

Risk, Black Swans, and Brown Turkeys

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*U.S. Expatriate Investing: Risk vs. Reward
in an Uncertain World*

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Preview

- Originally intended to talk about quantitative risk management – from my book *A Practical Guide to Risk Management* (CFA Institute)
- But risks today are macroeconomic, political, policy
 - Big, existential risks of sovereign debt default, currency devaluation and debasement, inflation.
- Need to put all this in historical perspective.
 - Seems new and strange only because our collective memory is short.
- What I hope I'll leave you with
 - Some optimism – we've been here before, and we'll recover
 - The main risks are political – that politicians will fail us

Why Black Swans and Brown Turkeys?

- Black Swans – New and unpredictable events that up-end received wisdom
- Brown Turkeys – Unpredictable and surprising but it's happened before
- Today's financial turmoil is a Brown Turkey
 - Turmoil, but we've been through this before – and survived
- Some of the specifics I'll talk about
 - Sovereign debt default across the centuries
 - Banking crises across the centuries
 - FX crises

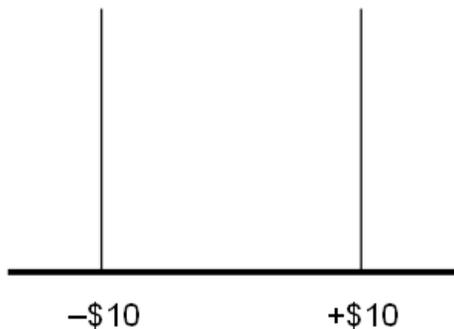
Who am I?

- Educational Background
 - Physics undergraduate at Harvard, PhD economics University of Chicago
 - Taught economics and finance for four years
- Practical Experience
 - Over 20 years ago moved from academics to finance
 - Trading and quantitative model-building on a derivatives desk
 - More recently founded and managed a macro-global hedge fund

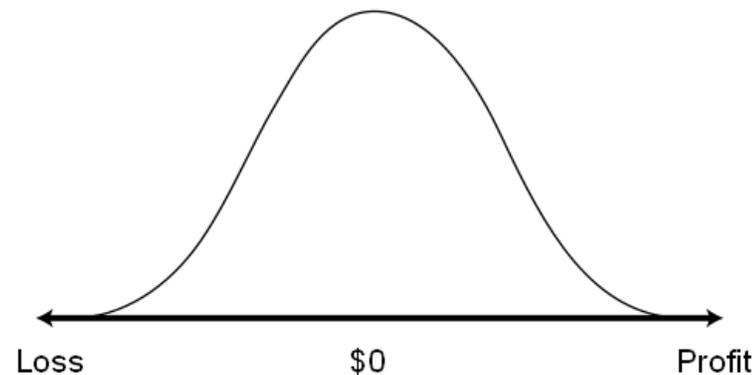
Risk and Uncertainty

- What is Risk?
 - Possibility that P&L is different from what is expected
- P&L Distribution

