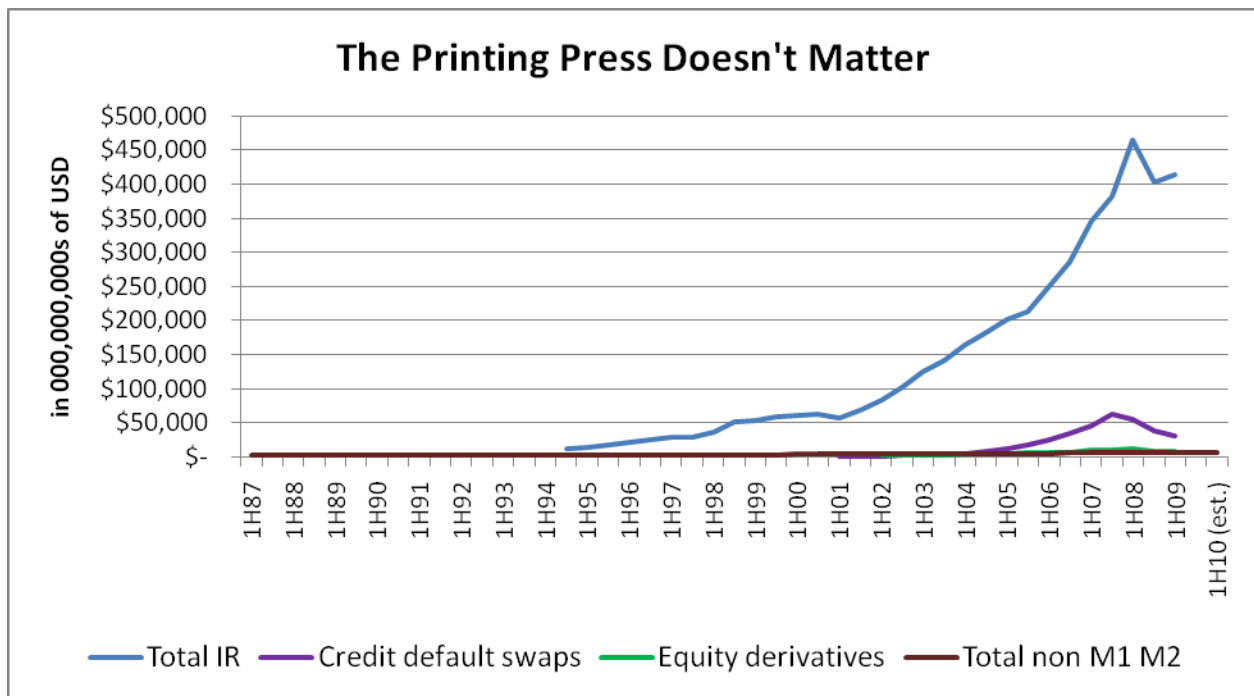


Notional IRS, CDS, and Printing Press Irrelevance
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February 27, 2010

Concerned that some of you might be backsliding into pure nihilism, it is good to keep the mind open to possibility and responsive to opportunity. Here is a attempt to grasp what the world is really like: evolving, unpredictable, full of data that requires constant translation but instantaneously changes context.

My thesis is simple: in the age of electrons as trillion dollar transactions, the printing press is irrelevant.

What I mean is that world is third eye blind to the real issue. With notional derivative amounts in hundreds of thousands of billions, M1, M2, MZM don't account for much in this world. Fed policy tools designed to jack-up M-whatever aren't capable of doing what they used to.



Conjecture #1: Changes in CDS notional are more volatile than changes in IRS notional, which in turn strongly impacts traditional monetary aggregates. Because of the sheer size of the market, a contraction in interest rate swap notional sounds Gabriel's Horn.

