

Certificate Program on Financial Markets and Modelling

Meghnad Desai Academy of Economics (MDAE) in collaboration with Janki Devi Memorial College and Ket's VG Vaze College (Autonomous)

A 30 hours instructor led, live and interactive certificate program on Financial Markets and Modelling was conducted by Meghnad Desai Academy of Economics in collaboration with Janki Devi Memorial College and Ket's VG Vaze College. Mr. Vignesh Iyer, Principal Engineer at State Street Bank & visiting faculty at IIMs, NMIMS, SP Jain Mumbai was the resource person for the program. Dr. Shilpa Chaudhary, Assistant Professor, Department of Economics, Janki Devi Memorial College was the course coordinator.

The course content was covered over 12 sessions, the duration of each session being 2.5 hours. The program was conducted over the weekends. The objective of the program was to introduce beginners to the financial markets and modelling, to acquaint them with the synergies between various assets. Anyone interested in learning about financial products and modelling could join.

A total of 26 students registered and successfully completed the certificate program. Students were able to understand and learn about the financial market and synergies between various assets. Both theoretical frameworks as well as practical sessions were held. Knowledge about different types of financial products, instruments were disseminated. Interactions held on various topics ranging from different financial assets to understanding asset pricing, overview of risk and their management, different interest rate theories, debt and equity market, real estate market and all types of financial derivatives. In depth knowledge on these topics were shared. Session involved real life cases and examples which made students understand the concept with much more clarity. Practical classes on basic financial calculations, corporate valuations, portfolio modelling to assets pricing, duration and Monte Carlo methods were held. So, this entire program was a blend of theoretical and practical knowledge which will go a long way with students. Definitely money invested by students must have given more than 10 times a return. Amazing session!!!

The 30 hour long intensive online training was followed by 10 hours of project and assignment, so that the students could apply what they have learnt during the program giving them a better perspective of the subject.

Session-Wise Course Curriculum

Session 1

- Financial Markets and Players
 - Role of Governments in Financial Markets
 - Financial Institutions, Financial Intermediaries, and Asset Management Firms
 - Overview of Private Market Participants
 - Credit Rating Agencies and Their Role in Financial Markets
 - Depository Institutions: Activities and Characteristics
 - Central Banks
 - Insurance Companies
 - Investment Banking Firms

Session 2

- Understanding Risks and Asset Pricing
 - Overview of Risks and Their Management
 - Properties and Pricing of Financial Assets
 - Return Distributions, Risk Measures, and Risk-Return Ratios
 - Portfolio Selection Theory
 - Asset Pricing Theories

Session 3

- Interest Rates, Interest Rate Risk, and Credit Risk
 - The Theory of Interest Rates
 - The Structure of Interest Rates
- Primary and Secondary Markets

- Primary Markets
- Secondary Markets
- The Foreign Exchange Market

Session 4

- Global Government Debt Markets
 - Sovereign Debt Markets
 - Subnational (Municipal) Government Debt Markets
- Corporate Funding Markets
 - The Structure and Trading Venues of the Equity Market
 - U.S. Common Stock Market: Pricing Efficiency, Trading, and Investment Strategies
 - Non-U.S. Equity Markets
 - Global Short-Term Funding and Investing Markets
 - Corporate Debt Markets
 - Market for Asset-Backed Securities
 - Financing Market for Small, Medium-Sized, and Entrepreneurial Enterprises

Session 5

- Real Estate Markets
 - The Residential Mortgage Market
 - Residential Mortgage-Backed Securities Market
 - Commercial Real Estate Markets
- Collective Investment Vehicles and Financial Derivatives Markets
 - Market for Collective Investment Vehicles
 - Financial Futures Markets
 - Options Markets

- Pricing Futures and Options Contracts
- Applications of Futures and Options Contracts
- Over-the-Counter Interest Rate Derivatives: Forward Rate Agreements, Swaps, Caps, and Floors
- Market for Foreign Exchange Derivatives
- Market for Credit Risk Transfer Vehicles

