Notes

**Investor sentiment in the stock market:**

* Theoretical Effects of investor sentiment
  + What makes some stocks more speculative than others?
  + Figure 1 to take into account
* Measuring Investor sentiment
  + Several proxies explained, with examples, IPO Volume etc.
* Using sentiment to predict stock returns
  + market crashes tend to occur in high-sentiment periods, but the timing of the crashes within these periods is very hard to predict.
* In particular, stocks of low capitalization, younger, unprofitable, high-volatility, non–dividend paying, growth companies or stocks of firms in financial distress are likely to be disproportionately sensitive to broad waves of investor sentiment
* stocks that are difficult to arbitrage or to value are most affected by sentiment

Summary, they created their own sentiment index using six proxies and compared it to the returns of stocks -> conclusion, more return in low sentiment periods

**Investor sentiment and the cross section of stock returns:**

* Theoretical Effects of Sentiment on the cross-section: Definition of investor sentiment:
  + Propensity to speculate, what makes some stocks more vulnerable to broad shifts in the propensity to speculate?
  + Optimism and pessimism
* Creation of their index and explanation of its six proxies
* Find that when sentiment is low, the subsequent returns on stocks at both extreme are especially high relative to their unconditional average, while stocks in the middle deciles are less affected by sentiment

Summary: Difficult to understand, lot of factors, like announcements (can use announcement of mining movement to see the effect, or FUD of China)

**Giving content to Investor Sentiment: The Role of Media in the Stock Market:**

* Data: WSJ columns with future prediction for the following day + General Inquirer (GI)
* Why not take ideas to apply to the crypto market, look at journal pessimist world, analyse it and see the movement of the market for an increase in pessimist worlds

Use twitter instead of WSJ

* Pessimism plays a role in forecasting volume and daily returns
* Page 26 talk about an automated algorithm to predict return (just like CryptoPick algo)
* Five lags day to see effect
* Math explained page 23
* High values of media induce downward pressure on market prices; unusually high or low pessimism led to temporarily high market trading volume. Furthermore, price impact of pessimism appears especially large and slow to reverse small stocks
* The results are inconsistent theories that view media content as either a proxy for new information fundamentals, a proxy for market volatility, or an irrelevant

Summary: Interesting analysis, no regression but linear combination and maths function according to the number of negative worlds in the journal using VAR Estimates and OLS. Can reproduce it to crypto using twitter api and count the number of negative worlds in tweets related to crypto.

**Is bitcoin really untethered?**

* Speculative Bubbles
* Brief intro to Bitcoin
* Interesting Data
* Price is manipulated by one address

**Investor sentiment and bidder announcement abnormal returns:**

* Good intro on stock market sentiment
* Market sentiment index: GNH from Facebook
* Market sentiment influence the stock marker reaction to merger announcement
* On days with positive sentiment, investors would appear to be more likely to overestimate potential synergies and underestimate the risks associated with the merger, with the reverse being likely on days with negative sentiment
* Good presentation of the data
* Up to 3 days from announcement to see the effects

**The predictive power of public Twitter sentiment for forecasting cryptocurrency prices:**

* Good long intro to sum up everything -> very interesting to do something similar
  + on crypto markets and cryptocurrencies
  + on sentiment and predictability
  + twitter sentiment analysis and stock market
  + twitter sentiment analysis and crypto
* Good Conclusion

it was found that Twitter sentiment can be used to predict the price returns of Bitcoin, Bitcoin Cash and Litecoin.

Summary: Study from 2018, old and focuses only on twitter and find that Twitter is more of a cause than an effect of the cryptocurrency market. It responds to market activity and don’t predict it. -> improve the study using CFG and apply it to 2022.

**Analysis of Bitcoin prices using market and sentiment variables:**

* Bitcoin price history
* Data: CoinDesk Price index, Federal Reserve Bank of St Louis website
* Take gold, S&P, Fear, and Google search in consideration to price Bitcoin

The S&P 500 index has a positive effect on the fundamental value of Bitcoin prices and the gold spot price and the fear index have a negative effect.

