1. **Basic information**
2. **DBS**

* Headquartered in Singapore, DBS is a leading financial services group in Asia, with over 250 branches across 18 markets.
* Over 9 million customers with growing presence in the three key Asian axes of growth – Southeast Asia, Greater China and South Asia. To continue staying at the forefront of the industry, DBS has been using digital technology and innovation to extend its reach and enhance its efficiencies.
* 23,000 staff, representing over 40 nationalities: An employer of choice which has been recognised globally and regionally, e.g. World’s Best Employers (2017).
* Values:

|  |  |
| --- | --- |
| P: Purpose-driven | We believe the impact we create goes beyond banking to touch real lives and businesses |
| R: Relationship-led | We create long-lasting relationships with our customers and people |
| I: Innovative | We embrace change and encourage our people to challenge the status quo |
| D: Decisive | We think, act and own to help people live more |
| E: Everything fun | We believe fun is worth living for |

1. **DBS – Treasury / Fixed Income Division**

* Treasury & Markets (T&M) provides total solutions to serve DBS clients' hedging and investment needs with a regional emphasis. We have a strong record in providing innovative wealth management solutions to our individual investors.
* Recently set up a debt capital market product and advisory team in China in a bid to bring more first-time bond issuers to the offshore market. Chinese borrowers have been the dominant force for Asia's dollar bond issuance, making up about 60 per cent of the US$198 billion of notes sold so far this year, Bloomberg-compiled data show. DBS currently ranks 10th among the bond managers with 81 bonds, of which more than half are from Chinese companies.

1. **Job Requirements – AVP Fixed Income Origination (Treasury and Markets)**
   * To develop new digital platforms and solutions for Fixed Income
   * To develop algorithms to predict pricing for bonds (i.e. Good understanding of bond pricing mathematics and good knowledge of analytical and statistical models)
   * To develop digital models to augment the customer experience
   * To develop efficiency solutions to improve database management
2. **Interview questions**
3. ***Tell me more about yourself***

My bachelor degree was from NUS, where I majored in Accountancy. That was between 2009 and 2013.

Between 2013 and 2016, I was a manager with the Central Provident Fund (CPF) Board, where I was involved in:

* Analysing raw data to (1) ensure that they are accurate for government scheme payouts and (2) identify prevalent trends and provide relevant recommendations to support government policy reviews
* Working directly with my IT colleagues on various new implementations (i.e. develop new systems) and system enhancements/automations (i.e. on existing user interfaces), where I have to come up with the project requirements, test plan and scenarios, and thereafter test the new/enhanced system to ensure everything checks out according to the requirements.

Thereafter in 2016, I went on to pursue my joint Master studies in Quantitative Finance with SMU and City University, which is based in London.

After my graduation from my Master’s studies in Aug 2017, I began my new career with Mizuho Bank, where I was involved in working with various stakeholders to develop robust financial tools using programming languages and conduct research on latest Fintech developments and solutions.

1. ***Workfare details***

Just a brief introduction on Workfare, which was the government scheme that I was working on. Workfare is a government scheme that encourages eligible lower wage workers to stay employed by supplementing their monthly incomes and retirement savings with monthly payouts. It also encourages them to up-skill by providing separate funding support for their training purposes.

Before 2017, one of the qualifying criteria is that the worker must be earning a gross monthly income of not more than $1,900.

During the Workfare policy review for 2017’s implementation, one of the goals was to ensure that Workfare will continue to be targeted at the bottom 30th income percentile of workers. From the income data residing in our database, we were able to identify that the nominal gross income of the bottom 30th percentile has increased from $1,900 in 2012 to $2,000 in 2015. Thus, we proposed to our Minister to peg the new income ceiling to $2,000 instead for 2017’s implementation.

1. ***Why do you want to work in DBS? Why not other banks?***

I found DBS to be an attractive company to work for. Besides its established financial and employment standings, DBS is also known to embed innovation in its DNA, where every staff is encouraged to challenge the status quo by exploring new technologies to improve business processes and redefine the customer banking landscape.

Examples of DBS innovation in action:

* Internal: Incorporate hackathons into talent development programs
* External: Singapore’s first mobile wallet PayLah which has garnered over 300,000 users

Since the future is all about digital, I feel that DBS presents itself as an ideal environment where I can learn new technologies and couple it with my financial knowledge and innovative mindset to create long-lasting changes to businesses and customers in the digital space. In comparison, other banks currently do not have a strong focus/culture on innovation. As such, I am not able to maximize the true potential of my skillsets.

1. ***Why do you want to pursue a Fixed Income Origination job?***

Personally, I am someone who enjoys working in an environment where it allows me to make use of my financial skillsets and innovative mindset to tackle big business problems. This Fixed Income Origination role, which DBS is offering, is a close fit to what I am looking out for because the job focuses on both financial programming and innovation to develop customer-centric digital solutions in the Fixed Income space.