Session 6

- Basic Financial Calculations
 - PV and NPV
 - IRR and Loan tables
 - Future Value

Session 7

- Corporate Valuation
 - Cash flows
 - WACC

Session 8

- Portfolio Models
 - Introduction
 - Efficient Frontier
 - Variance Covariance Matrix

Session 9

- Betas and Security Market Line
- Black-Litterman approach to Portfolio Optimization
- Event Studies

Session 10

- Option Pricing Model
- Black Scholes Model

Session 11

- Bonds
 - Durations
 - Convexity
 - Default Adjusted expected bond returns

Session 12

- Monte Carlo Methods
 - Simulation of Stock Prices
 - VaR
 - Option Pricing

List of students Enrolled

Name	Email id
Tanisha Bhatt	tanishabhatt12@gmail.com
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30 Hours | Live Interactive | Starts 5th September, 2021 |
Saturday-Sunday | Time 1:00 PM to 3:30 PM(IST)
7 Day Money Back Guarantee

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Content | Chat

RECORDINGS

Total Chapters: 12

Study Material

Total Chapters: 3


- Secondary Markets
[Download - ancial Markets\).pptx](#)
- Over View Of Risks and Their Management
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- The Theory Of Interest Rates
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Classification of Financial Markets



Classification by nature of claim: Debt market / Equity market

Classification by maturity of claim: Money market / Capital market

Classification by seasoning of claim: Primary market / Secondary market

Classification by immediate delivery or future delivery: Cash (spot) market / Derivatives market

Classification by organizational structure: Auction market / Over-the-counter market / Intermediated market

Classification by Region: Developed / Emerging / Frontier

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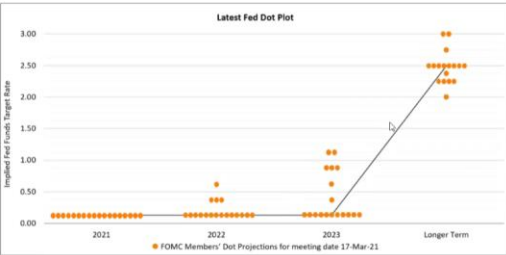
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European Central Bank - Wikipe... us rate fed dot plot - Google S... Fed Maintains Dovich Stance; B...

← → ↻ bondevalue.com/news/fed-maintains-dovich-stance-to-not-hike-rates-before-2024-dot-plot/

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Latest Fed Dot Plot

Implied Fed Funds Target Rate

Source: US Federal Reserve, Bloomberg

The FOMC in its **latest statement** kept rates unchanged and maintained its stance on inflation "to achieve inflation moderately above 2% some... 2% percent over time and longer-term inflation expectations remain well anchored at 2%." In the **Summary of Economic Projections (SEPs)**, the F... for growth, unemployment and inflation for 2021, 2022 and 2023. Besides, the dot plots also saw a change – 7 officials in the March meeting se... December while 4 officials see a hike possibility next year vs. none in December. With that, the median Fed Funds Rate's projected path was ke... recent inflation pick-up was termed "transient" by Fed chair Jay Powell. "I thought this was one of the best press conferences we've seen from P...