**On cryptocurrencies as an independent asset class: Long-horizon and COVID-19 pandemic era decoupling from global sentiments:**

Crypto as decoupled asset class

**Forecasting the price of Bitcoin using deep learning:**

**Does Sentiment Impact Cryptocurrency?:**

* Sentix Database
* Good intro on crypto and other studies -> very interesting to do something similar
* Influence of BTC
* Hedge with crypto

The results of the study found that Sentix Bitcoin sentiment has a positive impact on the Bitcoin returns supporting our hypothesis that behavioral aspects play a significant role in determining its prices. When the investor sentiment is exceptionally pessimistic or optimistic, there is a possibility of extreme movement in the prices

Summary: MUST TAKE INTO CONSIDERATION!! Read again and do something similar, do the same but with CFG

**Cryptocurrency Trading using Machine learning:**

Use machine learning to limit risk compare to a buy and hold method

**Cryptocurrency Price Prediction using Sentiment Analysis:**

* Short intro on sentiment and crypto
* BTC & ADA
* Tweet volume & Google Trend
* Bitinfocharts -> number of tweets by day on crypto
* Using Vader

**Cryptocurrencies’ Price Crash Risk and Crisis Sentiment:**

* Data from cryptocompare.com
* Crash risk metric NCSKEW & DUVOL
* Made their own fear index

Summary: do a similar work, using linear regression and creating my own fear index with the data

**Predicting Ethereum prices with machine learning based on Blockchain information:**

* Recent intro 2021 on blockchain and crypto
* Info of different machine learning techniques
* Table to resume

Summary: Eth influenced by macroeconomics factors and blockchain info of eth and BTC

**Herding and anchoring in cryptocurrency markets: Investor reaction to fear and uncertainty:**

* Intro on crypto, and sentiment on crypto over the years
* Summary of researches made on sentiment analysis
* Data: VIX, US Equity market uncertainty index, CBOE put/call ratio, Investor positivity/negativity
* Separate in two the data, for bull market and bear market
* Literature review on behavioural analysis, and is done and what they did, can take it for my thesis
* Fear in the market
* Source of data: FRED database, Bitcointalk.org, CoinGecko, CBOE, Web scrawler software to collect data from forums
* Removed weekend days for crypto

Summary: very good overall, very good results, easy to understand -> take different market macro information, see if crypto can act as hedge

**Twitter mood predicts the stock market:**

* Opinion Finder for Tweets
* GPOMS to classify tweets
* -> 6 public mood series

**News Impact on stock price return via sentiment analysis:**

* Using Hong Kong market
* Very complicated

**Algorithmic trading using Twitter Sentiment analysis:**

* Tweepy for accessing the twitter API
* Cryptonator.com API
* Real time analysis
* Text-processing.com PAI

**Does Bitcoin React to Trump’s Tweets?**

* Use Loughran and McDonalds dictionary for sentiment words and create a proxy for positive and negative words.
* OLS regression
* Bitcoin market inefficient
* Bitcoin as a hedge
* Bitcoin rise with the negative sentiment of Tweets
* They find that the sentiment of Trump’s tweets reasonably predicts Bitcoin’s returns, volatility, and trading volumes

**Do investor sentiments drive cryptocurrency prices?**

* Sentiment data MarketPsych & CoinMarketCap
* Good visual graph to show the result, which crypto is affected by which.
* Bitcoin is less and less dominating
* BTC is the primary transmitter of sentiment shocks.
* This paper sheds light on the connectedness between cryptocurrency returns and sentiments

**A reality check on trading rule performance in the cryptocurrency: ML vs TA**

Not useful for the thesis but not much difference between the two analyses. ML outperforms on illiquid assets

**An approach to predict and forecast the price of constituents and index of cryptocurrency using machine learning:**

* Intro on crypto then BTC
* RapidMiner software for ML
* Background and lit review
* Different crypto and models to predict
* Explanation of their model and parameters
* Index of the 30th first cryptos: cci30.com

Summary: Cool software for ML, + good website for index 30, accurate results

**Anticipating Cryptocurrency Prices using Machine Learning:**

* Intro and stats on crypto
* XGBoost
* Build investment portfolio and compare their performance
* Bit complicated and not using sentiment

**Analysing crypto news sentiment to predict bitcoin prices:**

* Scrapper using Python to combined two websites
* Binance API BTCUSDT

Summary: pas ouf et resulats pas ouf

**Advanced social media sentiment analysis for short term cryptocurrency price prediction:**

* Reprend Twitter et Google Trend, pas bien expliqué…
* Pas ouf non plus

**Bitcoin and sentiment**

* Bitcoin.com data + market factors SMB HML UMD AAII
* Using CAPM
* When sentiment declines, bitcoin returns become more sensitive to the market risk premium
* VAR analysis (bivariate autoregression)
* the return to holding bitcoin is generally positive during periods when the stocks of higher profitability firms outperform the stocks of lower profitability firms
* bullish (bearish) investor sentiment significantly drives Bitcoin Returns positively (negatively).
* Effect on volume too
* We also find that expected returns of bitcoin are low when sentiment measured by VIX is high while expected returns are high when sentiment by VIX is low

Summary: Good but difficult, interesting in reproducing the models, but how?

