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CORPORATE FINANCE
Financial Markets

TYPES OF ECONOMIES

Command Economy

- Characteristics of
  - Top down planning
  - National or social objectives drive planning
  - Means of production are publicly owned
  - Prices controlled
- Advantages of
  - Well serves collective needs
  - Government can react quickly
- Disadvantages of
  - Inefficient resource distribution
  - Sub optimal utlisation of resources
- Examples
  - Soviet Union, China (before 1978), India before 1991
  - Cuba, Libya, Saudi Arabia, Iran, North Korea, and Burma

TYPES OF ECONOMIES

Market Economy

- Characteristics of
  - Planning is free form, not constrained
  - Market needs drive planning
  - Means of production are privately owned
  - Prices change according to supply & demand dynamics
- Advantages of
  - Resources efficiently used
  - However participants can be slow to react
- Disadvantages of
  - Without regulation oligopoly or monopoly
  - Can drive class divisions
- Examples
  - United States, most European countries

GLOBAL FINANCIAL SYSTEM

Developed nations

- G7
  - Globally 14% of population, 60% of GDP (72% of military)
  - Canada, France, Germany, Italy, Japan, Russia, United Kingdom & the United States
- G20
  - Globally 65% of population, 85% of global GDP
  - Argentina, Australia, Brazil, Canada, China, France, European Union, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, United Kingdom, United State

- Growth

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GLOBAL FINANCIAL SYSTEM

- Developing nations
  - BRIC
  - MIST
  - CIVETS
  - N11
  - Break out Nations

- Growth

GLOBAL FINANCIAL SYSTEM

Markets

- Capital markets distinct from product markets

- Capital markets
  - Provides introductions for savers and borrowers
  - Channel funds from surplus to deficit
  - Said to provide liquidity
  - Exist in many forms
  - That may overlap

GLOBAL FINANCIAL SYSTEM

Flow of funds

- Via markets money move from surplus to deficit
- Private sector *produces*
- Public sector *consumes*
- Transfer of money can take multiple forms
  - Not always cash
  - Can be near cash equivalents

GLOBAL FINANCIAL SYSTEM

Participants

- Individuals
  - Provides money
  - Institutional investors
    - Pension funds, insurance companies, hedge funds
- Organisations
  - Governments
  - Private

PRIVATE ORGANISATIONS

- Quest for profit drives development of finance
- Listed companies run for benefit of *shareholders*
- Primary objective is to increase shareholder wealth
- Key questions to keep in mind
  - How do we define shareholder value?
  - Over what time frame?
  - How does a company achieve this objective?

VARIOUS MARKETS

Money markets

- Source short / medium term finance
- Overnight to seven years
- Where? Central banks, Clearing banks

Foreign Exchange markets

- Currency conversion / time transformation functions
- Spot to long term
- Where? OTC, some derivatives on exchanges

VARIOUS MARKETS

Debt markets

- Source short to long medium term finance
- One month to thirty plus years
- Where? OTC, some exchange

Equity markets

- Source of long term finance
- Undated
- Where? Mostly exchange traded, some OTC

VARIOUS MARKETS

Credit markets

- Don't directly provide finance
- Risk transference function
- Where? OTC

Volatility markets

- Again, finance is NOT directly provided
- Speculation & risk transference
- Where? Exchange traded

MONEY MARKETS

- Trading in short term financial assets
- Maturity one year or less
- Can be as short as overnight
- But what instruments are traded?

MONEY MARKET INSTRUMENTS

General characteristics

- High credit rating (implies default?)
- Very liquid (bid / ask?)
- Simple
- LIBOR used as a reference
- Very short term (compare to bonds)
- So who trades these instruments?

MONEY MARKET PARTICIPANTS

TWO PARTIES TO ANY MARKET

- Supply side
  - Federal Government
  - US States
  - Local Governments (county, some municipalities)
  - Some large corporations BUT only most credit worthy
- Demand side
  - Banks
  - Institutional investors e.g., Pension, Insurance, etc
  - Financial institutions

MONEY MARKET INSTRUMENTS - detail

Certificates of deposit

- Aka CDs
- Fixed terms deposits
- Sold to consumers at par (redeemed?)
- Very liquid
- Market Markets largest secondary market

MONEY MARKET INSTRUMENTS - detail

T-Bills (pt 1)

