BigPictureTrading
macro . technical . options

MACRO MASTERS

Tutorial 2
Modules 6-10

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Module 6
Global Institutions

G20

- Forum for Governments and Central Bank Governors
- Aim to study, review and promote high-level discussion in organizing international financial stability
- Started in 1999 and represents 85% of the gross world production

G20 Group of Twenty

Argentina	Australia	Brazil	Canada	China
France	Germany	India	Indonesia	Italy
Japan	South Korea	Mexico	Russia	Saudi Arabia
South Africa	Turkey	United Kingdom	United States	European Union (EU)

G20

Criticism

- Promotion of modern Neoliberalism
- Supporting privatization, fiscal austerity, deregulation and free trade and reductions in government spending in order to enhance the role of the private sector in the economy
- Further criticism focuses on freedom and democracy of citizens within the countries as governments and central banks group think

BIG PICTURE TRADING

- Created in 1945 during Bretton Woods
- 188 countries
- Promote global monetary cooperation
- Promote financial stability
- Facilitate international trade
- Promote full global employment, sustainable growth and reduce poverty

BIG PICTURE TRADING

IMF's SDR (Special Drawing Rights)

- Created in 1969 as a supplementary international reserve asset
- Essentially "world money"
- Created because *"gold and U.S. dollar – proved inadequate for supporting the expansion of world trade and financial flows"*
- Essentially trying to wean the world off U.S. dollars to promote rather a basket of global currencies

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THE WORLD BANK

- International financial institution that provides loans to developing countries for capital programs
- Their official goal is to reduce poverty
- Criticism is that they are in fact the instrument that is spreading modern Neoliberalism
- Driving privatization, fiscal austerity, deregulation and free trade to the developing countries

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OECD

BETTER POLICIES FOR BETTER LIVES

- Organization for Economic Co-operation and Development
- Intergovernmental economic organization with 35 member countries
- To stimulate economic progress and world trade
- Provides statistics and data to assess global economic conditions

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BANK FOR INTERNATIONAL SETTLEMENTS

- Private international company which shares are owned by central banks of the developed world
- Established in 1930 by Germany, Belgium, France, UK, Italy, Japan, Switzerland and the United States
- BIS was owned by both central banks and private individuals and was traded on the stock exchange
- 1999 bought out all private share holders making it exclusively owned by central banks

BIG PICTURE TRADING

BANK FOR INTERNATIONAL SETTLEMENTS

- 60 member central banks today
- Make global monetary policy more predictable and transparent
- Regulate capital adequacy
- Encourage reserve transparency
- Since 2004 has been publishing its accounts in terms of SDRs

BIG PICTURE TRADING

Module 7
Central Banks

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Central Banks

- Central banks have been mandated to control the monetary base
- To print and coin the national currencies
- Attempt to manage inflation and deflation
- Promote max sustained employment
- Maintain the stability of the financial system
- Contain systemic risk to financial institutions
- Address the problem of banking panics

BIG PICTURE TRADING

Central Bank Criticism

- Been given extraordinary autonomy from elected governments
- In a democracy, where the government is elected by the people, should that autonomy exist
- Considering that central banks control money and monetary policy and manage the banks that create money, should an elected government not be have direct oversight and control?

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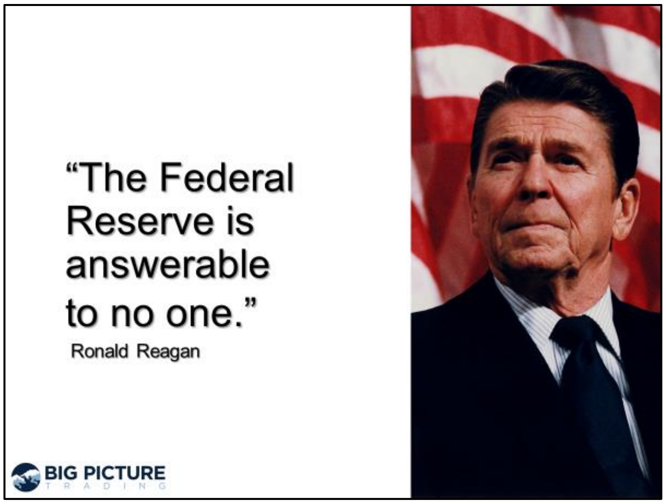
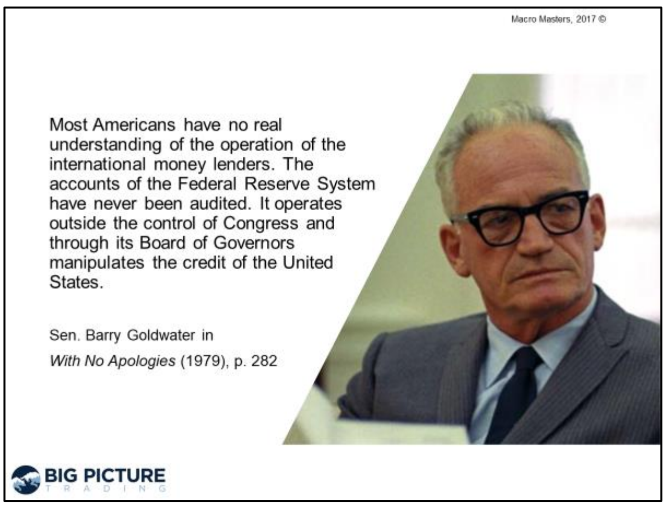

"The Federal Reserve is answerable to no one."
Ronald Reagan
BIG PICTURE
TRADING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Most Americans have no real understanding of the operation of the international money lenders. The accounts of the Federal Reserve System have never been audited. It operates outside the control of Congress and through its Board of Governors manipulates the credit of the United States.
Sen. Barry Goldwater in
With No Apologies (1979), p. 282
BIG PICTURE
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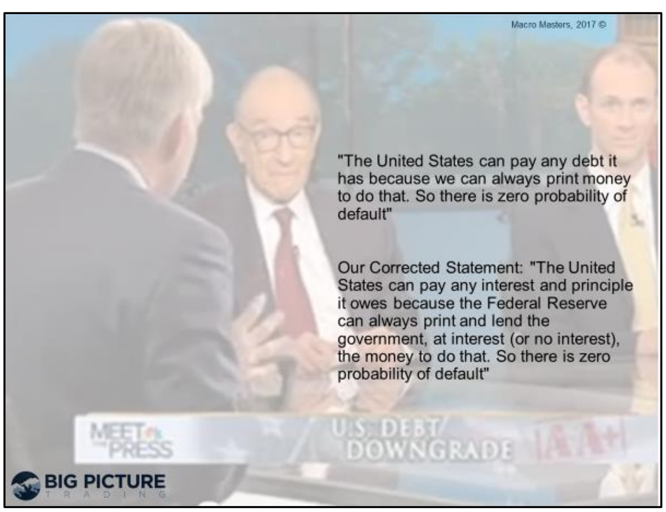
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"The United States can pay any debt it has because we can always print money to do that. So there is zero probability of default"
Our Corrected Statement: "The United States can pay any interest and principle it owes because the Federal Reserve can always print and lend the government, at interest (or no interest), the money to do that. So there is zero probability of default"
MEET THE PRESS
U.S. DEBT DOWNGRADE
BIG PICTURE
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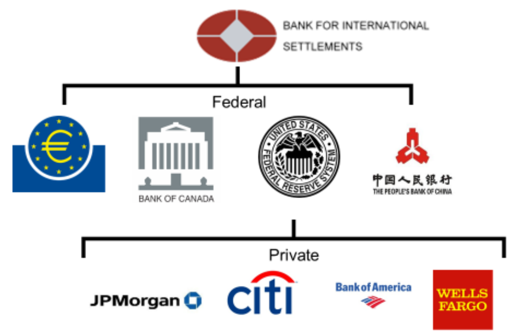
Global Financial Hierarchy