In addition, during my student days (and even now), I remembered the struggles that I had to endure in understanding the mathematics of bond pricing. Thus, if given the opportunity, I would like to apply my analytical, problem solving and programming skillsets that I have acquired through my studies and past work experiences to come up with hassle-free and customer-centric solutions that would help customers intuitively understand the nature of Fixed Income products and services.

[Possible technical questions]

* What is bond duration? 🡪 How bond prices change when interest rate changes (i.e. measurement of interest rate risk). Typically, interest rate tends to change with increasing time. Thus, the longer the duration of a bond, the more susceptible to changes in interest rates and bond prices.
* If you know interest rate would rise in future, then it may be wise to invest in short-term fixed income products (to minimize interest rate risks).
* Higher market interest rates 🡪 lower fixed-rate bond prices issued previously 🡪 higher YTM 🡪 Lower interest rate risk to rising market interest rates
* If you are holding a floating rate bond that is convertible to a fixed coupon bond, you would only convert if market interest rates are expected to drop. In other words, you would not convert if market interest rates are expected to rise.
* How to predict bond prices? 🡪 Machine learning with Generalized Linear Model /Deep learning with Neural Networks.

1. ***Why do you want to leave your current job?***

My current job focuses more on the IT programming aspects, where I use programming languages and automation software to design financial tools to meet end users’ requirements. While my job may appeal to some, I am the kind of person who would derive more job satisfaction when I can also make use of my financial knowledge and skillsets, together with programming, to tackle bigger business problems.

1. ***Where do you see yourself in 5 years’ time?***

My current motivation is to find a position at a company where I can grow and take on new challenges over time. Ultimately, I would like to be involved in projects that would maximize my financial skillsets and innovation mindset. But most importantly, I want to work for an organization where I can build a long-term career.

1. ***Why do you want to leave your previous job at CPF Board? Why the sudden decision to further your studies? And why Quantitative Finance?***

First, I believe in the process of lifelong learning. Since knowledge and technology are changing with time, I feel that it is important to keep up with current environment by acquiring relevant skillsets that I did not have previously, such as programming.

Second, I always have an interest in financial data analysis. With the abundance of data in this time and age, there are ample opportunities where we can use data to derive useful insights to improve business processes and decision making. These 2 reasons propelled me to pursue a Master’s degree in Quantitative Finance.

1. ***Share your strengths and weaknesses***

Strengths: Data research and analysis, business analysis, project management, stakeholder management

Weaknesses: I feel that I am a persistent perfectionist, where I will devote my time to deliver every piece of work in the best way possible. As I soon realised, this persistence can be very tiring. In order to remain sustainable in the long-run, I have learnt to choose the battles that I wish to fight in.

1. ***What is the riskiest thing that you have done?***

The riskiest thing I have done was revising for my GMAT test 3 days prior to the test date. That was in 2016. Back then, I was busy rolling out a major time-critical project for CPF Board. There was hardly enough time for revision as I had to work occasionally on weekends. When I finally had the time for revision, I spent half a day designing a study plan and setting daily goals. The daily goals involved familiarizing myself with tonnes of vocabulary that I had not seen in my life and reviewing the sample GMAT papers. This was necessary for me as it had been 3 years since I left formal education and I did not receive any formal GMAT training prior to the test.

During those 3 days, I stuck closely to my study plan and ensured that the daily goals were met at the end of each day. While this was a risky move, I believed that my self-discipline and ability to cope with high pressure time-critical situations would see me through this difficult time. Because of these characteristics, I managed to pass the GMAT test.

1. ***What is your biggest mistake?***

During my stint with CPF Board, part of my job involved dealing with large amounts of data to ensure that they are accurate for government payouts. In that incident, I overlooked on some data anomalies and this resulted in erroneous payments made to the public. When I realized what I had done wrong, I immediately took responsibility and devised a recovery action plan to inform the affected individuals about the erroneous payments. As the affected number was less than 10, I called up each of them to apologize, and explained to them how the erroneous payments came about.

It was a painful lesson, but it was when I realized I learnt to be more sensitive when handling data, e.g. anticipate different scenarios where things may go wrong, and take pro-active steps to prevent such events from happening.

1. ***Describe one major time-critical project that you took part in and describe how you handled it?***

One of the major time-critical projects that I handled was during my current stint with Mizuho Bank, where I had to invent a new tool to automate the matching and booking of Non-Deliverable Forward (NDF) trades between front-end and back-end systems within the short time span of 2 weeks.

It was an intensive process because I had to work with inherent system constraints/differences and think of innovative ways to match and book the NDF trades accurately and automatically in both front and back office systems, without changing the existing front and back office system designs. In the end, I resolved all these issues with the use of Excel VBA and Robotic Process Automation (which was a new and untested technology for the Bank). As a result of this automation tool, a total of 2 man-hours was saved on a daily basis for both front and back offices.