**Cryptocurrency trading-pair forecasting, using machine learning and deep learning Technique:**

* Yahoo Finance
* Graphic visualization of correlation
* Jupiter Notebook provided!!

Good for machine learning, and algo trading

**Deep learning-based cryptocurrency sentiment construction:**

* LTSM intro
* Message on StockTwists
* CRIX index
* Good presentation of learning methods
* Difficult

**Cryptocurrencies and Artificial Intelligence: Challenge and Opportunities:**

* Intro correct about the use of IA and Bitcoin and POW in Background
* Difference between forecasting and predicting
* Good paragraph on price prediction
* Very interesting Table with all researches done and the correlation between BTC prices and factors, can do something similar in my work to review all researches done

Summary: No work done, only a huge review of AI and researches done on Bitcoin and cryptos. Can be interesting to take some parts and add them to my work

**Cryptocurrency Price Prediction using Tweet Volumes and Sentiment Analysis:**

* Twitter API and Tweepy and Goolge Trends
* Intro blockchain et BTC
* Bitinfocharts -> give the volume of tweets per currency

**A Novel Cryptocurrency Price Prediction Model Using GRU, LSTM and bi-LSTM Machine Learning Algorithms:**

* Explanation of GRU, LTSM and bi-LTSM
* Data from marketwatch.com BTC LTC ETH

**Deep neural networks for cryptocurrencies price prediction:**

* Huge research (73 pages)
* Deep explanation of machine learning models
* Crix data set crix.hu-berlin.de
* Interested in going up or down and not the exact price
* Create a portfolio and compare to a buy and hold strategy, create a portfolio that maximises the returns

Summary: Complete and good overall

**Forecasting and trading cryptocurrencies with machine learning under changing market conditions:**

* “What is bitcoin?” was the most popular Google search question in the United States and the United Kingdom in 2018
* Intro et explication BTC ETH LTC
* Very good Literature reviews with a table to resume
* Data: CMC and 12 variables coinmetrics.io

**Deep learning assisted business intelligence model for cryptocurrency forecasting using social media sentiment:**

* Literature review on deep learning and linear regression
* Good explanation on linear regressions and deep learning used
* Not bad, good explanation
* Results suggest that a business intelligence-based DL and SVR model provides more accurate results as compared to the commonly used linear regression model

**LTSM Based Sentiment Analysis for Cryptocurrency Prediction:**

* Sentiment of Chinese market, with Chinese tweets to predict using LSTM
* Very short article

**Predicting Cryptocurrency Price Bubbles using social media and epidemic modelling:**

* Explanation of a bubble
* Using HMM (Hidden Markov Models) and Reddit
* Data: CryptoCompare
* Trading strategy interesting: buy and other crypto when entry signal is up and close the current position even if there is not exit signal
* The utility of state probabilities was validated by transforming them into a profitable trading strategy that outperformed a comparable benchmark. This work has demonstrated a strong relationship between Reddit usage and cryptocurrency prices

**Price prediction of different cryptocurrencies using technical trade indicators and machine learning:**

* Kaggle data using API
* Bof bof

**Sentiment-Induced Bubbles in the cryptocurrency market:**

* Data messages to Stocktwists
* Using CRIX index
* Interesting research
* Good computation of the sentiment index, can use the same for CryptoPick bets
* Find that volatility increases as the sentiment index decreases, and vice versa

**Short-term prediction of Crypto-currencies using Machine Learning:**

* Data: Binance of top 5 crypto
* GITHUB LINK abhi4rana7 (je ne sais pas si c’est lui qui a fait l’article mais très utile pour le machine Learning)
* Very short
* Not useful for the thesis, just the link

