
The increasing complexity of the financial markets: a look at the multiplicity of instruments and variety of computer trading platforms and modalities
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Dedication

- This presentation is dedicated to my father and mother, who taught me the ABC of Finance
- It is also dedicated to my brothers Sam Owarish for his inputs as well as his encouragement and support and Ishmael Owarish, champion of Financial Accounting

Objectives of presentation

- Attempt to analyze how financial markets have grown
- Review the role of major players
- Survey the multiplicity of financial instruments
- Review trading platforms
- Review current trends regarding financial advisory systems

A compilation paper

- Uses available original sources; the originality is in the analysis
- Provides the links/resources for more exploration
- Uses information both objective and subjective
- Uses author's own conclusions

Limitation

- **Difficulty of capturing a multifaceted field which is constantly evolving**

Caveats

- Difficult to deal with complex issues in 30 slides or so; there is no related paper as is usually the case; the presentation relates to a blog has more information including background and food for thought items and it provides the evolving picture; the advantage of the presentation, though, is that it concentrates on the big picture, the ‘forest’ rather than the ‘trees
- Blog: www.complexsecuritiesblog.com

Financial markets: primary purpose

- **Allocate resources for the expansion and smooth running of the economy. However they can also sometimes be perceived as giant casinos where significant wealth transfer takes place (see the movie 'The big Short').**

Financial markets: innovations

- The usefulness of Financial Markets has always been increased by innovations. The stock market, companies with limited liability, paper money, insurance, mortgage, electronic money and foreign exchange hedging have generally proved to be useful. They generally have made a major contribution to the unprecedented prosperity of the modern world

Financial markets: caution

- **Not all financial markets innovations have proved to be useful as shown clearly in the recent history of finance. A striking example is the subprime mortgage-backed securities. Often it is difficult to predict the outcome of a financial innovation over time. But poor design, lack of transparency and understanding, unpredictable human behavior can have disastrous effects and cause major systemic risks**

Financial markets

- **Most of the modern financial market innovations have been made in the US and replicated worldwide.**

Financial markets

- Markets for sale and purchase of stocks (shares), bonds, bills of exchange, commodities, futures and options, foreign currency, etc., which work as exchanges for capital and credit.

http://www.businessdictionary.com/definition/financial-markets.html#ixzz3qFkP4vIA

Financial markets

- Place where companies and other entities raise financial means (demand)
- Place where investors go to get a good return on their takes (supply)
- It is interesting to note that Prince William and Kate recently hit the London trading floor to help raise $540 million for charity

Speculation

- One of the key feature of Financial Markets is speculative activities. Speculation may be classified as long term and short term.

Long term speculation

- Speculations have probably always been carried out by humans beings since time immemorial as narrated in the classical literature of various cultures. In the last few years the stock markets round the world have not been in a long term upward trend. Stock markets are market of stocks and picking stocks that will do well the future is indeed a speculative activity because no one knows what the future will bring. This type of speculation is also known as investing.

Short term speculation

- An example of Short term speculation occurs when an entity trades in CFD's (Contract for Difference). No ownership of the underlying assets takes place. Although there is no expiry date, CFD's are generally held on a short term basis in a volatile market condition, are highly leveraged and have the potential to bring major gains or losses.

Financial markets:

- A) Real (operates in defined physical location with specific means e.g. New York Stock Exchange The New York Stock Exchange,)
- B) Virtual (operate in cyberspace with its own specific means e.g. NASDAQThe NASDAQ,)

Over the counter

- **Over-the-counter (OTC) stocks are not listed on a major exchange, and you can look up information on them at the OTC Bulletin Board or PinkSheets.**

Financial markets

- Public (open to the public at large with well defined modus operandi e.g. NYSE The New York Stock Exchange,)
- Private (open to specific players operating privately e.g. as arranged by Morgan Stanley)

Large number of markets

- Worldwide Stock Exchanges

Market complexity: globalization

- Markets are ‘interconnected’ in that they mutually influence each other particularly those operating in different time zones

Financial instruments

- **Different Financial Instruments serve different purposes, examples are: a stake in future economic benefits or to hedge against future possible adverse events.**

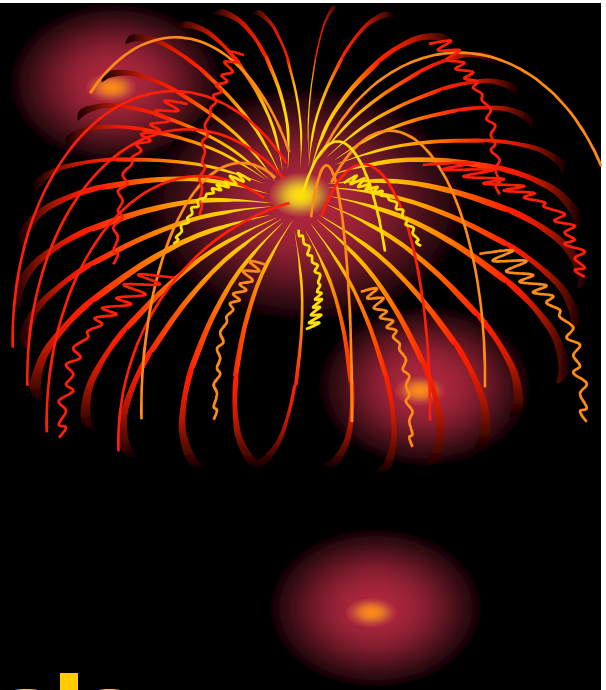
Variety of financial instruments

- The economic cycles is well documented to have periods of boom and bust. Risk management is to choose a portfolio of financial instruments that have little or negative statistical correlation.