Federal Reserve System

- Two attempts to form a central bank occurred in the prior centuries
- In 1791, under Alexander Hamilton, they chartered a bank. Its charter was assigned a limited life of 20 years and in 1811 congress failed by 1 vote to extend
- 1816 the Second Bank of United States was chartered for again 20 years

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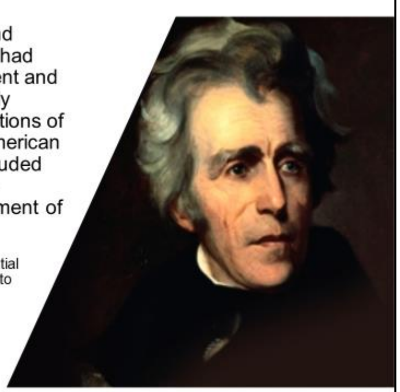
"The bold effort the Second National Bank of the U.S. had made to control government and the distress it has wantonly produced are but premonitions of the fate that awaits the American people should they be deluded into a perpetuation of this institution or the establishment of another like it."

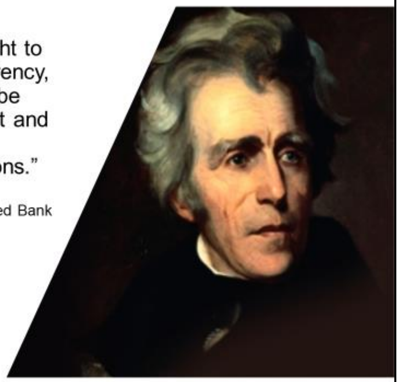
1836, President Jackson's presidential campaign was based on a platform to abolish the bank



BIG PICTURE TRADING

"If Congress has the right to issue paper money currency, it was given to them to be used by the government and not to be delegated to individuals or corporations."

President Andrew Jackson, Vetoed Bank Bill of 1836



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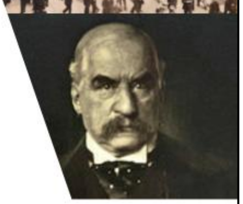
Creation of the Federal Reserve

- In 1907 was a massive market collapse and subsequent run on the banks
- There was a full-scale liquidity crisis
- J.P. Morgan himself had to summon the financiers to his home to orchestrate the rescue plan



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Federal Reserve System

- In November 1910, representatives of the major banks converged at Jekyll Island
- Recognized that managing panics needed central planning
- Pushed for a National Reserve Bank
- 1913 the Federal Reserve System was created

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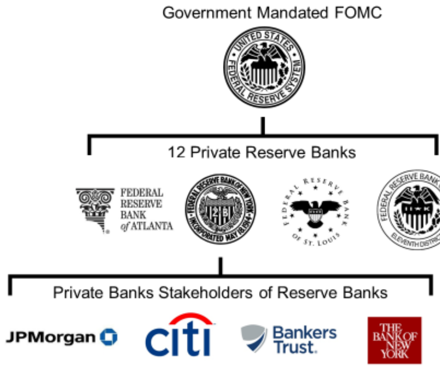
Federal Reserve System



"The regional Federal Reserve banks are not government agencies ... but are independent, privately owned and locally controlled corporations."

Lewis vs. United States, 680 F. 2d 1239 9th Circuit 1982

Federal Open Market Committee

FOMC
12 Voting Members

7 members appointed by President and approved by Senate including the Chairman

5 presidents of the 12 independent federal reserve banks
New York Fed + 4 other presidents

Board of Governors of the Federal Reserve System

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Current FAQs
Informing the public about the Federal Reserve

Who owns the Federal Reserve?

The Federal Reserve System fulfills its public mission as an independent entity within government. It is not "owned" by anyone and is not a private, profit-making institution.

As the nation's central bank, the Federal Reserve derives its authority from the Congress of the United States. It is considered an independent central bank because its monetary policy decisions do not have to be approved by the President or anyone else in the executive or legislative branches of government, it does not receive funding appropriated by the Congress, and the terms of the members of the Board of Governors span multiple presidential and congressional terms.

However, the Federal Reserve is subject to oversight by the Congress, which often reviews the Federal Reserve's activities and can alter its responsibilities by statute. Therefore, the Federal Reserve can be more accurately described as "independent within the government" rather than "independent of government."

The 12 regional Federal Reserve Banks, which were established by the Congress as the operating arms of the nation's central banking system, are organized similarly to private corporations--possibly leading to some confusion about "ownership." For example, the Reserve Banks issue shares of stock to member banks. However, owning Reserve Bank stock is quite different from owning stock in a private company. The Reserve Banks are not operated for profit, and ownership of a certain amount of stock is, by law, a condition of membership in the System. The stock may not be sold, traded, or pledged as security for a loan; dividends are, by law, 6 percent per year.

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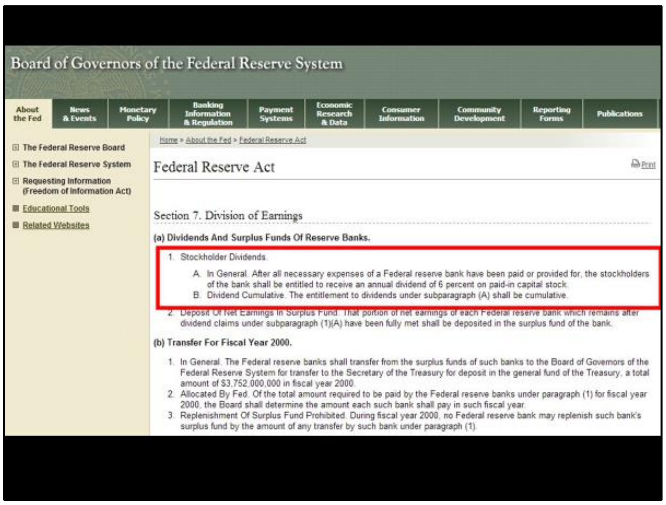

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Federal Reserve Act

Section 7. Division of Earnings

(a) Dividends And Surplus Funds Of Reserve Banks.

1. Stockholder Dividends.
   A. In General. After all necessary expenses of a Federal reserve bank have been paid or provided for, the stockholders of the bank shall be entitled to receive an annual dividend of 6 percent on paid-in capital stock.
   B. Dividend Cumulative. The entitlement to dividends under subparagraph (A) shall be cumulative.
2. Deposit Of Net Earnings In Surplus Fund. That portion of net earnings of each Federal reserve bank which remains after dividend claims under subparagraph (1)(A) have been fully met shall be deposited in the surplus fund of the bank.

(b) Transfer For Fiscal Year 2000.

1. In General. The Federal reserve banks shall transfer from the surplus funds of such banks to the Board of Governors of the Federal Reserve System for transfer to the Secretary of the Treasury for deposit in the general fund of the Treasury, a total amount of $3,752,000,000 in fiscal year 2000.
2. Allocated By Fed. Of the total amount required to be paid by the Federal reserve banks under paragraph (1) for fiscal year 2000, the Board shall determine the amount each such bank shall pay in such fiscal year.
3. Replenishment Of Surplus Fund Prohibited. During fiscal year 2000, no Federal reserve bank may replenish such bank's surplus fund by the amount of any transfer by such bank under paragraph (1).