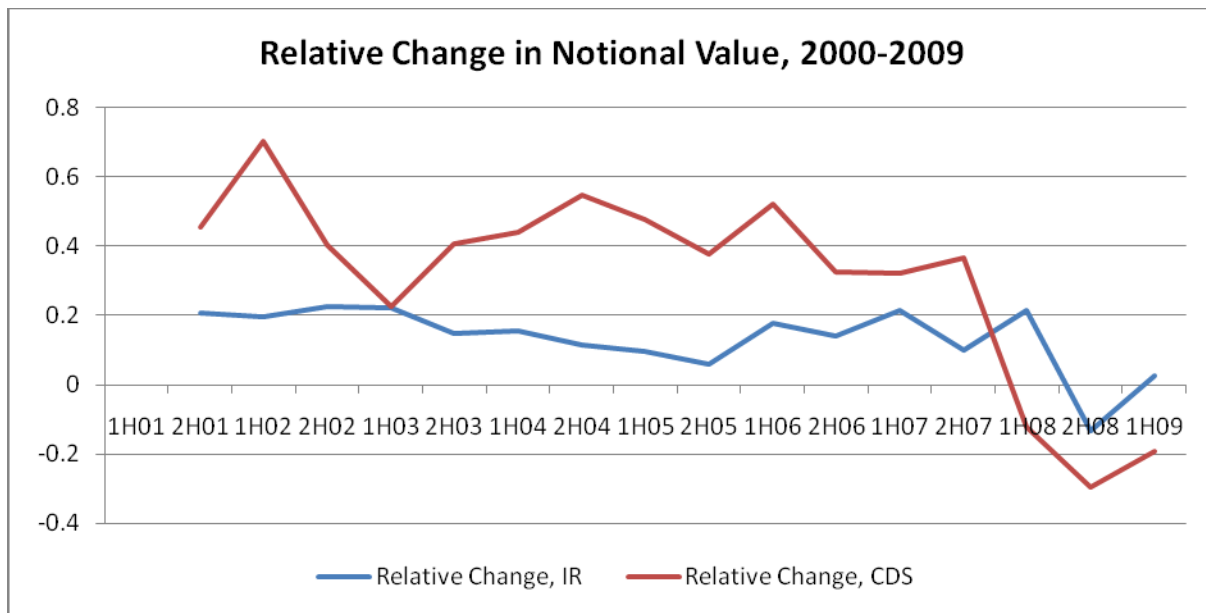
CDS notional changes are strongly associated with later changes in IRS notional, CDS notional changes are not associated with later changes in M2 (less M1), and changes in IRS notional are strongly associated with later changes in M2 (less M1). I use Granger causality methods to determine this. Stats and p-values reported below.

Irrelevance Incarnate: Causality, OTC Derivative Notionals, and Money Stock

Granger-Causality Wald Test			
	Test	Chi-Square	Pr > ChiSq
CDS notional change impacts IRS notional		6.27	0.0123
CDS notional change impacts M2 (less M1)		<0.00	0.9868
IRS notional change impacts M2 (less M1)		8.75	0.0031

Looking at relative change below makes a clearer sense of what I mean by CDS and IRS notional volatility.

Remark: In the age of electron money, notional amounts imply that QE is the only policy that can inject sufficient liquidity to counteract deflation. Treasuries imply liquidity, which imply collateral, which imply notional, which implies leverage.



Conjecture #2: The galaxy's liquidity sump-pump is the US treasury market. QE is the only effective vehicle of monetary policy. Rehypothecation defines current monetary transmission. It is money velocity at the top of the food chain.

Remark: After OTC IRS notional recovers, conventional monetary aggregates recover.

Remark: SWAPCLEAR has better indicators of current monetary policy transmission than the Fed H.3. Swaps get MTM more times than you refresh the ZeroHedge homepage. This is a good thing, because it makes them capital efficient, and reduces potential losses, and magnifies their information content. Frequent MTM demands high quality collateral, because almost all received collateral is rehypothecated for other purposes. Rehypothecation is the transmission mechanism that diffuses Fed easing.

Open Question: Has the *composition* of posted collateral changed in the past two years?

Conjecture #3: Credit Easing is the way to get immediate monetary stimulus to diffuse down. But it also implies a degree of nationalization.