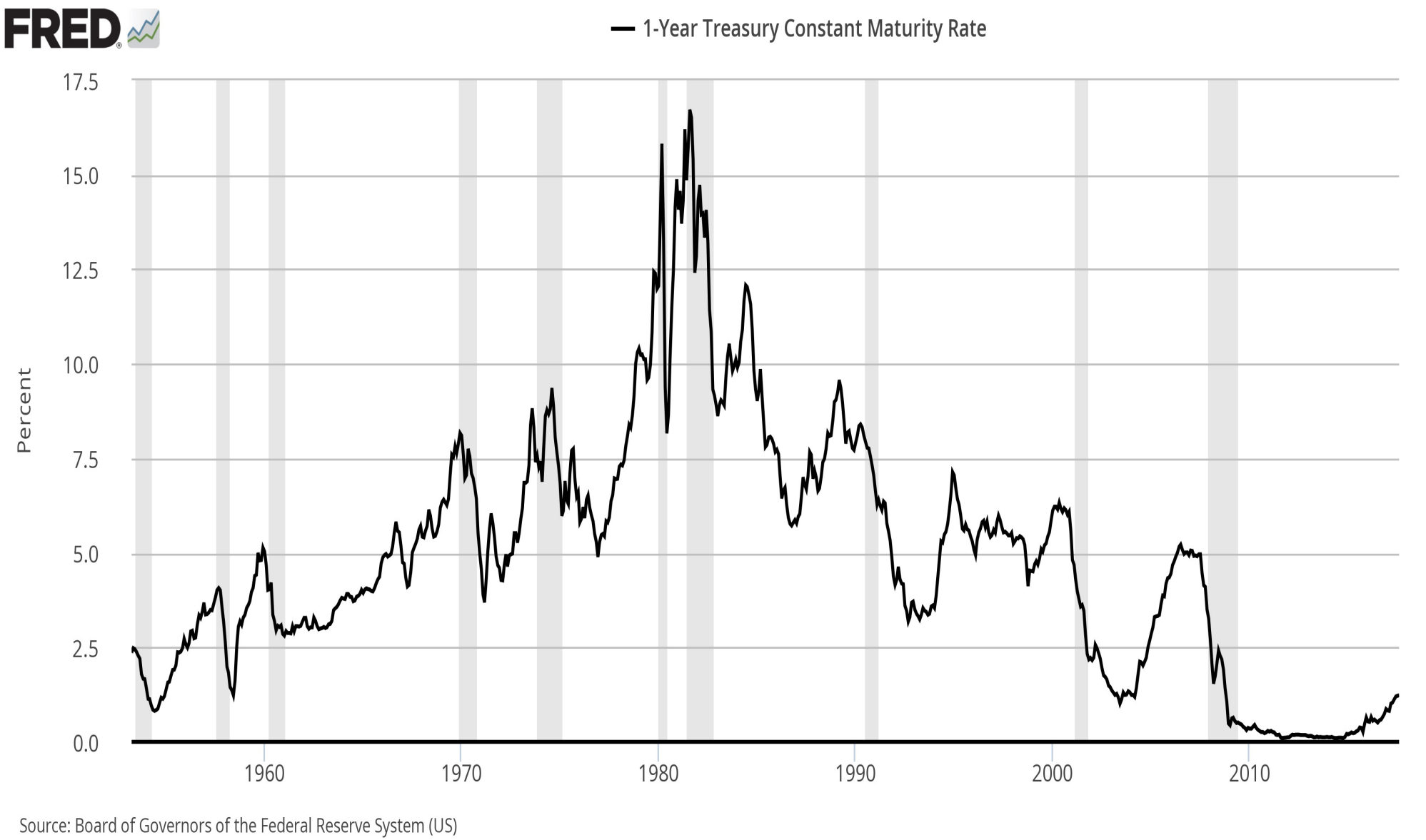
- Short term government obligations
- Typically sold in maturities 3M, 6M, 12M
- Almost always sold on discount basis
- Multiple secondary markets exist

MONEY MARKET INSTRUMENTS - detail

T-Bills (pt 2)

- Maturities 13 / 26 / 52 weeks (Thursdays)
- Competitive auction via *Primary Dealers*
- $10,000K minimum with $1K increments
- Registered, book entry (Federal Book Entry System)
- Number of multiple issues outstanding at any one time

MONEY MARKET INSTRUMENTS - detail



MONEY MARKET INSTRUMENTS - detail

Commercial paper (CP)