Federal Reserve and Government

- While the fed is autonomous, to continue to exist, it makes concessions to the government
- The Fed now remits a part of the interest earned on treasuries back to the government

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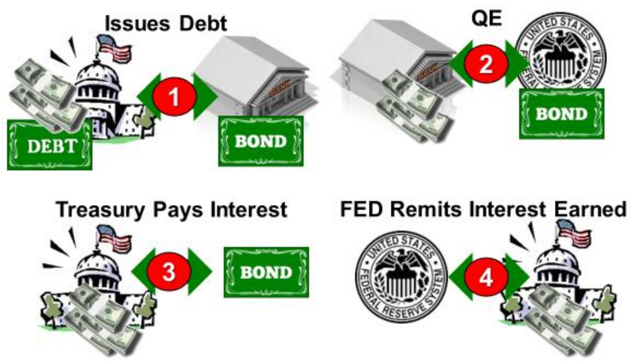
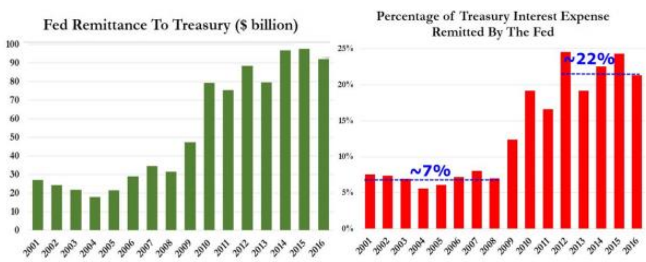
Federal Reserve System



BIG PICTURE TRADING

Federal Reserve System



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Bank of Canada

- Created in 1934 as a private corporation with shareholders **to promote the economic and** financial welfare of Canada
- In 1938, the Bank became a Crown corporation belonging to the federal government
- Special type of Crown corporation. The Bank has considerable autonomy to carry out its responsibilities. The Bank of Canada was created to be the sole issuer of bank notes and to facilitate management of the country's financial system

BIG PICTURE TRADING

Bank of Canada

- The revenues derive from the Bank of Canada's role as the issuer of bank notes to Canada's financial institutions
- Institutions pay the Bank when they withdraw bank notes from it. The Bank then invests these funds in government bonds and treasury bills
- The interest earned on these investments is the Bank's main source of revenue
- Profits paid to the government

BIG PICTURE TRADING

Bank of Canada

Speaking to reporters following the rate decision and release of the MPR on Wednesday, Poloz dismissed any suggestion that the central bank takes forecasting directions from the ministry.

"The Finance Minister, sorry, is not my boss," he said.

"The Bank of Canada is a fully independent policymaker, and we operate with independence under a five-year agreement with the government on the inflation target," Poloz added.

"Technically, the bank is a Crown corporation and the shares are owned by the Minister of Finance. So as the main shareholder, it could force some decision," St-Arnaud said in an interview.

"But in real life, central banks have fought for their independence, which is widely recognized as sound policy and means that the finance minister does not interfere in the bank's affairs and allows the bank to be independent."

Financial Post April 13, 2016

Central Bank Monetary Policy Tools

BIG PICTURE TRADING

Tightening vs. Easing

- Conventional method of tightening or easing has been through increasing or decreasing short-term interest rates
- QE is an unconventional way of further stimulating when interest rates are insufficient stimulus

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What is Quantitative Easing?

- Implemented in mass after the 2008 financial crisis
- Process of aggressively expanding the monetary base
- Used to recapitalize and repair commercial banks
- Relies on the banks to start lending again to drive credit growth

BIG PICTURE TRADING

Example of Quantitative Easing

What is Helicopter Money?

- Monetization of budget deficits (expand base money and directly inject into government)
- Can be passed on through tax cuts and big capital expenditure
- Alternatively can be direct allocations of base money to the private sector (also coined citizens dividend)

BIG PICTURE TRADING

QE vs. Helicopter Money

- QE is about recapitalizing the commercial banks and having the private sector stimulate the economy with new credit creation
- Helicopter money is distribution of the monetary base directly to main street without going through the private banking sector

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Module 8
Money Center Banks

BIG PICTURE TRADING

Private Commercial Banks

- Banks exist to facilitate the movement of money from those who have excess to those that need it
- Credit and debt is a critical part of the existence of capitalism and entrepreneurism
- Without banks, excess capital would not be efficiently allocated and therefore hinder growth, economic expansion and the very existence of world we know today

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Fractional Reserve Banking

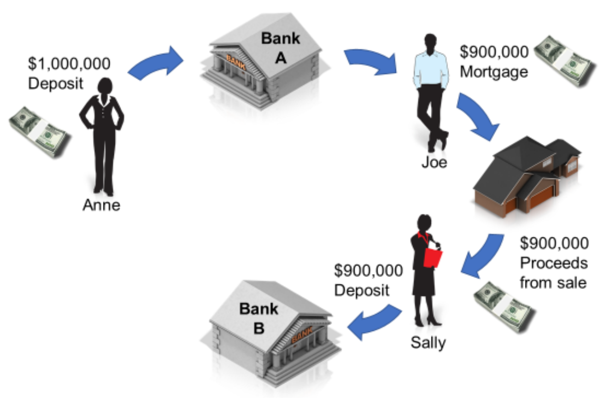
- Commercial banks are only required to maintain a fraction of deposits to credit
- They can create new credit money based on the excess reserves
- This permits the money supply to grow beyond original money base

BIG PICTURE TRADING

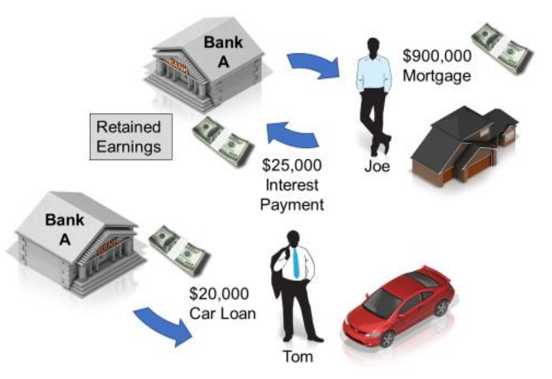
Problems with Fractional Reserve

- Steady inflation needs uninterrupted growth in credit (debt)
- Any credit crisis cuts off credit growth and spurs on deflation
- Therefore bank solvency and healthy bank reserves are essential
- Arguably the real mandate of central banks is to keep the banks lending

Fractional Reserve Lending



Fractional Reserve Lending



Fractional Reserve Lending

- Eventually through the cycle there is $10,000,000.00 of loans lent out
- The bank virtually created $9,000,000.00 of money that did not exist and is earning interest on it
- Excess money, leads to inflation
- What happens when the first depositor asks for his $1,000,000.00 back?

BIG PICTURE TRADING

WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

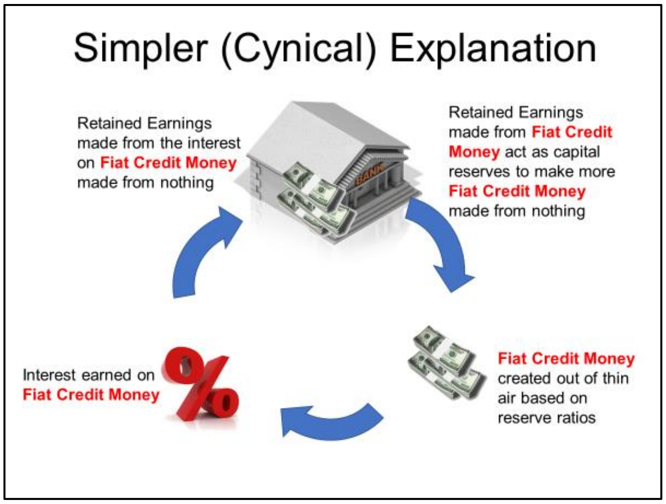
More Credit with Fewer Crises:
Responsibly Meeting the World's Growing Demand for Credit

