EFB201: Lecture WK 3 – Theories of Financial Markets

Reading: "Behavioural Finance", Ritter, Pacific Basin Finance Journal 11 (2003), p 429-437

Tutorial Questions: On Blackboard

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1. Market Efficiency

- The efficient market hypothesis argues that share prices reflect all available information
  - Price is a good and unbiased indicator of value
  - Market is quick at absorbing information
- If markets are efficient then it would not be possible for an investor to make consistent abnormal profits
  - Doesn't matter whether positive or negative – consistent results are unlikely in an efficient market
- Competition between clever, well informed investors to make abnormal returns will result in new information being quickly incorporated into price
  - People with the same information will come up with similar prices
  - Large businesses with frequently traded stocks will usually be better priced because there is lots of competition around these shares
- This makes it difficult to make consistent abnormal returns
- The efficient market hypothesis has been tested on three levels:
  - **Weak Form Efficiency**
    - Weak form efficiency argues that successive changes in the price of shares are independent of each other; so investors cannot use historical price data to forecast share price movements
      - A technical trader uses past price information to try and make consistent abnormal returns
    - This means that technical analysis would be unsuccessful
      - Will probably make you spend lots of money on transaction costs
  - **Semi-strong Form Efficiency**
    - Semi-strong form efficiency argues that all publicly available information regarding a company is fully reflected in its share price; so investors cannot make superior profits by trading based on publicly available information
      - You can't use solely publicly made information to get rich quick
    - This means using fundamental analysis with publicly available information to identify mispriced shares will be unsuccessful
      - Fundamental analysts will not give a better price than the market price
      - Implications might be better than for a technical analyst – some fundamental analysts may be very good at what they do and may be able to make a consistent profit
    - Following published financial tips will also only lead to normal profits

- **Strong form efficiency**
  - Strong form efficiency argues all information, including information publicly available and obtained through private inquiries and research, will be fully reflected in the market price of a share
    - You could not make excess returns even with insider information
  - So specialist analysts and insiders in the company cannot earn greater profits than those who do not have access to the not-yet-public news in a strong form efficient market

- **Evidence**
  - Empirical studies have shown that share prices tend to fluctuate around an intrinsic value in an unbiased fashion and market prices respond promptly to publicly available new information
    - These studies have been on plenty of different markets in different countries over different time periods
  - These results provide support for weak and semi-strong form efficiency
    - Not 100% true in every case
  - However, studies have shown that share traders that possess insider information tend to make more profit than the average investor
    - So, there is little support for strong form efficiency
    - You are likely to make excess returns – however, you may face jail

2. Behavioural Finance

- It is concerned with the analysis of various psychological traits of individuals and how these traits affect the manner in which they act as investors, analysts, and portfolio managers
  - Psychological traits affect how we behave which might effect market prices
- The emphasis has been on identifying portfolio anomalies that can be explained by various psychological traits
  - What cannot be explained by efficiency can be explained by our differences in psychological traits
- In addition, behavioural finance relies on there being limits to the use of arbitrage (e.g. regulation or liquidity)
  - Arbitrage ensures markets become efficient so limited arbitrage will not exist in an efficient market
  - It can't always work however – due to regulations or liquidity problems…

- **Issues in Behavioural Finance**

  1. Behaviour in experimental settings versus behaviour in financial markets
  Do people behave the same in both settings?
  - Translations from experiments to financial markets – with real money – aren't always accurate

  2. Individual irrationality versus aggregate irrationality.
  Does individual irrationality lead to markets behaving irrationally?
  - People behave irrationally in certain circumstances – but does that mean that the average market is irrational? – traditionally it is said the market is not affected, however, it is now believed that there could be a critical mass of people behaving irrationally could shift the market

3. Ex ante versus Ex poste modelling.
Can behavioural factors be used to predict movements in prices or simply to justify price movements looking backwards?
- models need to predict the future but it is hard in behavioural studies where you are simply looking at past movements and explaining them

- **Behavioural Finance Hypotheses**
  - The focus of behavioural finance is to identify and recognise the importance of cognitive factors that affect the rational behaviour of investors
  - This contrasts with the traditional assumption in finance of rational, risk averse investors who prefer more to less and dislike uncertainty
    - Contrasting with traditional assumptions which says we dislike risk and like return
    - Some behavioural finance studies show this is not how we always behave
    - Removing ourselves from the idea that everyone behaves rationally