- Unsecured promissory notes
- Shelf offerings in US allow easy access
- Sold at a discount from face value, traded in secondary market
- Two methods for selling
  - *Direct Paper* - sold directly to investors by corp
  - *Dealer Placed Paper* - via intermediary
  - Size of placement & credit rating determine
- Maturity overnight to 270 days
- Minimum of $25K but varies by program
- Both book and physical ownership

MONEY MARKET INSTRUMENTS - detail

Municipal notes

- Short-term notes issued by municipalities
- Issued in anticipation of revenue
- Perceived to be very safe
- Tax benefits apply
- Basic types of securities
  - *RAN* "Revenue Anticipation Note"
  - *TAN* "Tax Anticipation Note"
  - *TRAN* "Tax & Revenue Anticipation Note"
  - *BAN* "Bond Anticipation Note"
- Risk varies according to type
- Secondary markets exist but not deep

MONEY MARKET INSTRUMENTS - detail

Federal funds

- Deposits held by banks
- Uncommitted to the lending exercise
- Funds are borrowed or lent by banks
- Fed Funds rate NOT LIBOR
- Almost always overnight only
- $25M minimum

MONEY MARKET INSTRUMENTS - detail

Eurodollar deposits

- Deposits of US dollars offshore
- Notes
  - Not backed by FDIC insurance
  - No reserve requirements
- Offer higher yield
- Zero currency exposure

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TWENTY MINUTE BREAK

FOREIGN EXCHANGE MARKETS

- WHAT IS FX TRADING

- Trading in currency pairs
- OTC
- Typically done 24x7
- Mostly by banks in financial centres
- Largest, most liquid market in world

FOREIGN EXCHANGE MARKETS

- Spot
  - settles in two business days
- Forwards
  - OTC, O/N to about ten years, highly customised
- Futures
  - standardised products
- Options
  - either on spot or futures
- Swaps
  - OTC, O/N to decades
- ETF

FOREIGN EXCHANGE MARKETS

WHAT IS ITS SIZE?

Daily, about $5T (January 2014) broken down

- $1.7T FX Swaps
- $1T Spot
- $360B Forwards
- Remainder as reporting gaps (BIS)

FOREIGN EXCHANGE MARKETS

CHARACTERISTICS OF THE MARKET

- Decentralised
- Counterparty to counterparty
- Still physical location counts (2007)
  - London - 34% of global
  - New York - 16%
  - Tokyo - 6.0%

- Overall about $2T derivative trading

FOREIGN EXCHANGE MARKETS

PARTICIPANTS IN THE MARKET

- Interbank
  - Commercial & Investment banks
- Central Banks
  - Try as they might …
- Commercial Companies
  - *Relatively* small but important component of order flow
- Hedge Funds
  - Drift in and out – big impact
- Others
  - Investment Managers, Retail FX Brokers, Money xfer

FOREIGN EXCHANGE MARKETS

HOW ARE EXCHAGNE RATES DETERMINED?

- Exchange rates frequently deviate
- Two methods are actively used to forecast exchange rates:
  - economic analysis
  - technical analysis
- Central banks are active in this market

FOREIGN EXCHANGE MARKETS

KEY FACTORS IMPACTING RATES

- Interest rates (spot & forward)
- Inflation expectations
- Balance of payments
- Economic Policy
- Local Political factors
  - market psychology

FOREIGN EXCHANGE MARKETS

RELEVANT THEORIES

- Purchasing Power Parity (PPP)
- Interest rate parity
- Fisher effect
- International Fisher effect

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FOREIGN EXCHANGE MARKETS
USD – *TRUMP TRADE*

FIXED INCOME MARKETS

What is Fixed Income?

Investments with known returns over a specific period of time

- A way for entities to raise money
- At *relatively low* rates of interest
- Promise to pay
- Best viewed as a package of cash flows

FIXED INCOME MARKETS

WHO IS ACTIVE IN THIS MARKET?

- Best to understand their needs
  - low risk
  - predictable returns
- Retirees
- Institutional investors
  - pension funds
  - insurance companies
- Others?
  - Banks
  - Hedge funds

FIXED INCOME MARKETS

WHO ISSUES FIXED INCOME ASSETS?