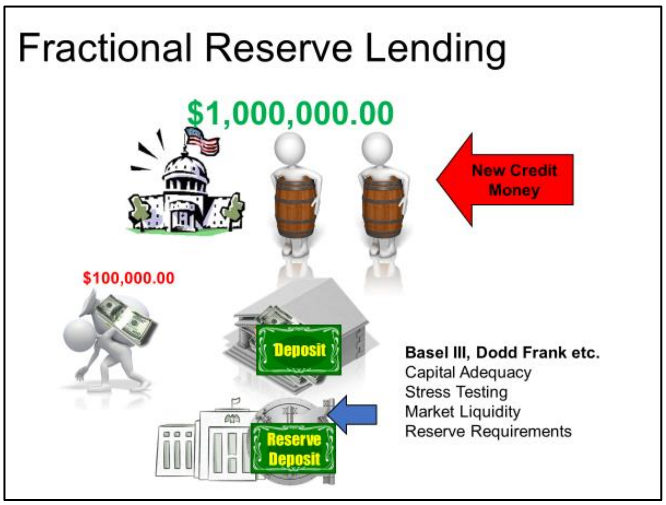
More Credit with Fewer Crises:
Responsibly Meeting the World's Growing Demand for Credit

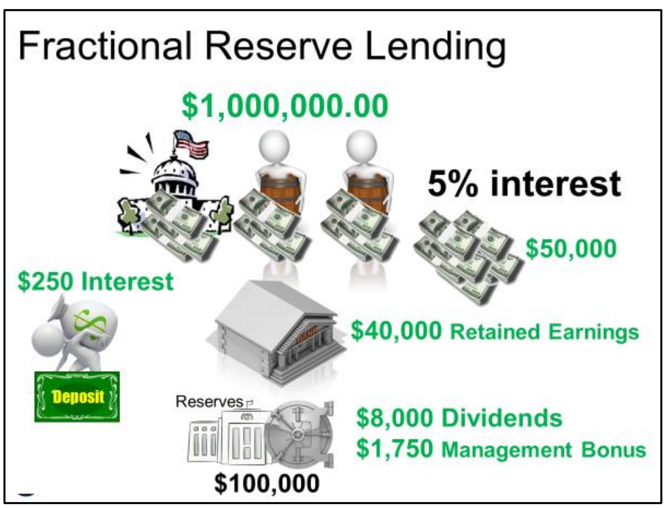
Challenges in meeting new demand for bank lending. By 2020, some US$ 28 trillion of new bank lending will be required in Asia, excluding Japan (a 265% increase from 2009 lending volumes) – nearly US$ 19 trillion of it in China alone. The 27 EU countries will require US$ 13 trillion in new bank lending over this period, and the US close to US$ 10 trillion. Increased bank lending will grow banks' balance sheets, and regulators are likely to impose additional capital requirements on both new and existing assets, creating an additional global capital requirement of around US$ 9 trillion (Exhibit vi). While large parts of this additional requirement can be satisfied by retained earnings, a significant capital gap in the system will remain, particularly in Europe.

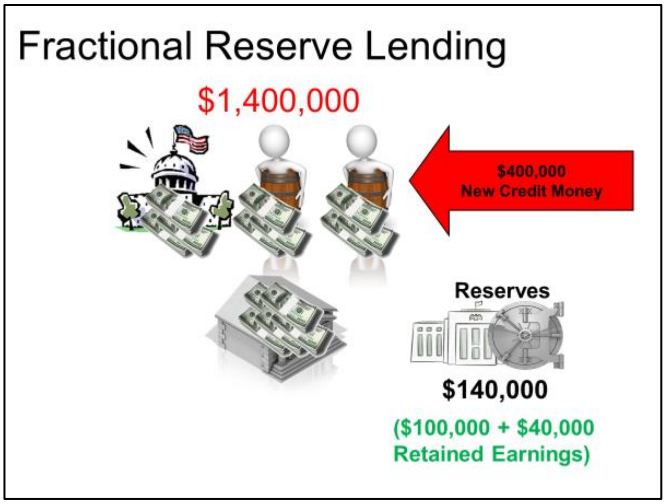
It appears that banks in the US will face the least difficulty in meeting the additional demand for bank lending – assuming US securitization markets for mortgage lending continue to fund future mortgage originations at similar rates as they do currently. (Between 65% and 90% of mortgage originations are financed through securitization, shifting US$ 6 trillion of increased bank lending off balance sheet). Under the assumption that the Basel III reforms will increase target tier 1 capital ratios to 11% in the industry, US banks would need to grow their tier 1 capital by US$ 1.2-1.6 trillion by 2020. The analysis projects that the US banking industry as a whole would be able to raise a large part of this additional capital thanks to approximately US$ 1.0-1.1 trillion in forecasted retained earnings, assuming a dividend payout ratio of 20.6% after 2012, in line with historical averages. However, if securitization levels dropped below 60-65% of mortgages, the US banking system would face an additional capital shortfall. Maintaining this rate of securitization may pose a challenge in itself.

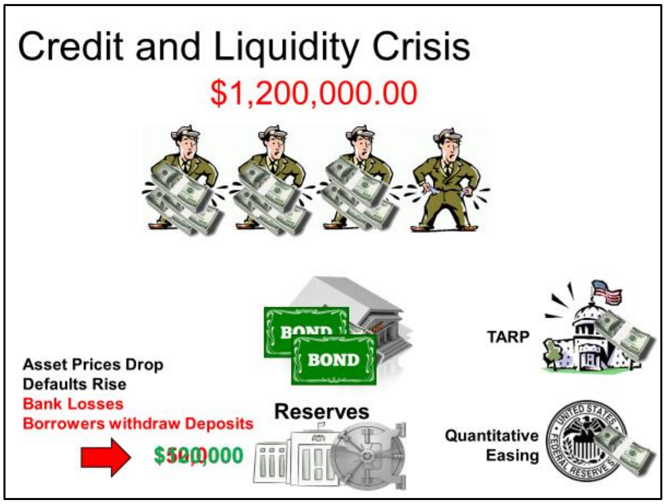
approximately US$ 1.0-1.1 trillion in forecasted retained earnings,


Simpler (Cynical) Explanation
Retained Earnings made from the interest on Fiat Credit Money made from nothing
Retained Earnings made from Fiat Credit Money act as capital reserves to make more Fiat Credit Money made from nothing
Interest earned on Fiat Credit Money
Fiat Credit Money created out of thin air based on reserve ratios


Fractional Reserve Lending
$1,000,000.00
New Credit Money
$100,000.00
Deposit
Reserve Deposit
Basel III, Dodd Frank etc.
Capital Adequacy
Stress Testing
Market Liquidity
Reserve Requirements


Fractional Reserve Lending
$1,000,000.00
5% interest
$50,000
$250 Interest
$40,000 Retained Earnings
Deposit
Reserves
$8,000 Dividends
$1,750 Management Bonus
$100,000





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Financial Institution "Bail-In"

- An alternate process of a bail out for financial institutions deemed to important to fail
- Bank creditors bear burden of saving the institution through restructuring (debt forgiveness)
- Depositors are considered creditors

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Cyprus Banks "Bail-In" 2012-13

- International bailout included complete failure of Cyprus Popular Bank and one time levy or all uninsured deposits there
- Bank of Cyprus had 48% of uninsured deposits levied

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Canadian "Bail-In" Regime

The Government proposes to implement a —bail-in regime for systemically important banks.

This regime will be designed to ensure that, in the unlikely event that a systemically important bank depletes its capital, the bank can be recapitalized and returned to viability through the very rapid conversion of certain bank liabilities into regulatory capital.