Remark: Large and sustained notional contractions will force radical monetary policy that directly impacts the real economy. The policy will by-pass conventional intermediation, and intervene directly in credit markets via the purchase of CBOs, CLOs, and CDOs, giving concerns funding to operate despite negative cash-flow.

The Impossibility of Debt Repudiation

Everybody relies on the past to evaluate the present and future. To some the past is restricted to their own personal experience. To others the past is generalized beyond the personal but limited in scope. Some people look in marginal places for unifying data. But sifting memories and history does not think through to Black Swans. These creatures must necessarily be extreme events. But this is insufficient: they must also that defy any predictive past, reshape the current, and irreparably affect the future.

So perhaps we aren't thinking hard enough about the present, and starting from the first principles of what is observed first hand. Perhaps thousands of trillions of dollars in notional exposures in the age of stored electronic money has made debt repudiation in underlying liabilities impossible without setting off a chain reaction in the derivatives market.

Dollars can't be so easily discarded when nearly every player in the financial system holds staggeringly interlocked debits and credits. Interlocked debits and credits means that nearly every institution that matters holds at least some vested interest in keeping the system alive. They win some and they lose some, but importantly the majority remains vested in the casino's blackjack table.

Interlocking denotes net (gains added and losses subtracted) as opposed to notional (all of it aggregated) exposures. These gains and losses from derivatives exposures are not concentrated in a handful of institutions. They are distributed across the majority of institutions. There is just too much to lose by walking away. So the casino will continue operating as long as there is enough skin left in the game... or the building catches on fire and everyone runs for safety, screaming all the way.

According to the Bank for International Settlements, the June 2009 gross market value (net notional) for interest rate swaps alone was \$13,934,000,000,000 (see below for more information). Now imagine a liquidation of only a *fraction* of these positions, because a series of sequential bond auction failures squeezed the collateral requirements, or because mortgage foreclosures blow up a shark's hedge book. And then comes the chain reaction of liquidation in derivatives that most will never know is imploding until it shows up in VIX or implied correlation.

Possible result: Imagine a squeeze strong enough to make \$1 buy fifteen loaves of bread. How about the dividend yield on that \$50 stock you bought yesterday go from 6% to 0.1% percent? How about a squeeze making every corporation on the planet default on their debt? Cheap bread sounds nice, except you won't have a job when human society is in full cardiac arrest.

Even seemingly innocuous tampering with underlying assets holds grave risk. Taking creditors' rights of recovery and foreclosure unintended consequences that make things exponentially worse for everyone because the free-ride that garners a vote destroys liquidity necessary to avoid the implosion above. It is difficult enough to unwind a

distressed equity tranche. How can it avoid becoming worthless if the holders have no rights to exercise collateral?

BIS, Table 19. Amounts Outstanding, OTC Derivatives December 2009

Risk Category / Instrument	Notional amounts outstanding					Gross market values				
	Jun 2007	Dec 2007	Jun 2008	Dec 2008	Jun 2009	Jun 2007	Dec 2007	Jun 2008	Dec 2008	Jun 2009
Total contracts	516,407	595,738	683,814	547,371	604,622	11,140	15,834	20,375	32,244	25,372
Foreign exchange contracts	48,645	56,238	62,983	44,200	48,775	1,345	1,807	2,262	3,591	2,470
Forwards and forex swaps	24,530	29,144	31,966	21,266	23,107	492	675	802	1,615	870
Currency swaps	12,312	14,347	16,307	13,322	15,072	619	817	1,071	1,421	1,211
Options	11,804	12,748	14,710	9,612	10,596	235	315	388	555	389
Interest rate contracts	347,312	393,138	458,304	385,896	437,198	6,063	7,177	9,263	18,011	15,478
Forward rate agreements	22,809	26,599	39,370	35,002	46,798	43	41	88	140	130
Interest rate swaps	272,216	309,588	356,772	309,760	341,886	5,321	6,183	8,056	16,436	13,934
Options	52,288	56,951	62,162	41,134	48,513	700	953	1,120	1,435	1,414
Equity-linked contracts	8,590	8,469	10,177	6,159	6,619	1,116	1,142	1,146	1,051	879
Forwards and swaps	2,470	2,233	2,657	1,553	1,709	240	239	283	323	225
Options	6,119	6,236	7,521	4,607	4,910	876	903	863	728	654
Commodity contracts	7,567	8,455	13,229	3,820	3,729	636	1,898	2,209	829	689
Gold	426	595	649	332	425	47	70	68	55	43
Other commodities	7,141	7,861	12,580	3,489	3,304	589	1,829	2,141	774	646
Forwards and swaps	3,447	5,085	7,561	1,995	1,772					
Options	3,694	2,776	5,019	1,493	1,533					
Credit default swaps	42,581	58,244	57,403	41,883	36,046	721	2,020	3,192	5,116	2,987
Single-name instruments	24,239	32,486	33,412	25,740	24,112	406	1,158	1,901	3,263	1,953
Multi-name instruments	18,341	25,757	23,991	16,143	11,934	315	862	1,291	1,854	1,034
Unallocated	61,713	71,194	81,719	65,413	72,255	1,259	1,790	2,303	3,645	2,868
Memorandum Item:										
Gross Credit Exposure						2,672	3,256	3,859	4,555	3,744