- There are a number of **reasons for irrational behaviour**, such as:

  1. investors are affected more by negative news than positive news
     - Maybe an indication that we panic
     - Maybe we are pessimistic
     - Something bad about a company has more impact than something good

  2. investors tend to be over-confident in a rising price market and over-pessimistic in a falling price market
     - When things are going well we are overconfident
     - When things are going badly we are overly pessimistic
     - Leads to bubbles and crashes – rather than perfectly matched price and value – since we undervalue and overvalue

  3. an investor may be drawn by the herding instinct of following what other investors are doing with little regard for economic fundamentals
     - Do what others are doing rather than backing your own judgement or using your own fundamentals
     - Some logic behind this – it does happen a lot – less chance to be a big winner – less chance to be a big loser – sometimes considered safer

  4. an investor may be distracted by trading noise and overreact to daily information flows that flood the market
     - Noise is irrelevant information – random price fluctuations
     - Trading noise can affect the market – price can be pushed away from value
     - Distinguishing noise from information can be tricky

A) Biases and Examples

- Categories of Behaviour
  - **Heuristic behaviour**
    - This behaviour is affected by a wide range of cognitive and emotional factors
      - Emotions effect investing behaviour
    - This is where investors may oversimplify complex decisions and simply follow rules of thumb
      - If the investor is having trouble with investment decisions they may stick to simple rules such as purchasing shares from companies with high earnings which may not be the best investment
    - For example, an investor may prefer to invest in companies with high Price/Earnings ratios or in investment areas that are easy to understand
  - **Framing behaviour**
    - An investor may be influenced by the way an investment opportunity is presented
      - The way an investment is framed may have an impact on the investor
    - For example, an investment opportunity could be presented as being either possible high return or high risk
      - If it is framed as high return this might appeal to some people, whereas the high return may be better to others
      - The way the investment is framed can make a difference to how investors see it
  - **Market inefficiencies**
    - This behaviour can arise when government policies support one form of investment over another
    - For example where tax incentives may influence investment practices
    - E.g. first homeowners grant may push up the prices of homes that first homeowners would buy
  - **Overconfidence**
    - People become overconfident about their abilities
      - If you buy shares and they go up in value you may think you are a great investor
    - This may be seen in terms of a lack of diversification and could be a cause of speculative bubbles.
      - If I've made money off investing in banks I might think I am a guru at banking stock investment which may lead me to have a less diverse portfolio – may lead to a narrow focus which is a problem where all the banks take a dive
      - If everyone is overconfident this may make a bubble of bank shares rising in price as everyone invests
  - **Mental Accounting**
    - Where people code and categorise economic outcomes.
      - If you categorise where you shouldn't or separate where you shouldn't as a mental accounting tactic
    - For example, people may treat credit card purchases differently to cash purchases
      - People may be more willing to spend on the credit card because it seems less real than cash where you've had to earn that
    - Scenario 1 → Lose movie ticket costing $10 on way to movies → Buy another ticket?
      Yes = 46% No = 54%
    - Scenario 2 → Lose $10 cash on way to movies → Buy a movie ticket?
      Yes = 88% No = 12%

- **Representativeness**
  - Where people underweight long term averages and put too much weight on recent events.
    - Forgetting the long-term past and putting too much emphasis on the recent events
  - For example, assuming after a short period of high returns, that this is now the norm
  - For example, in sporting, gamblers often rest too much on how the team did in the last game and not how they've done over the whole season

- **Conservatism**
  - Where investors are slow to adjust to changes. They anchor on what has previously been the case.
    - The tend to think that what has happened in the past is always going to be the case and they don't recognise permanent shifts to the market
  - The opposite of Representativeness.
  - An example might be where an investor wants to stay with a newspaper company because it has done well in the past – the world is changing