This will reduce risks for taxpayers. The Government will consult stakeholders on how best to implement a bail-in regime in Canada. Implementation timelines will allow for a smooth transition for affected institutions, investors and other market participants.

Economic Action Plan 2013 pg.154

BIG PICTURE TRADING

Canadian "Bail-In" Regime 2016

The main focus of the post-crisis reform agenda has been financial stability, including implementing reforms that emerged out of the G20, the Financial Stability Board and international standard-setting bodies. Canada participated actively in developing these standards, and has led in implementing certain key stability-focused reforms, such as Basel III capital and liquidity standards for banks. Adjustments to Basel III to promote a level playing field are still in progress.

BIG PICTURE TRADING

Canadian "Bail-In" Regime 2016

Canada has also pursued a number of other supervisory reforms in line with international standards and best practices, including with respect to stress testing, financial disclosures and corporate governance. Other examples include the development of recovery plans setting out how domestic systemically important banks would recover from severe stress, and resolution plans setting out how they could be resolved in the unlikely event that recovery actions fail.

BIG PICTURE TRADING

Canadian "Bail-In" Regime 2016

Most recently, the Budget Implementation Act, 2016, No. 1 introduced a legislative framework for a bail-in regime for Canada's domestic systemically important banks. This regime will protect Canadian taxpayers in the unlikely event of a large bank failure by reinforcing that bank shareholders and creditors are responsible for the bank's risks.10 Regulations and guidelines setting out further features of the bail-in regime are being developed for consultation.

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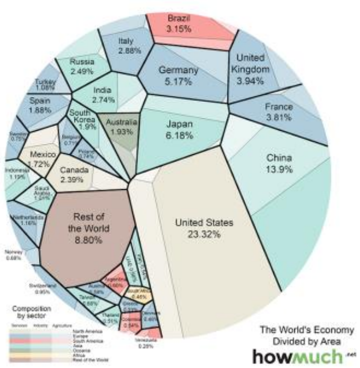
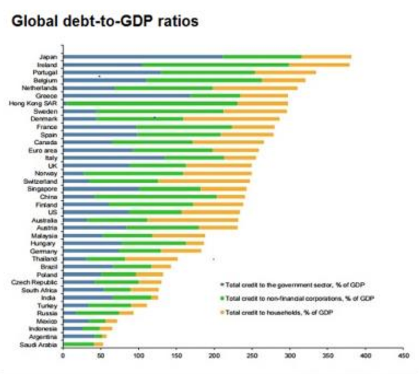
Module 9
Countries

Global GDP



Debt to GDP



America

American Economy

- World's largest economy
- American dollar remains the world reserve currency
- World most influential financial markets

Triffin's Paradox

- Tension between national and global monetary policy
- Imbalance in balance of payments and current account
- Dilemma that the reserve country must be willing to supply world with extra supply of currency to fulfill world demand for reserves
- Achieved through trade deficits

America

- $20.53 trillion U.S. National Debt
- $68.06 trillion U.S. Total Debt
- $2.59 trillion in Total Interest Payments
- $108.97 trillion in Unfunded Liabilities
- Money Supply Growth: 5.75% (2008-2015)
- Rate of Debt Growth: 4.00% (2008-2015)
- Average GDP Growth: 3.10% (2008-2015)

BIG PICTURE TRADING

America

- In order to keep the system inflating, new debt has to be created at an exponential rate
- The debt ceiling and fiscal cliff issues are just political games
- Federal Reserve can continue to create an infinite amount of debt to ensure government can always make its interest payments

BIG PICTURE TRADING

America

- Fed is going through a tightening cycle
- The world will likely continue to be starved for U.S. dollars driving continued dollar strength
- Global growth will continue to contract, potentially into a global recession that will eventually impact earnings of all American conglomerates

BIG PICTURE TRADING

Interest Rates and U.S. Debt

Year	Total U.S. Credit Stock	Est. Interest Paid on all U.S. Debt	Average Interest
1980	$4,553,557,607,229	$631,393,857,229	13.87%
1990	$13,483,661,750,949	$1,845,569,698,374	13.68%
2000	$26,480,184,484,644	$2,479,673,709,708	9.36%
2008	$50,509,543,199,108	$3,866,109,170,993	7.65%
2014	$61,580,513,315,189	$2,548,741,647,446	4.14%

Source: usdebtclock.org

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China

BIG PICTURE TRADING

China

- Socialist market economy
- World's second largest economy
- World's largest economy based on purchasing power parity
- World's fastest- growing "major" economy
- Central planning controlled (top down)

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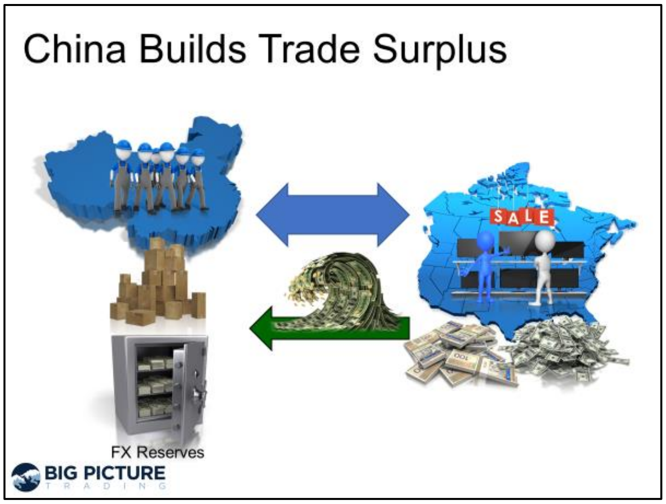
China Criticism

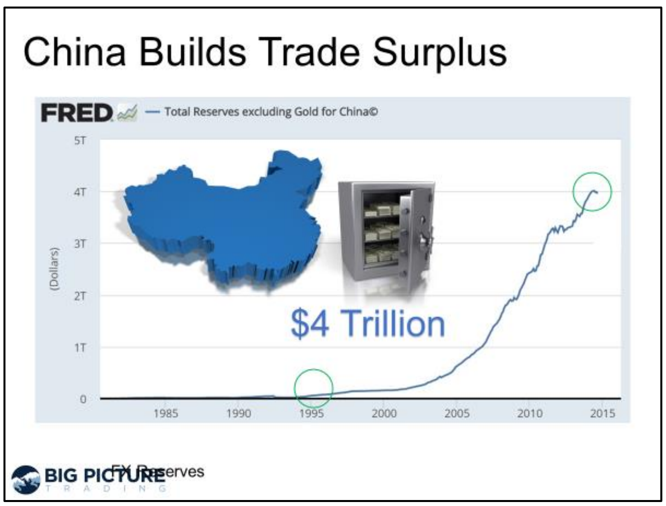
- Closed capital accounts
- Economy generally closed to foreigners
- Uncertainty of accuracy of economic numbers
- Trust in the Chinese rule of law

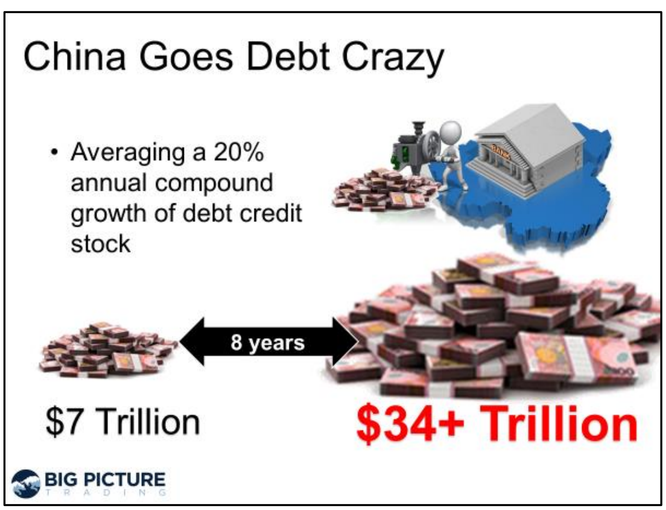
China

- \$10.02 Trillion (USD) National Debt
- \$34.0 Trillion (USD) Total Debt (\$7.0T in 2007)
- Rate of Debt Growth: 22.00% (2008-2015)
- Average GDP Growth: 13.00% (2008-2015)
- Current GDP Growth down to 6.70% (Feb2016)