1. ***Do you have any questions for us?***

* What is the career progression like?
* What are the performance expectations of this position over the first 6 months?

1. **Basic information**
2. **Monetary Authority of Singapore (MAS) aka Singapore’s Central Bank**

* Established in 1971
* Mission: To promote sustained non-inflationary economic growth, and a sound and progressive financial centre
* Values include:
  + Integrity 🡪 Trustworthy
  + Commitment 🡪 Do our best for Singapore
  + Enterprise 🡪 Set high standards and innovate continuously
  + Teamwork
* Functions include:
  + Promotes sustained, non-inflationary economic growth through appropriate monetary policy formulation and close macroeconomic surveillance of emerging trends and potential vulnerabilities
  + Manages Singapore's exchange rate, foreign reserves and liquidity in the banking sector
  + Oversees all financial institutions in Singapore -- banks, insurers, capital market intermediaries, financial advisors, and the stock exchange
  + Shapes Singapore's financial industry by promoting a strong corporate governance framework and close adherence to international accounting standard

1. **Job Requirements – Assistant Director / Associate, Asset Management and Insurance Division (Asset Management)**

Responsible for formulating and implementing strategies to:

* Deepen and diversify investment capabilities across traditional, alternatives (e.g. private equity and venture capital) and specialised solutions
* Develop a robust market infrastructure (talent, tax, regulations, ancillary services etc) to support sustainable growth of the sectors
* Anchor new and emerging activities in areas such as FinTech or data solutions
* Actively monitor global and industry trends and developments, with a view to assess implications and develop/fine-tune strategies to strengthen Singapore’s competitiveness as an asset management hub
* Collaborate closely with both internal stakeholders, relevant government agencies, industry members and institutes of learning to understand the manager’s business models and plans for Singapore, facilitate meetings and process various tax and manpower initiatives as the key contact point

Skillsets:

* Good appreciation of business needs and market realities and demonstrated abilities to make good judgement call
* Excellent strategic thinking, and strong data and analytical skills
* Strong interpersonal skills and be able to positively influence internal and external stakeholders

1. **Interview questions**
2. ***Tell me more about yourself***

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1. ***Why do you want to pursue an Assistant Director (Asset Management and Insurance Division) job?***

Personally, I am someone who enjoys working in an environment where it allows me to make use of my analytical skillsets to devise business strategies and work with different people to get problems solved. This role that MAS is offering is a close fit to what I am looking out for because the job requires the candidate to work with different stakeholders, perform environmental analysis and propose strategies that would ensure the continued growth and competitiveness of financial sectors in Singapore.

Thus, if given the opportunity, I would like to apply my analytical, problem solving and stakeholder management skillsets that I have acquired through my studies and past work experiences to work with various stakeholders and come up with proposals that would ensure the continued growth of financial sectors in Singapore.

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## Making the Best Use of New Technology

**Challenges faced by Singapore financial industry**:

* Changing consumer behaviour 🡪 Easy and timely access to information and services (e.g. 24/7 HelpDesk)
* Meeting stringent compliance demands 🡪 Special emphasis has been placed by regulators on financial services because of the highly sensitive nature of the data they hold. In addition, the cost implications of high profile breaches and fines for non-compliance can cause considerable damage to an organisation’s budget sheet. Furthermore, the field of compliance and regulation is ever-developing and can seem like a moving target to financial organisations trying to keep up.
* Working more with less in a saturated market
* Marrying/Streamlining company’s existing operations with technological advances

**Digitization**: Real-time access to critical business information is crucial to achieving the agility and speed to remain competitive. To obtain this, centralised, streamlined systems are essential and digitising as much of the customers’ information will play a key role in achieving a complete overview. Intelligent scanning means that paper can be removed from processes early on - data can be extracted and validated from scanned documents, helping to speed up everything from credit card and mortgage applications to customer service. Besides improved efficiency, paperless technology could also contribute to potential cost savings for the financial institution, such as reduction in paper inventory and floor space taken up by filing cabinets.

**Interactive visualizations:** Furthermore, as the attention span of people get shorter, the need to present information in a concise and intuitive manner becomes ever more important. For example, convoluted paragraphs explaining the insurer’s benefits in a typical life insurance plan can be replaced with online interactive visualizations that would serve the same purpose.

**Improve/Automate existing business processes via Machine Learning and Artificial Intelligence**: Some business processes, such as Know Your Customers (KYC) / Anti-Money Laundering (AML) diligence procedures, are labour intensive and time consuming. However, the nature of these processes usually requires the employee to perform manual checks/monitoring against internal/external data sources. Manpower savings could be achieved by implementing Machine Learning and/or Artificial Intelligence algorithms to synthesize data from various sources and evaluate the potential customer/transaction. Automatic monitoring and early warning signals can also be made possible with the help of Machine Learning and/or Artificial Intelligence algorithms.