Two distinct groups

- Governments
  - important source of funding
  - said to be "risk free"
- Businesses
  - both listed and private
  - relatively low cost of funds
  - offer tax shields [not R_d but $R_d(1-T_c)$]
  - impacts gearing of firm

FIXED INCOME MARKETS

MATURITY OF GOVERNMENT SECURITIES (US)

- T-bills – 1W to 12M
- notes - over 12M to 10Y
- bonds - 30Y
- Others
  - Zeroes - zero coupon bonds
  - TIPS - US Treasury Inflation Protected Securities

FIXED INCOME MARKETS

CORPORATES (US)

- commercial paper - less than 1Y
- otherwise lots of different issues
  - maturities out to 100 years
  - unsecured - backed by faith of issuer
  - secured - tied to collateral
  - convertibles - allows holder to convert to equity
  - too many variants to list

FIXED INCOME MARKETS

RISK OF THESE INSTRUMENTS

Said to be low risk but is this true?

- Different segments have different risks
- Government issued
  - interest rate risk
  - market risk
  - inflationary risk
  - reinvestment risk
  - credit quality risk
  - default risk
  - political risk

FIXED INCOME MARKETS

RISK OF THESE INSTRUMENTS

Risk impacting corporates

- default risk
- credit quality risk
- interest rate risk
- market risk
- inflationary risk
- reinvestment risk
- currency risk
- liquidity risk

FIXED INCOME MARKETS

MARKET SIZE

Globally $100T (January 2017)

- $32T US
- $27T Eurozone
- $14T Japan
- $6T UK
- $4T China
- Some $17T to OECD nations

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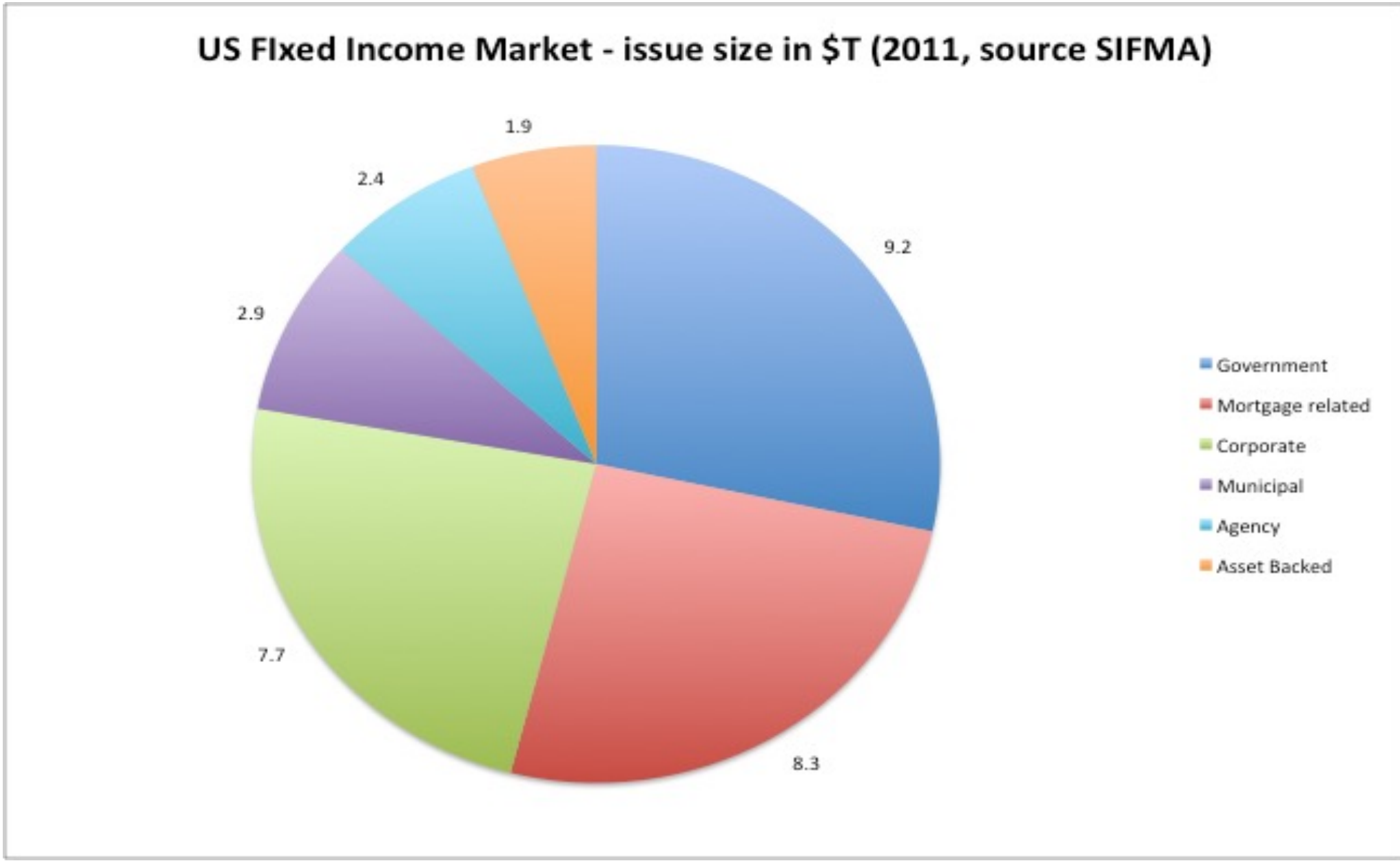
FIXED INCOME MARKETS