China in Context


China Builds Trade Surplus
SALE
FX Reserves
BIG PICTURE TRADING


China Builds Trade Surplus
FRED
— Total Reserves excluding Gold for China©
(Dollars)
0
1T
2T
3T
4T
5T
1985
1990
1995
2000
2005
2010
2015
$4 Trillion
FX Reserves


China Goes Debt Crazy
• Averaging a 20% annual compound growth of debt credit stock
8 years
$7 Trillion
$34+ Trillion
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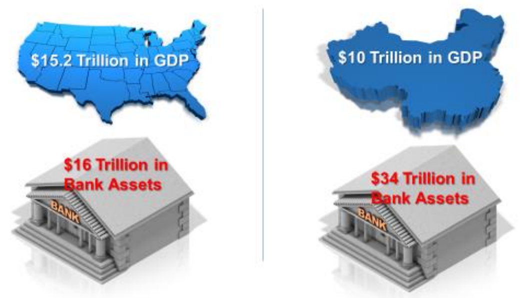
Comparing Situation

2007-2008 Crisis | 2015-present Crisis



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Largest Banks By Assets

			Billions
1	Industrial & Commercial Bank of China	**China**	3,545.00
2	China Construction Bank Corp	**China**	2,965.69
3	Agricultural Bank of China	**China**	2,852.55
4	Bank of China	**China**	2,639.77
5	Mitsubishi UFJ Financial Group	Japan	2,654.74
6	HSBC Holdings	UK	2,595.67
7	JPMorgan Chase & Co	US	2,423.81
8	BNP Paribas	France	2,404.10
9	Bank of America	US	2,185.50
10	Deutsche Bank	Germany	1,972.88

12,003

14,236

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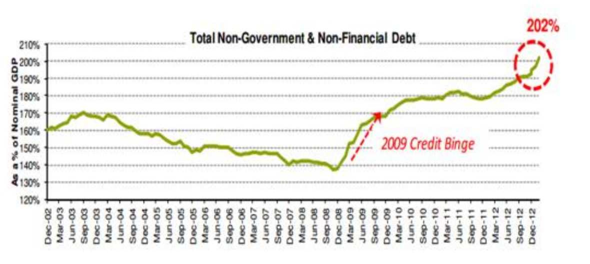
China Debt to GDP



Sources: CEIC, PBOC, Bernstein Analysis

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China Credit Bubble Bursting

- Severe misallocation of capital
- China is suffering from significant overcapacity
- Credit driven growth cycle over
- China economy slowing down rapidly
- Rapid build of non-performing loans that are stressing the Chinese banks

CNBC

HOME INTL NEWS MARKETS INVESTING TECH MAKE IT VIDEO SHOWS PRIMETIME MORE

CORPORATE DEBT

IMF says China's growing corporate debt pile could become a systemic risk

Saturday, 11 Jun 2016 | 4:27 AM ET

REUTERS

China must act quickly to address mounting corporate debt, a major source of worry about the world's second-largest economy, a senior International Monetary Fund (IMF) official said on Saturday.

China

Demolition of a never used high-rise building is completed successfully at 7 a.m. on November 15, 2015 in Xi'an, in northwestern China's Shaanxi province.

Empty city in Kangbashi, Ordos

Paris of the East, Tianducheng, in China's Zhejiang district

China

- Running up against its debt capacity
- Potential that its investment-heavy growth model is exhausted
- Not yet started a credit-fueled consumer consumption
- GDP growth slowing and unreliable

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China's Currency Peg

- The currency is pegged to a basket of currencies
- In order to maintain a peg, the PBOC has to be the buyer or seller of any imbalance of the Renminbi
- Therefore they need to be willing to adopt similar monetary policies to the pegged currency or risk divergences

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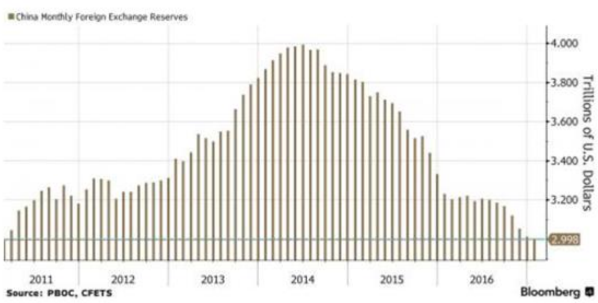
Capital Outflow



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China's Currency Peg

- Argument: China will have to expand its monetary base to bail out the system
- An expansion of a countries monetary base relative to the other countries is currency negative
- The current question – can China orchestrate a soft landing?

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Japan

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Japan

- 3rd largest economy in the world
- 2nd largest developed economy
- Shrinking population
- Limited immigration policy
- Demographic aging population

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Japan

- Japan is slowly approaching critical mass in debt and has been in a deflationary cycle for 20 years
- Japan national debt hit 1 quadrillion yen in 2014
- It's debt is 236% of the countries GDP
- 4th largest economy in the world
- The current 10 year note is issued at 0.44% because the debt will become unserviceable at higher rates

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Japan

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Japan Abenomics

- Implemented Abenomics in 2013
  - Massive Monetary Easing (1.4 trillion)
  - Accommodative Fiscal Policy
  - Pro-Growth Policies
- Was a failure in turning the Japanese economy
- Japan needs to break deflationary cycle
- Still no meaningful growth in spite of over a year of stimulus

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Japan Abenomics 2.0

- Implemented Abenomics in 2015
  - Strengthen Japanese Economy
  - Increase Birthrate
  - More Social Security
- This shift in policy is a clear indication that the first version was a failure and since these are now long term goals rather than plans, Japan has real issues

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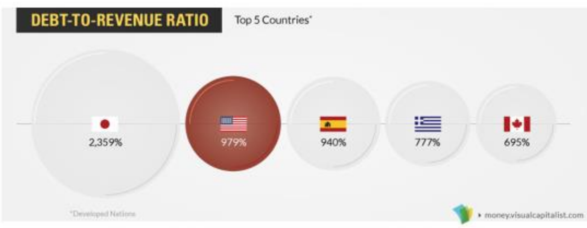
Japan



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Japan

"Japan is heading for a full-blown solvency crisis as the country runs out of local investors and may ultimately be forced to inflate away its debt in a desperate end-game."