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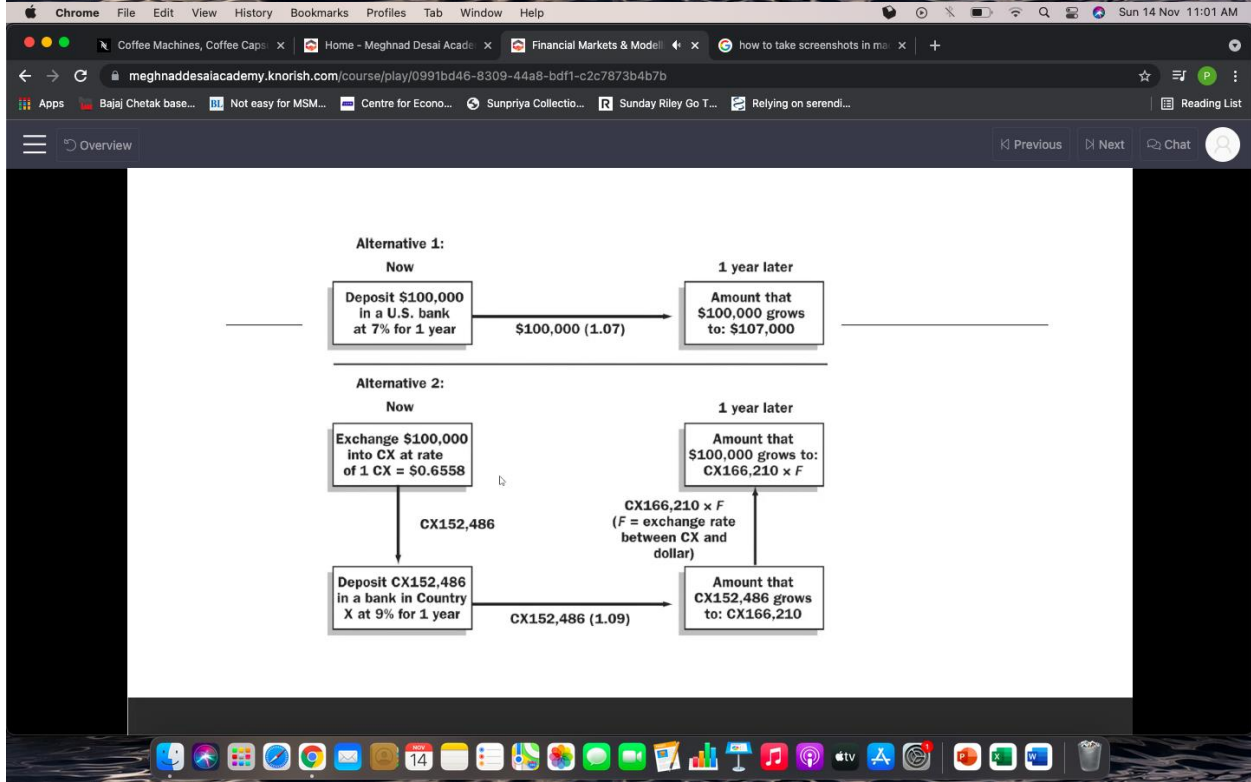