Basic financial instruments

- **Stock, bond, mutual fund, ETF**

Other financial instruments



- Options/derivatives, commodities futures,
- currency, precious metals,
- real estate, antiques, coins ...

Hedge Funds 1

- Hedge Funds vary in size from individuals to major companies listed on stock markets with billions of dollars under management. They invest in securities and other financial instruments and have a higher risk appetite than mutual funds. Unlike other funds, their use of leverage is not capped.

Hedge Funds 2

- **Until the financial crisis of 2007/2008 Hedge Funds were subjected to less regulations than other funds. In normal time Hedge Funds have a low correlation with other assets, but this characteristic disappears in time of financial crisis.**

Complex securities

- **Investing is perilous enough when investing in stocks and bonds or even in plain vanilla mutual funds, but it can get downright dangerous with the increase in complexity of many financially engineered investment products. (Ken Hawkins)**

Complex securities

- Following the 2007 subprime mortgage meltdown, which affected both Main Street to Wall Street, a lot of blame was being spread around about who or what was responsible. While the meltdown resulted from a combination of factors, many argue that the complexity of the derivatives products, which were developed from relatively simple mortgages, was a major contributor to the subprime crisis. (Ken Hawkins)

Complex securities

- By slicing and dicing a mortgage, financial engineers created an array of investment products like mortgage-backed securities (MBS), asset-backed securities (ABS), collateralized mortgage obligations (CMO) or collateralized debt obligation (CDO). These exceedingly complex products are so opaque that very few people really understand them and how they work. (Ken Hawkins)

Complex securities

- **Investors, the credit rating agencies and even the big banks and brokerage firm all failed to understand the risks of these investments and all were burned by the following collapse. This outcome should serve as a warning for those investors contemplating the purchase of complex investments. (Ken Hawkins)**

- **(see also *The Fuel That Fed The Subprime Meltdown*.)**

Swaps

- A swap is an agreement between two parties to exchange sequences of cash flows for a set period of time.

- See Investopedia

Swaps: magnitude

- **The Bank for International Settlements estimates that the current size of the global OTC swaps market is somewhere between $600 and $700 trillion (in national terms).**

Trading

To trade means to buy and sell in the jargon of the financial markets. How a system that can accommodate one billion shares trading in a single day works is a mystery to most people. No doubt, our financial markets are marvels of technological efficiency.

(About.com)

Two trading methods

- On the floor
- Electronically

Complex trading

- The contract for difference (CFD) market has also expanded. A CFD is an electronic agreement between two parties that involves no ownership of the underlying asset. This allows for gains to be captured for a fraction of the cost of taking ownership of the asset. (About.com)

Complex trading

- As with the forex market, the CFD market provides high leverage, meaning smaller amounts of capital are needed to enter the market. The stock market can also be traded using a CFD. While the stock is never owned, the contract allows profits/losses to be reaped from speculating on the underlying stocks or indexes by mirroring its movement. (About.com)

Electronic trading

- **Use of computer systems (combination of hardware and software known as platforms) to assist both in analysis and in trading**

Apex of computer trading

- Computer systems take over and undertake all the steps of trading aka algo trading
- High speed trading: fast trading systems (with boundaries set by the trader(s)); such trading in micro-seconds has been a reality for the last few years. However it is alleged that the retail investor, not possessing the technology, is placed at a disadvantage.

The quants

- **a swashbuckling breed of mathematicians and computer scientists**

- **See *The Quants*: How a New Breed of Math Whizzes Conquered Wall Street and Nearly Destroyed It [Scott Patterson]**

Guide to trading (Daniels Trading)

- Take the emotion out of trading!
- Explore the world of trading systems and detail how it works.
- Get started with Automated Trading!
- The following topics are be covered in the guide:
- What is a Trading System? What is a Trading System Investment? Characteristics of Trading Systems. Brief History of Trading Systems
- Types of Futures Trading Systems
- Ways to trade Trading Systems
-
- Download Your Free Guide »

Role of the US Federal Reserve

- Ben Bernanke did an excellent job propping the financial markets in particular by the bond buying policy
- The Federal Reserve has kept the US economy and stock markets up with extensive quantitative easing and keeping interest rates down for a long period. However it is not known what the long term effects of these are.

Role of the US Federal Government

- **The Obama Administration did an excellent job in spearheading the US economy in the upward direction by its policy towards business companies**

Role of the SEC

- Challenge in monitoring the financial markets and preventing even catching wrongful acts
- SEC is a complex machinery see www.sec.gov

Role of financial advisors

- The investors are becoming more and more sophisticated; even so, the help of Financial Advisors is warranted particularly when venturing in the field of complex securities

Robot financial advisors

- Computer systems set up to provide financial advice; programs are written on the basis of knowledge of experienced advisors
- Robot Financial advising is based on Modern Portfolio theory. Several of the creator of the theory are world renown economists. Any theory can be proven to be invalid at a later date, therefore care is required in its use.

Conclusion

- **This is indeed a fascinating field which has been shown in both the positive and negative angles with the positive remaining predominant**