Olivier Blanchard (Former Chief Economist at the IMF)

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Japan

- Japan is at the most developed stage of the debt super cycle
- It is trying some of the most experimental monetary theories
- It is currently expanding the Bank of Japan's balance sheet at an unprecedented rate

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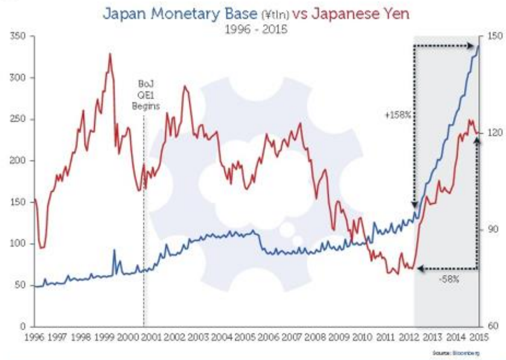
Japan



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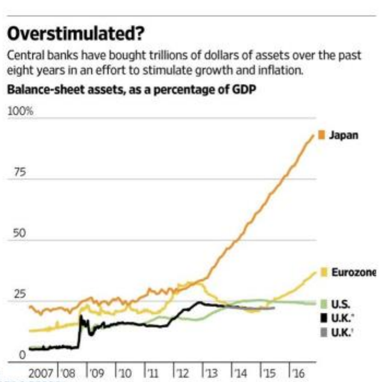
Bank of Japan QE Buying



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Bank of Japan QE Buying

Japan

- There is no reason not to believe that Japan will be the first of the major G7 developed nations to suffer a failed currency. Just when?
- At current pace, it will completely nationalize their stock markets within years
- Therefore it is untenable to perpetually last
- Will likely be the first country to implement helicopter money
- Will likely be the first to risk hyperinflation

UK

United Kingdom

- Highly developed
- 5th largest economy in the world
- Large importer of goods
- London is the world's largest financial center

United Kingdom

- $2.2 Trillion USD National Debt
- Rate of Money Supply Growth: 5.5% (2008-2015)
- Average GDP Growth: 1.03% (2008-2015)

United Kingdom

- Consumer debt at some of the highest levels in the developed world
- Running a 375 billion pound "Asset Purchase Facility"
- London is the center of global banking which makes its situation more unique than other countries

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United Kingdom Geopolitics (Brexit)

- Voted to leave the Euro economic union
- Short term risks:
  - Currency devaluation
  - Potentially higher borrowing costs
  - Reduced GDP from uncertainty of new future trade deals that have not been established

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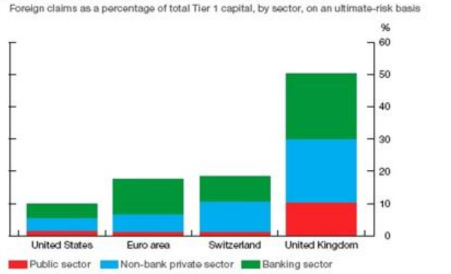
UK Exposure to China

Chart 28: U.K. banks have relatively large direct exposure to China

Foreign claims as a percentage of total Tier 1 capital, by sector, on an ultimate-risk basis



Note: Direct exposure is defined as direct foreign claims only (and excludes other contingent or potential exposures).

Sources: Bloomberg and Bank for International Settlements

Last observations: 2013Q4 for U.S., euro-area and U.K. banks; 2013Q3 for Swiss banks

Source: Bank of Canada FSR June2014

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European Union

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Europe

- World's largest economic center
- German economy is the world's 4th largest economy by GDP
- France 6th largest economy in the world

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Europe

- Europe has had near zero growth for 3 years and seeing recessionary numbers in a number of countries
- ECB is implemented QE style programs
- Including an unprecedented negative interest rate for deposits at the central bank

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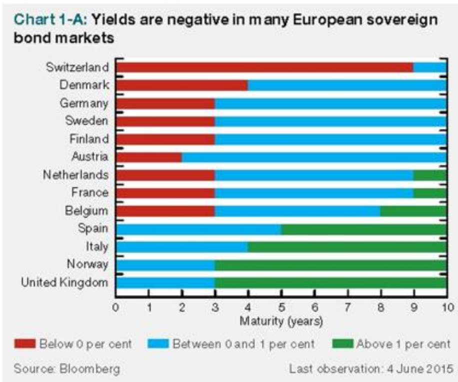
European Negative Interest Rates



Source: Bank of Canada FSR June2015

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European Geopolitics

- Dealing with a perennial conflict of economic unity vs. national sovereignty
- Economic conditions in many countries differ making it hard to adjust monetary policy in a "one size fits all"
- Trust amongst members remains a serious issue

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Emerging Markets

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Global Economic Conditions

- Global central bank QE programs are running at an accelerating pace
- Money is internationally mobile
- World starved for dollars and drawing heavily on reserves
- Tightening in the U.S. will continue to hurt the world economies

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Emerging Market Sensitivity

- Emerging markets need U.S. dollars
- Global growth requires commodities and commodities are globally traded only in U.S. dollars
- There are two primary ways emerging markets acquire U.S. dollars:
  - America buying imports
  - America exporting capital for investment

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Emerging Market Crisis

Two precipitating factors:

- Shale revolution changed the global landscape forever as the importing of oil was a crucial provider of dollars
- Divergent global monetary policies driving impactful dollar rally

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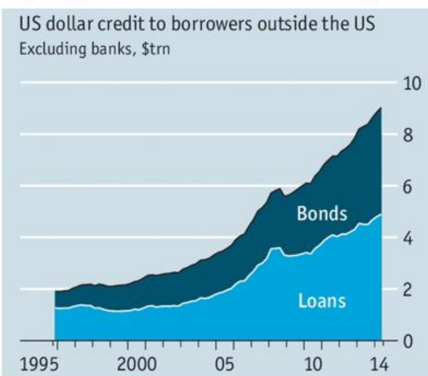
Emerging Market Sensitivity



Source: BIS Working Papers 483 Jan2015

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Canada

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Canada

- 10th largest economy by GDP
- 4th highest estimated value of natural resources, valued at $33 trillion dollars
- Oil, lumber and real estate some of Canada's most important sectors
- Commodity sensitive currency

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U.S. Dollar vs. Commodity Currencies

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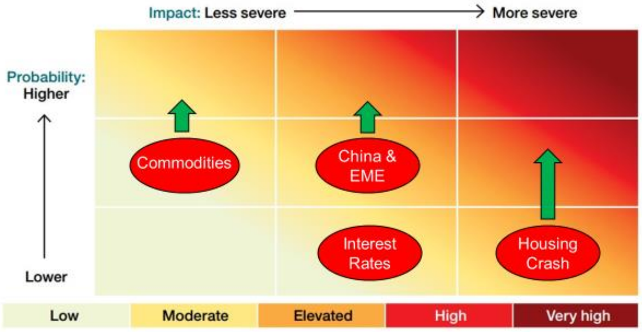
Risks to Canadian Economy



Source: Bank of Canada FSR June2016

Canadian Mortgage Rates

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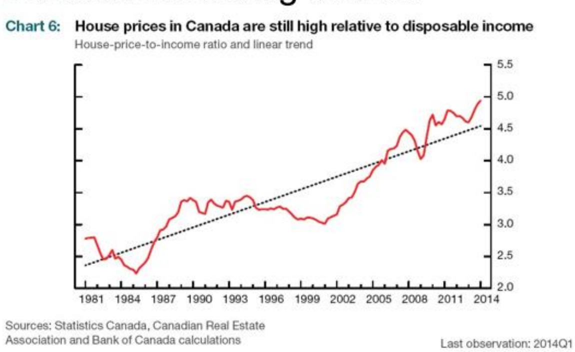
Canadian Housing Market



Source: Bank of Canada FSR June2014

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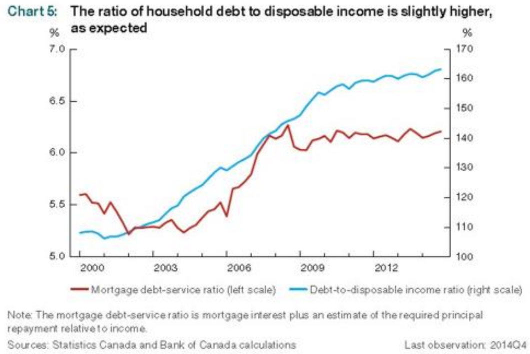
Household Indebtedness