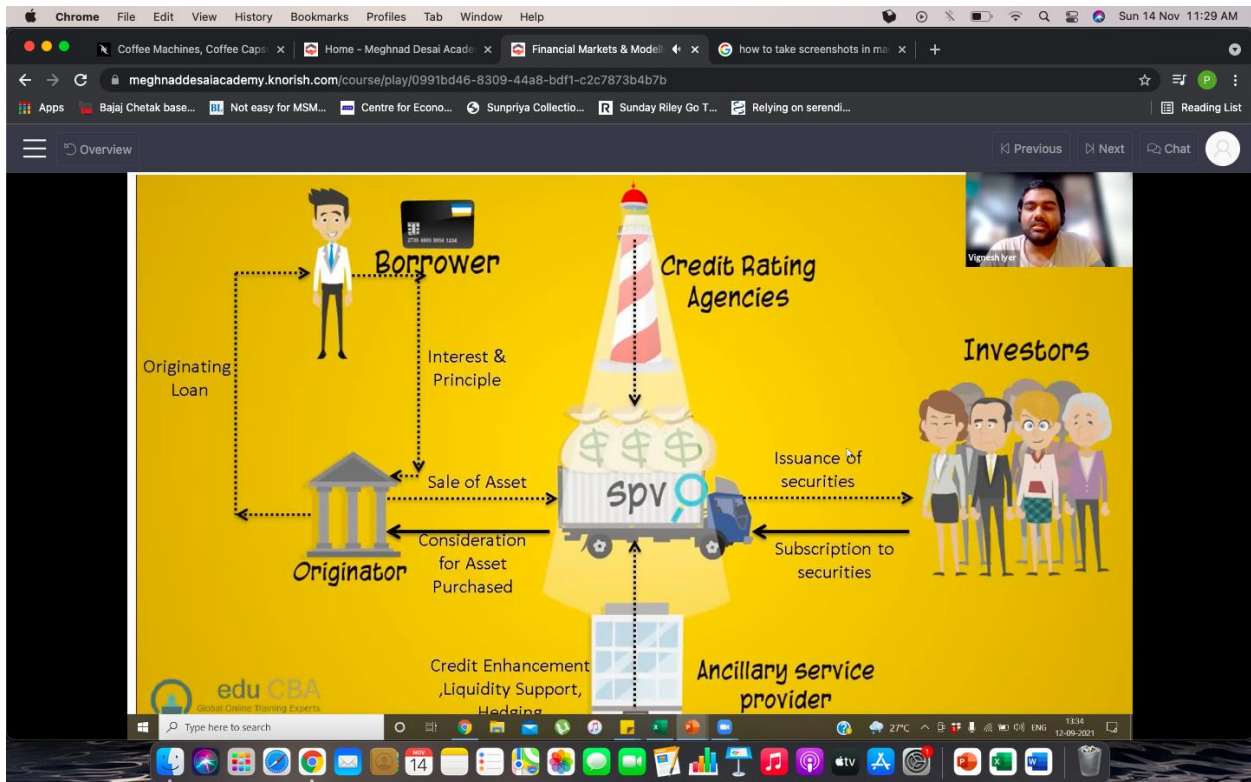
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RECORDINGS