Source: Bank for International Settlements

The problem is beyond a single democracy, as exposures are global in scope. What matters are institutions with exposures several times the size of their sovereigns' GDPs, built over the course of decades by easy money, with momentum like a juggernaut. And almost all of it collateralized and denominated in US dollars. Warts and all, this is globalization, baby.

The big predators will be the ones that starve when things get bad. Smaller, nimbler, and unobtrusive organizations will suffer but will fare better. The poorest and least privileged on the bottom of the food chain will suffer the least.

There has been much fear of explicit dollar devaluation, but dollars are not tied to a commodity standard anymore, and there is a derivatives market too big to conduct new currency experiments on without immense risk. How do you devalue the dollar on command when it is a convertible currency? *Devaluing dollars with a printing press when quintillions of dollars worth of derivatives are being vaporized would be like trying to hold an Apollo rocket launch down with your bare hands.*

Perhaps the reality is more frightening and inescapable than we are willing to admit. Perhaps things are now so new and novel that no one knows how the system will behave. I suspect that there is a Newhouse Theorem and a Palis Conjecture for the financial system: there are an infinite number of possible disaster and salvation scenarios, but only a finite number of them can be attained no matter what policies are taken and people do. So, just about any outcome is possible.

Domestication Failure

Because of the two-steps-forward-one-step-back cycle of human existence, we are all conditioned to attempt the domestication of everything. Because we turned wild grasses into grains, and tamed the wolf into Fido, and live well enough in a hive community, we delude ourselves into thinking *everything* can be domesticated.

But domestication efforts fail in two ways: when they suffocate and when they fail to defend the perimeters against exponential scale effects. The financial system is engulfed by a massive scale effect, a malignant appendage grown so large that it no longer serves its intended purpose and function. It's only internal logic is to nourish itself, to draw liquidity wherever it can be found. If growth stops, then the current system fails.

Regulatory strategy is an attempt to manage the by-product, but not essential problem of derivative notional growth being too big to handle. *No one knows how to tamper with notional growth without causing phenomenal collateral damage.* With the printing press irrelevant, then [the center cannot hold](#) and extremes will be the New Normal.

On the other hand, tinkering with the underlying could have destructive unintended consequences. Providing targeted liquidity to the real economy or interfering with established rights of liquidation will put a leaden hand of over-centralization on everything.

Failure is an essential part of existence: it can be managed and must be accepted. But societies fear it and governments take great pains to deny it. This is why governments stepping outside of their defined role (apex predators) and suppress natural selection, the entire eco-system has heightened extinction risk. Not only does the apex predator change, all species in the eco-system change in morbid ways.

I do know that ultimately policy must 1) Budget constraints must be made binding again, and the elements that have grown too large must be surgically corrected. If policy doesn't accomplish this, then these two failures will self-correct. Even though the wild corrections nature selects are the stuff of nightmares, this too shall pass.