Source: Bank of Canada FSR June2015

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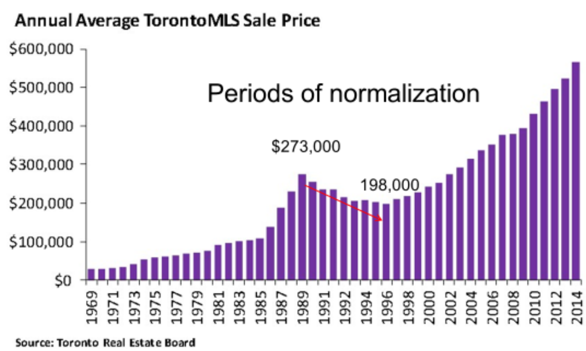
Canadian Housing Market



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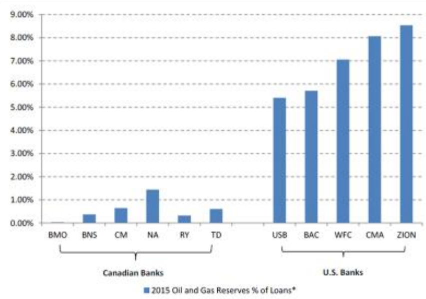
Canadian Banks

- Investors commonly view the Canadian Banks as safe and or low risk
- Canadian banks are not special when compared to the global banks

Example of Vulnerabilities

Exhibit 10: Several US banks have (or guided to) meaningful reserves against oil and gas loans

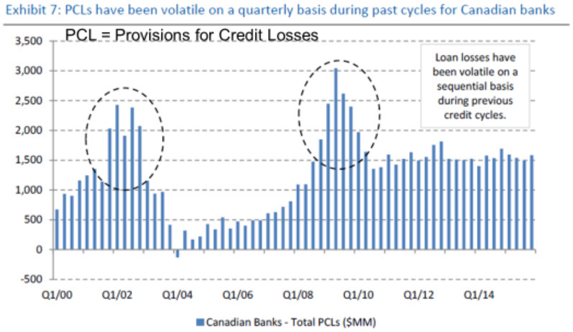


* For U.S. banks, we show combined existing reserves and the guidance on additional reserves needed under a sustained low oil scenario as a percentage of total oil and gas loans. We would also note the above table only shows specific allowances for Canadian banks while the U.S. banks shows both specific and general allowances.

Source: RBC Capital Markets, Company Reports

Example of Vulnerabilities

Exhibit 7: PCLs have been volatile on a quarterly basis during past cycles for Canadian banks



Source: RBC Capital Markets, Company Reports

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Module 10
Global Debt

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The Global Monetary System

- Common misperception is that the world has been deleveraging since the crisis
- The world is not deleveraging
- There is $11 trillion more debt in the U.S. today than 2008
- There is close to $57 trillion more debt in the world today than in 2007

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The Global Monetary System

- The global debt market is $100's of trillions (government, corporate, real estate and consumer)
- Western world countries are carrying unprecedented amounts of debts that are creating immense stress on governments
- Central banks are openly manipulating bonds to make sure that the debt can be sustained

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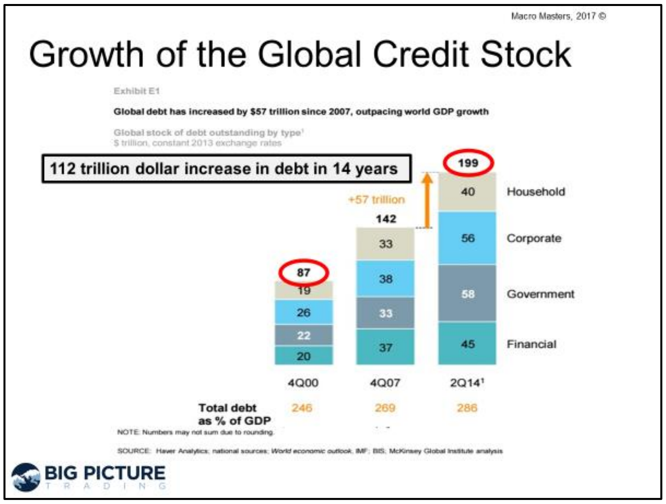
Macro Masters, 2017 ©
Growth of the Global Credit Stock
Exhibit E1
Global debt has increased by $57 trillion since 2007, outpacing world GDP growth
Global stock of debt outstanding by type
$ trillion, constant 2013 exchange rates
112 trillion dollar increase in debt in 14 years
+57 trillion
87
19
26
22
20
142
33
38
33
37
199
40
56
58
45
Household
Corporate
Government
Financial
4Q00
4Q07
2Q14
Total debt as % of GDP
246
269
286
NOTE: Numbers may not sum due to rounding.
SOURCE: Haver Analytics; national sources; World economic outlook, IMF; BIS; McKinsey Global Institute analysis
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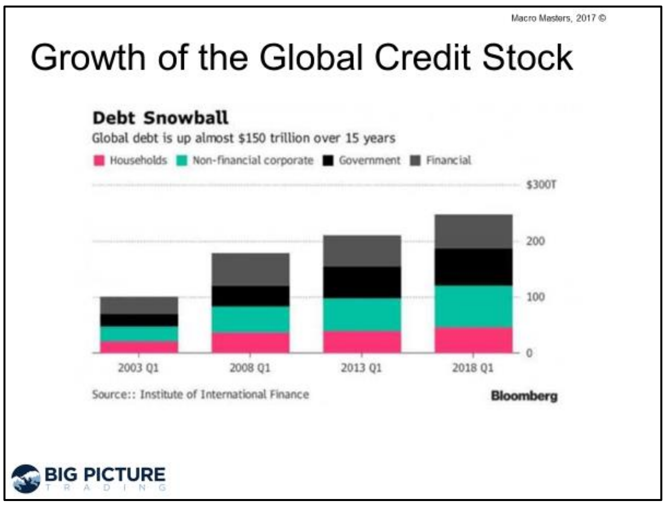
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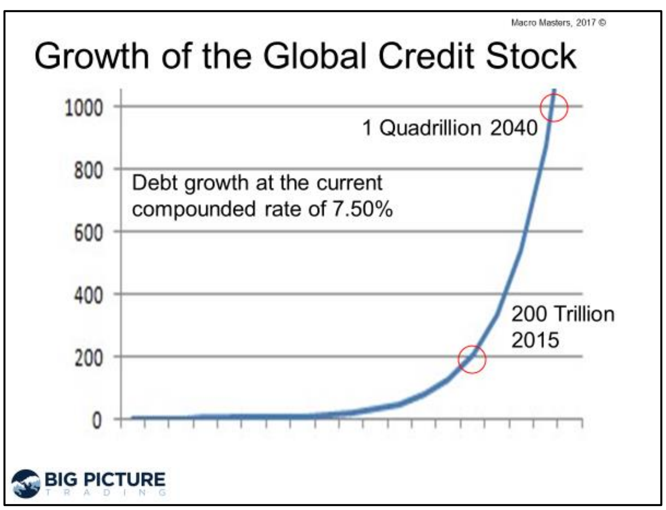
Growth of the Global Credit Stock
Debt Snowball
Global debt is up almost $150 trillion over 15 years
Households
Non-financial corporate
Government
Financial
$300T
200
100
0
2003 Q1
2008 Q1
2013 Q1
2018 Q1
Source:: Institute of International Finance
Bloomberg
BIG PICTURE TRADING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Growth of the Global Credit Stock
1000
800
600
400
200
0
1 Quadrillion 2040
Debt growth at the current compounded rate of 7.50%
200 Trillion 2015
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The Global Monetary System

- If debt growth rate decreases:
  - Will it hurt global GDP?
  - Will money supply contract ushering in a deflationary depression?
- The link between debt growth and economic growth are undeniable, how will the world deal with this structural flaw?

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