**News sentiment in the cryptocurrency market: An empirical comparison with Forex**

* Bitcoin relation with Forex intradaily
* Autoregression (VAR)
* Good intro that resumes the study
* Background of bitcoin and lit review about macroeconomics news and sentiment
* Data: bitcoincharts.com and RavenPack
* Very good autoregressions, very well explained, take into account for my work
* The results for Bitcoin are different from those on Forex, suggesting that Bitcoin does not react similarly to news arrivals compared to traditional currencies.
* Do not find evidence that Bitcoin to U.S. Dollar reacts to non-scheduled news sentiment similarly to traditional currencies

Summary good to take consideration

**Predictive role of online investor sentiment for cryptocurrency market: Evidence from happiness and fears**

* Twitter Happiness (link) and FEARS as proxies (no link)
* Good intro
* OLS
* Lit review of sentiment in the stock market
* Good Lit review of sentiment in the crypto market
* Data from coinmarketcap
* Good result and heat map to show the effect
* Overall, our findings reveal that Happiness is a strong predictor of all the cryptocurrency returns that can persist up to 22 days. FEARS also appear to predict returns, but predictability is weaker, heterogeneous across the cryptocurrencies, and mainly in the short horizon

**Using sentiment analysis to predict interday Bitcoin price movements**

* VAR
* Bitstamp data
* Tres bof bof

**Impact of Market Volatility on Investor Sentiment: Evidence from COVID-19 and Crypto-Currencies**

* Crypto Fear and Greed
* inverse relationship between crypto market sentiment and equity market volatility
* results show that high to extreme COVID-19 induced equity market volatility triggered fear among investors, with low to medium volatility yielding greed

**The impact of macroeconomic news on Bitcoin returns:**

* See the diff with trad currencies to see if crypto can be considered as currencies
* Correct intro and lit review
* Good hypothesis
* Data BTC coindesk.com (average of leading exchanges)
* Good explanation of the regressions

Summary: quite interesting to focus on and take the main ideas and scheme

**Asset Pricing of Cryptocurrencies and Momentum based Patterns:**

* Good and clear intro on crypto / blockchain / btc, and explanation of Moment and Book to market ratio, can use this intro for a paragraph in mine
* Data CoinMarketCap, CRIX,
* Sentiment using market cap divided by volume
* Results explained by overreaction
* But not using sentiment in his analysis

**The sum of All Fears Investor Sentiment and Asset Prices:**

* Data of Google Trends with lots of world (118)
* Explanation on how they created their FEARS index
* Impact of their index on different returns and volatility
* Effect in the direction of the fear in the first day but the following -> reversal effect
* Good to do the same analysis: compare first day / the following days
* Complete analysis
* Good reflection on the results at the end (interpretations)
* FEARS index is correlated with low returns today but predicts high returns tomorrow, a reversal pattern that is consistent with sentiment induced temporary mispricing
* Good conclusion

**Nothing but noises? Price discovery across cryptocurrency exchanges**

* Pas grand-chose à voir mais le prof à dis de le mettre dans les références

**HYBRID ARDL-MIDAS-TRANSFORMER TIME-SERIES REGRESSIONS FOR MULTI-TOPIC CRYPTO MARKET SENTIMENT DRIVEN BY PRICE AND TECHNOLOGY FACTORS:**

* Recent study (sept 2021)
* Good and recent intro
* Too complicated
* Github code R

**What makes cryptocurrencies special? Investor sentiment and return predictability during the bubble.**

* Data from StockTwits and Reddit to make their dictionary and CRIX
* Good data with API of Reddit and StockTwits
* Very good plan
* VAR
* investor sentiment helps to forecast future cryptocurrency returns mostly when investor sentiment is derived from a dataset of messages related to the financial aspect of cryptocurrency

**Short term bitcoin market prediction using machine learning:**

* Theory of market efficiency
* Bitcoin market efficiency
* Review of literature and machine learning
* Data: Bloomberg, Twitter and Blockchain.co. VIX and traditional currencies, gold, oil and all English twitter tweets in the period with #bitcoin
* 1 minute data
* Simple explanation of the neural network
* Good for machine learning knowledge

**Price movement prediction of cryptocurrencies using sentiment analysis and machine learning:**

* Github code
* Good intro on price prediction
* Data: cryptocompare.com API (80 days of historical data)
* VADER sentiment analysis
* Twitter and market data can predict the returns