FIXED INCOME MARKETS

MARKET CHARACTERISTICS

- Very decentralised
- Mostly OTC
  - Driven by customer flow
  - Proprietary trading
- But some exchanges based
  - NYSE - US corporate
  - LSE - UK corporate
- Ample derivatives - “complete market”

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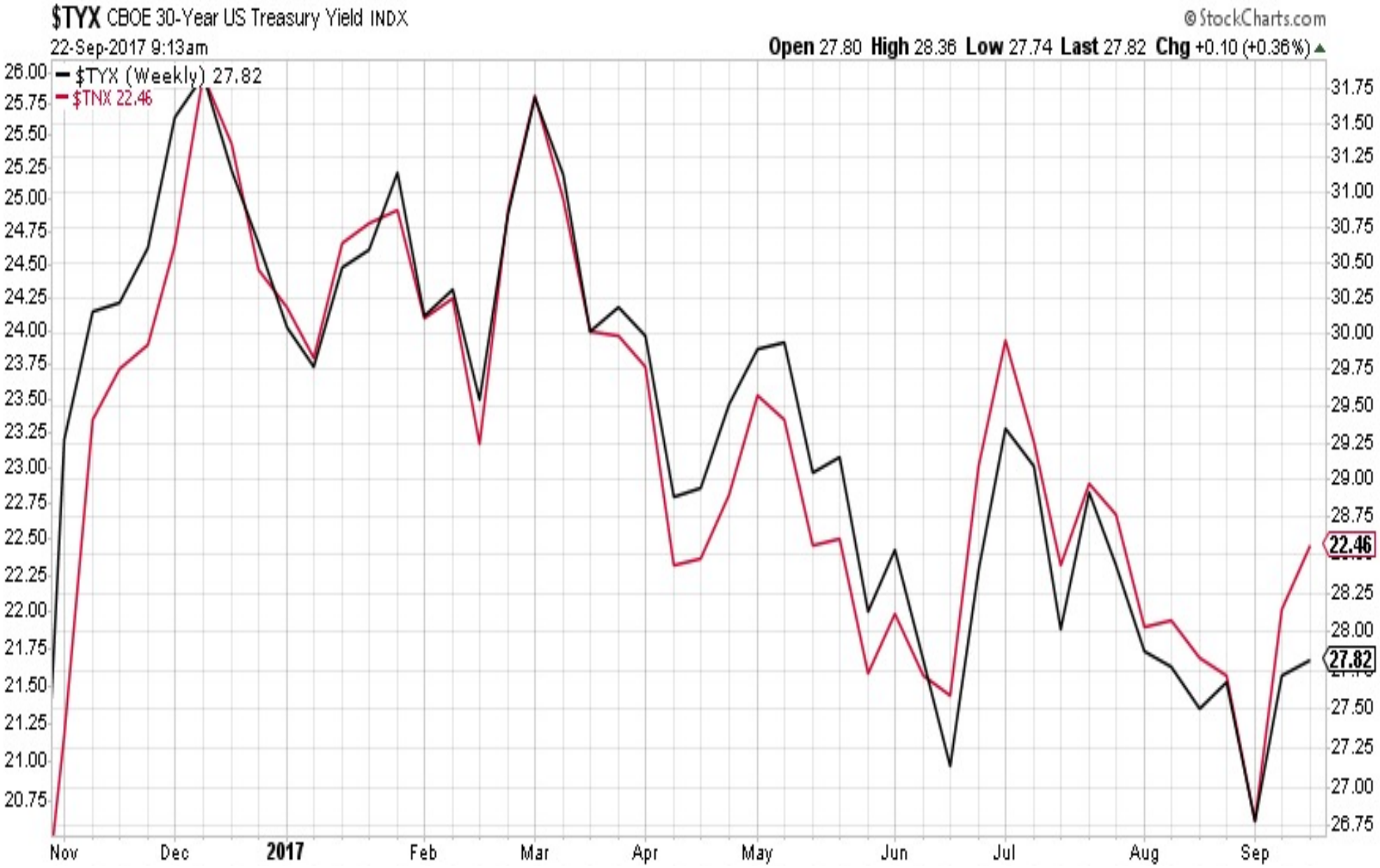
FIXED INCOME MARKETS
US 10Y & US 30Y *TRUMP TRADE*