A. Coin Toss Bet

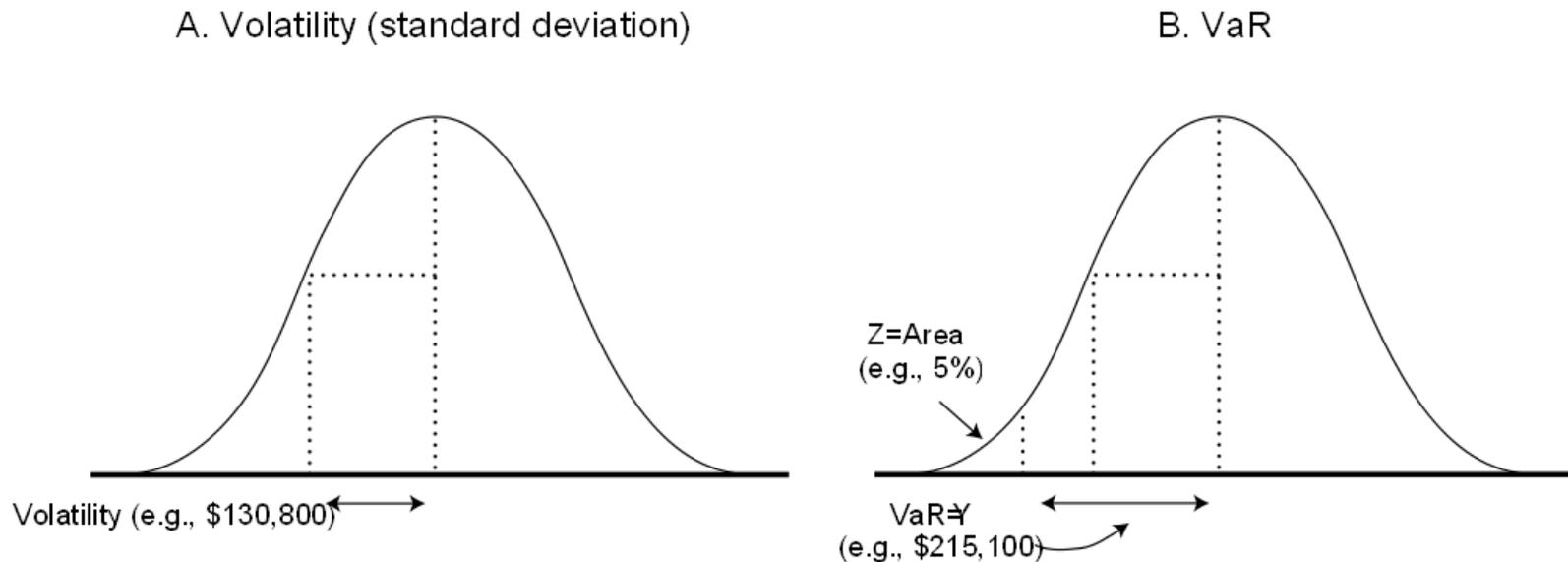


B. Hypothetical Yield Curve Strategy



Brief Guide to Risk Tools

- Volatility (σ , standard deviation) and VaR (Value at Risk)
- Remember – We Care About P&L Distribution
 - Volatility and VaR are summary measures for the distribution
 - Very simple concepts – graphically



Turn to Macroeconomics

- Most risks today are macroeconomic
- Want to review economic history
- We are living through extraordinary times, but it's all happened before
- Look first at some experience on default, banking crises, inflation, exchange-rate explosions
- Then talk briefly about importance of economic policy

Sovereign Debt Defaults

- Sovereign debt default is nothing new or unusual
 - Question – who has defaulted more often and more recently, Greece or Germany?
- Countries have tended to default serially, then “graduate”
 - England after 1688, France about 1800, Spain 1882
 - Germany, although it has defaulted more often and recently than Greece, seems to have graduated

Country	19 th c	20 th c
France	1	0
Germany	5	2
Greece	4	1
Netherlands	1	0
Portugal	6	0
Russia	2	3
Spain	8	0

Source – Reinhard & Rogoff tables 6.2 and 6.4.

Banking Crises

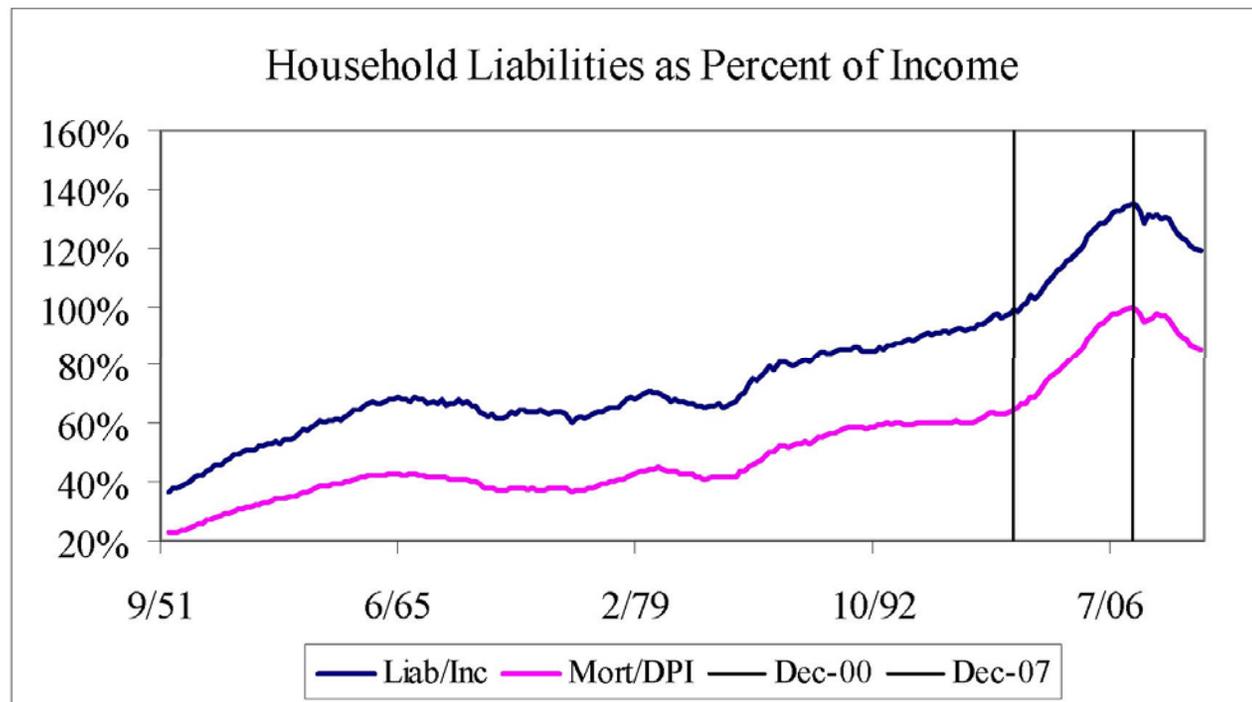
- Banking crises more common than debt defaults
- Like sovereign default, serial repeaters. Unlike sovereign default, no evidence of “graduation”
- Crises from the 1800s sound eerily like today
 - “Everybody begging for money” - 1825
 - “A contagion of fear spread among depositors” - 1930