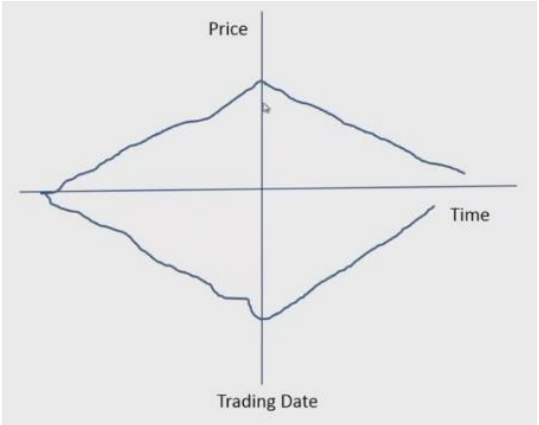
- **Disposition Effect**
  - This is where investors seek to realize paper gains, but avoid realizing paper losses
    - We all like to be winners
    - You'd rather sell a share that you've made money on than sell something you've lost money with
  - An example would be where an investor sells a share they have made a gain on and retains a share they have made a loss on even though from a tax perspective, the opposite may be preferable.
  - **Example:**
    - Share A bought for $5 now at $7, Share B bought for $10 now at $7
    - Investor more likely to sell A than B. Logical?
    - Both are worth the same but people are more likely to sell A than B because it has done it's job and made money

- **Noise Traders**
  - Influenced strongly by sentiment, they tend to move together, which may increase or decrease the prices, whilst increasing the volatility of the market
    - People reacting to random fluctuations in price and if there are enough people reacting the same way to these fluctuations it is likely to push the prices away from the value

- **Escalation Bias**
  - Put more money into a bad investment
    - More likely to stay with a bad investment than cut their losses and get out
  - This may particularly be the case where there is an emotional attachment to the investment
    - An investment that is good for the environment or you really believed would do well

- Price Bubbles – Inefficiency or Efficiency
  - Where prices are pushed above their fundamental value for an extended period and then experience a rapid drop, often associated with a large sell-off. - e.g. Sydney property market
    - Price goes up too high (above the intrinsic value) and then drops off too quickly
  - Inefficiency Explanation
    - Overconfidence or over-pessimism
    - Herd Mentality
    - noise traders – seeing a little movement and then all wanting to buy
  - Efficiency explanation (Not a bubble at all)
    - Changes in estimates of valuation model inputs
    - The intrinsic value is changing quite dramatically – which changes the estimates of the value model as people revise their future cash flow
    - e.g. Future cash flows downwards and Required Rate of Return upwards
  - Basic Valuation Model (e.g. Perpetuity Model)
    - Present Value (Price) = Cash Flow/ Required Return
    - Initially PV = $10/0.10 = $100
    - Then PV = $30/0.10 = $300 → peoples estimates of the future cash flow increases
    - After crash PV = $15/0.15 = $100 → people revise the required return upwards (want bigger return)
    - Is this feasible???
  - Bubbles are usually identified afterwards rather than during

- **Momentum versus Contrarian Strategies**
  - **Momentum** – Buying winners and selling losers
    - Possibly works better in the short term < 6 months
    - Winners keep winning, losers keep losing is the logic he re
  - **Contrarian** – Buying losers and selling winners
    - Possibly works better in the long term > 2 years
    - People get too negative about losers which puts prices too far down and so you should buy them and vice versa with selling winners
    - Both strategies rely on Behavioural Finance and if profitable would suggest market inefficiency – these strategies do not work with market efficiency and not at the same time



- **Fusion Investing**
  - The integration of two elements of investment valuation-fundamental value and investor sentiment.
    - Price is likely to be a combination of two factors – intrinsic value and market sentiment
  - During some periods, investor sentiment is rather muted and noise traders are inactive, so that fundamental valuation dominates market returns.
    - Sometimes there isn't much market sentiment and so you'd expect the intrinsic value and the price to be the same – this is an efficient market
  - In other periods, when investor sentiment is strong, noise traders are very active and market returns are more heavily impacted by investor sentiments.
    - Sometimes there's lots of sentiment and noise and so the price may be very different to the intrinsic value – this in an inefficient market
  - **Example**
    - Price = Fundamental Value + Investor Sentiment
    - $15 = $15 + 0 ← no sentiment = efficient market
    - $15 = $10 + $5 ← slightly overvalued due to sentiment
    - $15 = $20 - $5 ← slightly undervalued due to sentiment
    - Which one is it? You need a way to estimate fundamental value and investor sentiment

B) Evidence

- **Evidence on Behavioural Finance**
  - Much support in experimental settings – much more of this evidence
  - Some support in market situations e.g. Global financial crisis
  - Remember issues with Behavioural Finance
    1. Behaviour in experimental settings versus behaviour in financial markets
    2. Individual irrationality versus aggregate irrationality
    3. Ex ante versus Ex poste modelling