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TWENTY MINUTE BREAK

EQUITY MARKETS

What do we mean by Equities?

- Instrument denoting ownership
- Entitles holder to claim on profits
- A way for entities to raise money
- Significant component of the firm's *capital structure*

EQUITY MARKETS - TERMINOLOGY

- Par aka face
  - *de minimis* smallest amount shares can be sold for
  - represents original capital
  - may be *fully* or *partially paid*

- Share certificate
  - issued by the *registrar*
  - denotes ownership
  - Declining in favour of *book entry*

EQUITY MARKETS - TERMINOLOGY

- Classes
  - *Ordinary* or *Preference* (UK)
  - *Common* or *Preferred* (US)

- Dividend
  - Owners claim on profits
  - Not always cash

EQUITY MARKETS - CLASSES

- Ordinary (common)
  - Carries voting rights (but may be distorted)
  - Entitled to a dividend
  - High risk (what about reward?)

- Preference (preferred)
  - Debt equity hybrid
  - Carries *coupon*
  - Can’t vote but higher in *liquidation*
  - Lower risk than common (and reward?)

EQUITY MARKETS - CHARACTERISTICS

- Exchange driven
  - US (NYSE, AMEX, NASDAQ)
  - UK (LSE, AIM)
- Some OTC
  - Pink sheets (aka, *penny stocks*)
  - "dark pools of liquidity"
- Very centralised market
- Ample derivatives - "complete market"

EQUITY MARKETS - PARTICIPANTS

- Varied needs
  - But looking for higher returns than investing in …
- Who?
  - Retail
  - Institutional investors
    - Unit trusts / investment trusts
    - pension funds, insurance companies
- Others?
  - Banks
  - Hedge funds

EQUITY MARKETS - RETURNS

Two components

- Capital gains or losses
  - difference between purchase and sale prices

- Dividends
  - not fixed
  - not guaranteed
  - might be zero

EQUITY MARKETS - VALUATION

VALUATION DIFFICULTIES

- *Accounting principles* differ
- *Dividends* are not fixed or even guaranteed
- Shareholders *rights* have value
- But holding shares is *risky*
- Information quality is an issue

EQUITY MARKETS - VALUATION

WHAT CREATES VALUE?

- Equity represents ownership - what gives value?
- Book value
  - Sum of the value of all assets & liabilities
  - But how to value intangible assets?
- Market value
  - Equilibrium between buyers and sellers
- Net realisable value (aka “Forced sale value”)
  - Good “worst case” valuation
  - Company was broken up / wound up and SOLD

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EQUITY MARKETS – VALUATION
S&P 500, BANKS & DEFENCE – *TRUMP TRADE*

CREDIT MARKETS

SOURCES OF RISK

- Bonds are not risk free e.g.,
  - Interest rate risk
  - Inflation risk
  - Credit risk

- Credit risk can be disaggregated
  - default risk
  - downgrade risk
  - credit spread risk

CREDIT MARKETS

TYPES OF CREDIT RISK

Default risk

Risk the issuer will fail to pay interest or repay principal

Downgrade risk

Risk of unanticipated downgrade that increase credit spread

Credit spread risk

Risk that issuer's bond will perform poorly relative to other bonds due to an increase in its credit spread

- As spreads increase prices decline
- As spreads decrease prices rise

VOLATILITY MARKETS

OVERVIEW

- Trading *volatility*
- No need to buy low / sell high or sell high / buy low
- Take a view on the *volatility* of price changes
- IF you feel volatility is too low
  - BUY
- IF you feel volatility is high high
  - SELL