Country	Since 1800	Since 1945
France	15	1
Germany	8	2
Greece	2	1
Netherlands	4	1
Portugal	5	0
Russia	2	2
Spain	8	2
United Kingdom	12	4
United States	13	2

Source – Reinhard & Rogoff table 10.4. But I question some post-1945 numbers.

Banking Crises – cont'd

- Banking crises always involve leverage and accumulation of debt
 - The 2008-current crises no different
 - For US it was primarily household accumulation of debt – mortgage debt
 - Currently households working off debt load – and have transferred it to banks (defaulting on mortgages)



Banking Crises – cont'd

- For US and Western Europe we haven't seen a real crisis since 1930s (in spite of Reinhart & Rogoff)
 - The Great Depression was a cataclysmic event, marking a change in behavior that lasted for 70 yrs
 - What we have gone through since 2007 is classic banking crisis
 - But not repeating the Great Depression – thanks to the Fed – in a real sense the liquidity operations of 2008-2009 saved the world
- Aftermath usually severe recession – but we do recover
 - US 1870-1929 there were 15 recessions. In 4 after crises real income fell by 6.9%, versus 0.9% others. Huge difference.
 - Reinhart & Rogoff – costs can be large and recovery slow.
 - Current sluggish recovery is one thing possibly different from long-ago episodes – maybe because recession was mild

Inflation

- Throughout history inflation has been common
 - Interestingly, post 1930s has been era of global inflation

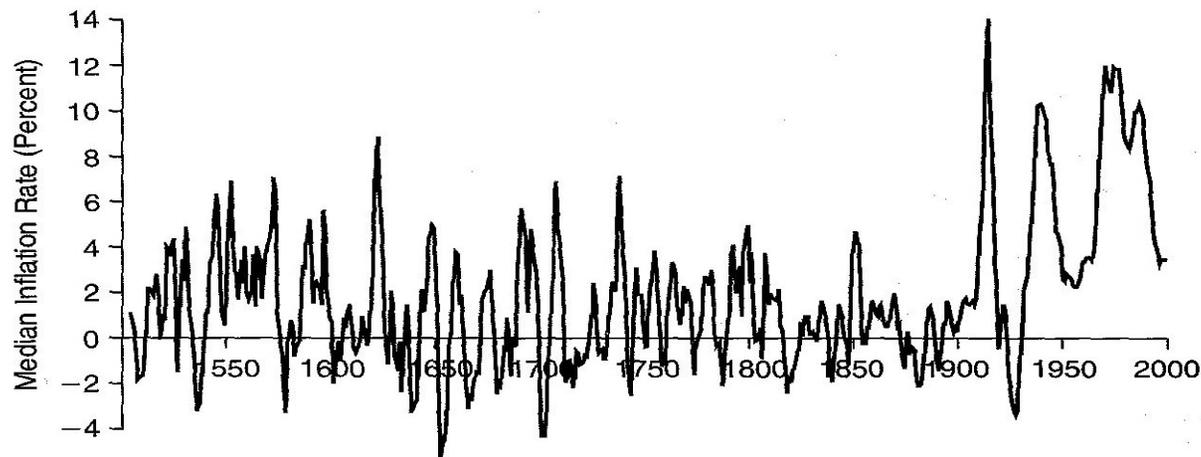


Figure 12.1. The median inflation rate: Five-year moving average for all countries, 1500–2007.

