



INTRODUCTION TO THE HSBC QUANT ACADEMY

*HSBC QUANT ACADEMY FOR FACULTY OF MATHEMATICS AND COMPUTER
SCIENCE OF UJ*

DR. PHILIPPE J.S. DE BROUWER

ALL RIGHTS RESERVED BY THE AUTHOR
prepared for: Jagiellonian University in krakow

OCTOBER 4, 2026

Philippe De Brouwer

Academic and Professional Profile Dr. Philippe De Brouwer holds a background in theoretical physics and earned a second Master's degree in Business Engineering while working full time. His academic distinction includes solving the “fallacy of large numbers” puzzle, originally posed by P.A. Samuelson and unresolved for 38 years. In his Ph.D., he challenged the foundational assumptions of Harry Markowitz's Nobel Prize-winning Mean Variance Theory, developing the “Maslowian Portfolio Theory” and fundamentally advancing the field of investment advice.

Career Highlights Early in his career, De Brouwer transitioned from insurance to banking and from IT to asset management. At Fortis (now BNP Paribas), he played a key role in launching one of Belgium's first capital-guaranteed funds and was promoted to director in 2000. In 2002, he joined KBC, where he orchestrated the merger of four companies and became CEO of the consolidated entity in 2005. Under his leadership, the company climbed from 11th to 5th in the market, even amid heightened competition.

Following the financial crisis, De Brouwer led the creation of a new investment management company for KBC in Ireland, which quickly grew to manage around 1000 investment funds and approximately €32 billion in assets. In 2012, he broadened his expertise into financial risk management, focusing on statistics, analytics, data, and numerical methods.

Recent Roles and Publications De Brouwer served as Head of Analytics Development for the Royal Bank of Scotland Group and currently holds the position of SVP at HSBC in Kraków. There, he oversees the Model Review Centre of Excellence and serves as Global Head of Professional Practices for Model Risk Management. He also coordinates collaboration with universities.

He has authored numerous scientific papers and books, with his latest being “The Big R-Book: From Data Science to Big Data and Learning Machines.” His work continues to influence both academic and practical approaches to finance, risk, and data science.



[Wikipedia](#)
[Website](#)

Contact
[LinkedIn](#)
[e-mail](#)

mobile: +48
790 715 002



Contents

Contents	3
1 The Lecture Plan	3
2 The Exam	3
3 Disclaimer	4

1 The Lecture Plan

The Lecture Plan

HSBC Quants Academy Programme (sponsored for AGH)				Breaks
				2-7 April Spring Break
program coordinator		Philippe De Brouwer		1st of May 2026
program supervisor		Philippe De Brouwer		3rd of May 2026
when		Mondays 15:00 – 18:15		4th of June
where		AGH / A3-AA / 304 - 406		
time (h)	coordinator	lecturer	date	
PART I: Introduction to Banking and Risk				
Introduction + Banking / financial services organizations	3.0	Philippe De Brouwer	Philippe De Brouwer	2-Mar-2026
Risk Management and risk types	3.0		TBC Jorge Rosales	9-Mar-2026
PART II: Market Risk				
Loss distributions and risk metrics	3.0	Jorge Rosales	Jorge Rosales	16-Mar-2026
FRB (TBC)	3.0		Jakub Lis	23-Mar-2026
PART III: Credit Risk				
Introduction to Credit Risk & the modelling framework	3.0		Piotr Kobus	30-Mar-2026
Risk-Based Pricing	3.0		Roman Ivanov	13-Apr-2026
Regression techniques and scorecards in credit risk modelling	3.0	Piotr Kobus	Michał Kuty	20-Apr-2026
Risk Management in Pre-provision Net Revenue Forecasting	3.0		Kamil Stajerski + Marcin Nowik	27-Apr-2026
PART V: Valuation Adjustments				
Introduction to PVA + PVA	3.0	Eray Ferah	Artur Zajac	4-May-2026
Introduction to XVA + CCR	3.0		Eray Ferah	11-May-2026
PART VI: Operational Risk				
Introduction to quantitative operational risk	3.0	Jorge Rosales	Katarzyna Potasnik	18-May-2026
Natural Hazards as part of the credit risk	3.0		Jakub JANOWSKI	25-May-2026
PART VII: Elective Subjects and project counselling				
(TBC)	3.0	Philippe De Brouwer	Wojciech	1-Jun-2026
Quantum computing in banking	3.0		Jakub JANOWSKI	8-Jun-2026
PART VII: Concluding remarks & Exam				
Student's presentations & exam + starting in HSBC	3.0	Philippe De Brouwer	volunteers	15-Jun-2026

2 The Exam

The End-Work Choice of project:

- Market Risk
- Credit Risk
- Counterparty Credit Risk (maybe)

Teamwork:

- 2 to 5 people per project
- You choose your team

Plan:

- **ca. 15 November:** communication of the project briefings
- **November 30:** teams and subjects to be submitted to Philippe De Brouwer
- **January:** presentation in HSBC - for each team:
 - 10 minutes presentation
 - 10 minutes discussion

3 Disclaimer

Disclaimer

This presentation has been prepared by HSBC Service Delivery (Polska) Sp. z o.o. with a registered office located at Kapelanka 42A, 30-347 Kraków, Poland, registered in the District Court for Kraków-Śródmieście in Kraków, XI Commercial Division of the National Court Register, under the number KRS 0000310459, share capital (entirely paid) in the amount of 67 689 500,00 PLN, NIP 525-242-91-07, hereinafter referred to as “HSBC”.

HSBC has based this document on information obtained from sources it believes to be reliable but which has not been independently verified. While this information has been prepared in good faith, no representation or warranty, express or implied, is or will be made and no responsibility or liability is or will be accepted by the HSBC, or by any of their respective officers, employees or agents in relation to the accuracy or completeness of the Documents or any other written or oral information made available to any interested party or its advisers and any such liability is expressly disclaimed.

Any charts and graphs included are from publicly available sources or proprietary data. No liability is accepted whatsoever for any direct, indirect or consequential loss arising from the use of this document. HSBC is under no obligation to keep current the information in this document.

You are solely responsible for making your own independent appraisal of and investigations into the data, products, financial instruments and transactions referred to in this document and you should not rely on any information in this document as constituting investment advice. Neither HSBC nor any of its affiliates are responsible for providing you with legal, tax or other specialist advice and you should make your own arrangements in respect of this accordingly.

The issuance of and details contained in this document, which is not for public circulation, does not constitute an offer or solicitation for, or advice that you should enter into, the purchase or sale of any security, commodity or other financial instrument or master agreement, or any other contract, agreement or structure whatsoever. This document is intended to be distributed in its entirety. Reproduction of this document, in whole or in part, or disclosure of any of its contents, without prior consent of HSBC or any associate, is prohibited.