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VOLATILITY MARKETS
20Y, sampled monthly

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VOLATILITY MARKETS
2007 to 2010, sampled monthly

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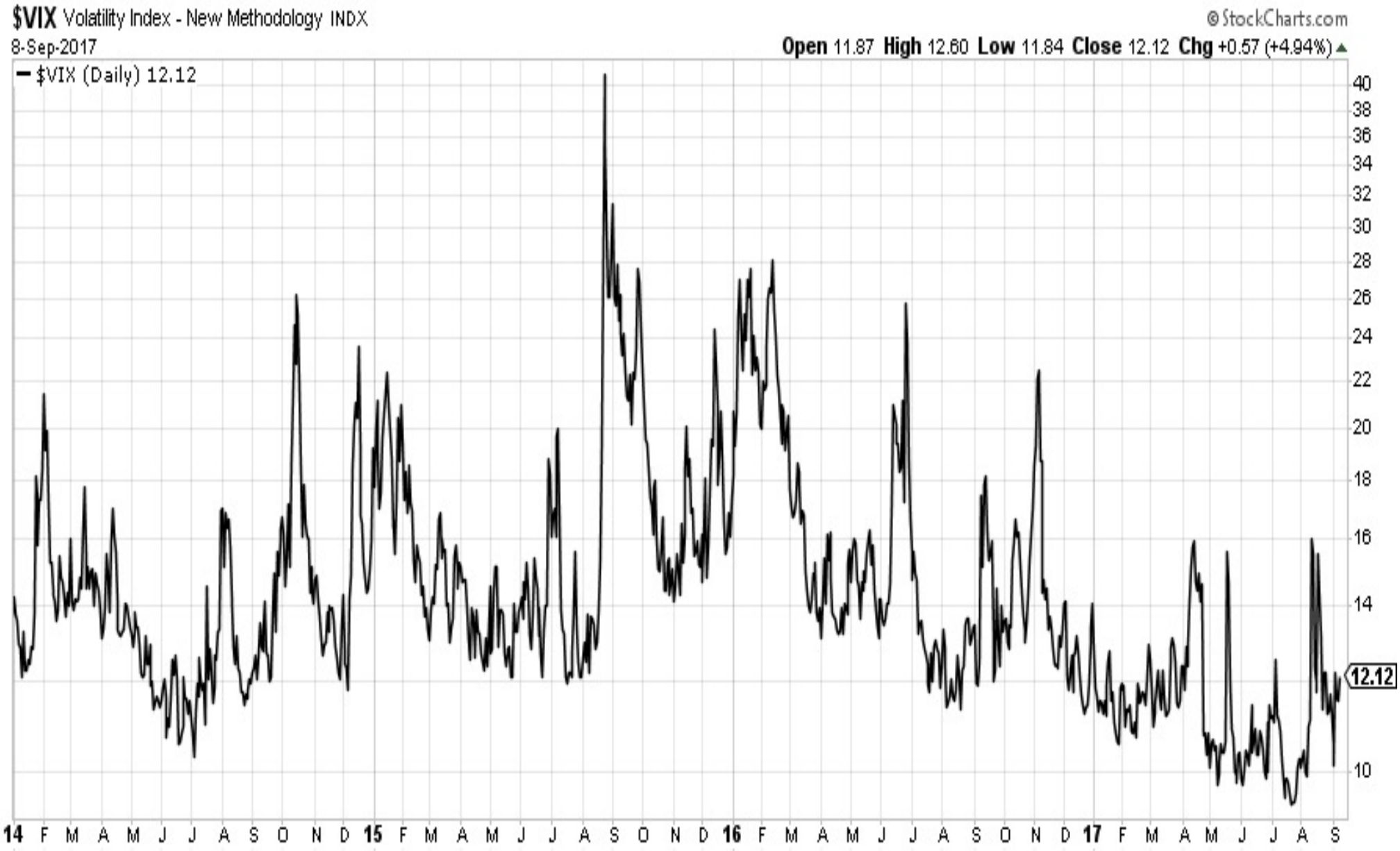
VOLATILITY MARKETS
2014 to present, sampled monthly



UNDERSTANDING FINANCIAL MARKETS

- We have reviewed five different markets
- There are many more
- Try to develop a strong interest in at least one
- Will be helpful for your studies
  - As well as employment

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