- Inflation not currently a big threat (I hope)
 - Little risk from the huge liquidity injections of 2008-2009 – monetary base doubled between Q3 2008 and Q2 2009
 - Supply was increased to satisfy demand – forestalled deflation

Fixed-Rate Exchange Rate Regimes

- Eurozone – the current crisis
- Not as much history on currency unions. But economic theory on optimal currency areas. Four conditions
 - Labor mobility
 - Openness with capital mobility, wage & price flexibility
 - Risk sharing system – fiscal transfers
 - Similar business cycles – cannot have stress of varying growth and productivity
- Compare Eurozone with US (a moderately successful currency union)
 - Labor mobility – US much more (same language and culture)
 - Openness and wage & price flexibility – US has capital mobility, good labor flexibility
 - Fiscal transfer – US has many federal programs and transfers

Fixed-Rate Regimes – cont'd

- History on fixed-rate regimes. Not encouraging
- Constellation of behaviors
 - Carry trade – foreign purchases of domestic bonds
 - Domestic borrowing in foreign currency
 - All tend to build domestic assets, foreign liabilities
- Fixed-rate regimes have a tendency to blow up
 - Resulting in losses for carry trades and insolvency of domestic borrowers
 - Some recent: ERM 1992-93, Mexico 1994-95, Southeast Asia 1997, Russia 1998, Argentina 2001

Fixed-Rate Regimes – cont'd

- Eurozone is a fixed-rate regime with no exit clause
- Many players have built up peripheral-country assets, core liabilities
 - Eg banks bought high-yielding peripheral bonds. Many with core-country deposits
- Like explosion of fixed-rate regime, dissolution of euro would mean losses and insolvencies
- Nothing new or unexpected here:
 - “When [the eurozone] collapses, it will come as a shock, much like the collapse of the Bretton Woods system in 1971. The consequences cannot be foreseen as the date and cause of the collapse cannot be foreseen.” (L Neal, “A shocking view of economic history,” 2000, p 329)
- I’m not predicting the euro’s dissolution, but pointing out that similar things have happened before

Economic and Political Policy

- Policy and policy mistakes matter
- Eurozone and fixed-rate regimes
 - Common currency without mechanisms to relieve stress of varying productivity and growth
- Banking crisis and speculative real-estate and stock market bubbles (remember tech boom)
 - Loose money and negative real rates encourage accumulation of debt and leverage – consumption today instead of saving for tomorrow
 - Saw huge increase in US household debt and decrease in savings rate during late 1990s and 2000s

Conclusion

- I do not mean to sound gloomy and downcast.
- Actually I have an optimistic message
 - None of the challenges we face are new, and none are insurmountable
 - The challenge is to negotiate our way through our current problems
- Long-run I think we have many things to celebrate
 - New technology is making strides
 - Much of the developing world is making its way out of poverty, a good thing for both them and we in the developed world
- Biggest risk is political – politicians will fail us with poor policies
 - Europe – failure to figure out a solution to peripheral-country insolvency and misalignment of effective exchange rates
 - US – continuation of negative real rates that encourage household debt accumulation and failure to address high debt

References

- Three that I like particularly:
 - *Manias, Panics, and Crashes, 5th ed.*, Charles P. Kindleberger and Robert Aliber, 2005 (original edition by Kindleberger 1978)
 - The classic review of manias and panics over the centuries, from the South Sea Bubble of the 1720s to the present. If you read nothing else, read this.
 - *This Time is Different: eight centuries of financial folly*, Carmen M. Reinhart & Kenneth S. Rogoff, 2009
 - A delightful compendium of debt defaults, hyperinflations, and banking crises across the world.
 - *The Ascent of Money: a financial history of the world*, Niall Ferguson, 2008