Total Chapters: 12

Session 1	✓
Session 2	✓
Session 3	✓

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jupyter covid-19-tweets-eda-viz Last checkpoint on your app (unsaved changes)

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In [16]: percent_class(class_of_tweet,
         label=class_of_tweet)
         colors = ['RISKY', 'WISDOM', 'WACAK']
         fig, (ax1, ax2) = plt.subplots(1, 2, figsize=(10, 5))
         ax1.pie(percent_class, labels=percent_class, autopct='%1.1f%%')
         ax1.set_ylabel('Percentage')
         ax1.set_xlabel('Class')
         ax1.show()

In [16]: fig = make_subplots(1, 2, subplot_titles=('Train Set', 'Test Set'))
         fig.add_trace(go.Bar(x=train.index, y=train.values, marker_color=['RISKY', 'WISDOM', 'WACAK'], names=train), name='Train')
         fig.add_trace(go.Bar(x=test.index, y=test.values, marker_color=['RISKY', 'WISDOM', 'WACAK'], names=test), name='Test')
         fig.show()
  
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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Client default rate =	6.50%			Rate premium for trade =	5.50%			Current risk premium =	\$75.00				
2	Number of periods of data =	53			Business rate facing period =	6.00%			Current Annual EPS =	\$6.00				
3	Time period	Index	Price/Stock	EPS/Stock	Split Factor	Index Level	Return/Stock	Return/Market	(R(t)-Rf)^2	(R(t)-Rf)^2	(R(t)-Rf)^2			
4	1	1	\$30.75			179.63								
5	2	1	\$30.00			181.59	-0.84%	0.07%	0.011087340	0.000000000	0.000000000	-(C4-D4+E4)^2	C4*B5	
6	3	1	\$27.75	\$0.00	1	180.66	-0.99%	-0.29%	0.00014795	0.000197689	0.00034981	-(C5-D5+E5)^2	C5*B5	
7	4	1	\$27.50		1	179.83	-0.99%	-0.40%	0.000618745	0.000247412	0.000391261	-(C6-D6+E6)^2	C6*B5	
8	5	1	\$26.38		1	189.55	-4.07%	5.41%	0.001390751	0.001541791	0.001541791	-(C7-D7+E7)^2	C7*B5	
9	6	1	\$26.00	\$0.00	1	191.85	-1.44%	1.23%	0.000916295	0.000965017	0.000965017	-(C8-D8+E8)^2	C8*B5	
10	7	1	\$28.25		1	190.92	8.62%	8.62%	0.000994056	0.000225444	0.000225444	-(C9-D9+E9)^2	C9*B5	
11	8	1	\$26.00		1	188.63	-7.94%	-1.20%	0.009120466	0.00053498	0.000209148			
12	9	1	\$25.75		1	182.00	-0.94%	-3.87%	0.00095938	0.000210366	0.000130538			
13	10	1	\$25.50		1	189.82	-0.97%	4.23%	0.000654046	0.000994211	0.000802021			
14	11	1	\$28.50		1	202.17	11.70%	6.51%	0.010359469	0.000298074	0.000489725			
15	12	1	\$29.25	\$0.00	1	211.20	2.63%	4.51%	0.000199027	0.000159974	0.000054514			
16	13	1	\$28.25		1	211.70	-0.42%	1.24%	0.000299005	0.000182005	0.000000997			
17	14	1	\$27.75		1	226.92	-1.77%	7.15%	0.011120589	0.00064263	0.000202971			
18	15	1	\$26.00	\$0.00	1	238.90	6.31%	5.70%	0.006297311	0.000175461	0.000288078			
19	16	1	\$26.50		1	235.52	9.62%	-1.43%	0.006466205	0.000439249	0.000202948			
20	17	1	\$27.25		1	247.55	-4.89%	5.02%	0.005597113	0.000238951	0.000234911			
21	18	1	\$23.00	\$0.00	1	250.64	-15.60%	1.41%	0.006205166	0.000570206	0.000051103			
22	19	1	\$19.25		1	236.12	-20.45%	-5.87%	0.049466131	0.000474639	0.0001953616			
23	20	1	\$23.00		1	252.93	22.01%	7.12%	0.057793461	0.000506909	0.000475567			
24	21	1	\$19.50	\$0.00	1	231.32	-15.22%	-9.54%	0.028237292	0.000104686	0.000420501			
25	22	1	\$20.25		1	243.90	3.85%	5.47%	0.006109377	0.000300463	0.000095058			
26	23	1	\$23.00		1	249.22	13.57%	2.15%	0.014384856	0.000169959	0.000120299			
27	24	1	\$21.00		1	242.17	-8.70%	-2.83%	0.010722005	0.000254199	0.000095959			
28	25	1	\$31.25		1	274.00	40.81%	13.18%	0.220000046	0.014552047	0.056945945			

Risk&RetWS

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wordcloud3 = WordCloud(width = 800, height = 800,
                        background_color = 'white',
                        colormap = 'Greys',
                        stopwords = stopwords,
                        min_font_size = 10).generate(comment_words)
ax3.imshow(wordcloud3)
ax3.axis('off')
ax3.set_title('Neutral Sentiment', fontsize=35);
```

Positive Sentiment

Negative Sentiment

Neutral Sentiment

```
In [82]: del df_pos
del df_neg
del df_neu

In [83]: # Define functions
def generate_ngrams(text, n_gram=1):
    token = [token for token in text.lower().split(' ') if token != '' if token not in STOPWORDS]
```

17:33


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Live Coaching

30 hours instructor-led, live interactive training & 10 hours of project and assignment.




Continuous Assessment

2 assignments




Industry Project

1 Industry-led Live Project




Constant Learner Support

Digital office hours + teaching assistant + lifetime recording access on LMS.



Alumni Status

Industry event invitations + student network access



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1 session of resume building and interview tips

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Meet Your Course Faculty



Mr. Vignesh Iyer

Principal Engineer at State Street & Visiting faculty at IIMs, NMIMS, SP Jain Mumbai

Session-Wise Course Curriculum

Session 1

↑

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