MASTER OF SCIENCE IN
FINANCIAL ECONOMICS (MSFE)

Helps you on your journey from the Classroom to the Boardroom.
The Master of Science in Financial Economics has a unique curriculum designed to produce the talents in financial economics required to meet the challenges faced by the financial industry.

Financial economics has long been a subject of critical importance. It has gained more prominence after the global financial crisis because the crisis has influenced research directions in financial economics and financial econometrics, the practice of investment strategies, risk management, macro and financial surveillance, and regulations, among many other things.

The Master of Science in Financial Economics (MSFE) has a unique curriculum designed to produce the talents in financial economics required to meet the challenges faced by the financial industry. The programme has been designed in consultation with a panel of advisers from leading financial institutions in Singapore and leading academic researchers in financial economics. This panel has helped ensure that the choice and content of courses match the needs of employers and the advanced studies.

The programme is taught by leading academic researchers and business leaders and delivered through one of SMU’s leading research Institutes – the Sim Kee Boon Institute for Financial Economics (SKBI). SKBI is well placed to run the MSFE programme because it has a strong industry-linked board and a larger and prolific group of affiliated researchers in the area of econometrics and finance.

**MSFE is the first multi-disciplinary master’s programme offered by SMU and combines SMU’s strengths in four specialist areas: economics, finance, accounting and the law. Throughout the course, we stress the links between financial economics theory and key finance activities, financial econometric tools and actual data.**

It is a full-time programme in English by course work over 12 months and is offered in Singapore, one of the leading financial centres in Asia. Students will be trained to have a thorough understanding of the economic fundamentals of financial markets and institutions, financial statistical and financial econometric techniques, financial regulations, and security pricing. It has two tracks: applied and research.

The applied track prepares graduates for the financial industry and the public sector aftermath of the global financial crisis. The research track prepares graduates for advanced studies in economics and finance.

I encourage you to join this exciting programme and am confident that you will find the learning experience rewarding and enriching.

**Professor Jun Yu**  
Professor of Economics & Finance  
Director of Sim Kee Boon Institute for Financial Economics  
Singapore Management University
Message From The Programme Director

The cause of any crisis is not always an accidental sequence of unavoidable events, but is often ensconced in the actions of individuals or institutions under extenuating circumstances. Furthermore, while some crises are inherently unpreventable, often a timely human intervention might prevent a crisis from becoming a disaster.

This phenomenon is true for the world we live in; the world of financial economics is no different. The last two decades saw a sea change in the financial landscape and, at the end of the last millennium, an unprecedented period of uninterrupted growth rarely experienced by the developed economies in the West. This general euphoria was reflected in a boom period in the US real estate sector, among other asset classes, that continued till the beginning of the current millennium.

The brief episode of the “dot.com” or “technology bubble” did little to diminish this unfettered growth. Indeed, it may have helped to germinate the next phase, which was manifested in the “irrational exuberance” in the US real estate sector with disastrous consequences. It is debatable whether any of these crises could have been prevented, but what is without doubt is that a timely regulatory intervention might have stopped exacerbating an imminent downturn to the Great Recession.

The Master of Science in Financial Economics (MSFE) owes its genesis to the demand of the financial sector for a holistic and multidisciplinary approach that might, among other things, prevent a future crisis from escalating to a disaster.

MSFE addresses the need for the multidisciplinary delivery of economic and financial theory with applications that incorporates elements of accounting and legal practices. This programme aspires to provide a truly “transformative” learning experience to students who seek to pursue a career either in research or the practice of financial economics to answer a patently widening gap between product developers, regulators and the ultimate investors – the general public.

Managed by the Sim Kee Boon Institute for Financial Economics this programme leverages on the main advantages of SMU’s world-class pioneering research in finance and economics. The aim is to address how different disciplines can come together in times of crisis. Such knowledge is essential but is severely lacking in many intrinsically single discipline-based approaches.

As the founding Programme Director and one of the architects of the MSFE programme, I would like to invite quantitatively inclined broad-minded aspiring financial professionals to help change the financial world with academics’ rigour and practitioners’ flair, and share a ride to the boardrooms of tomorrow.

Dr Aurobindo Ghosh
Programme Director,
Sim Kee Boon Institute for Financial Economics (SKBI),
Singapore Management University
Programme Overview

The complexities of the modern financial industry and its global linkages have multiplied rapidly over the last decade, producing many new challenges and opportunities. On one hand, the challenge faced by financial managers in fathoming the implications of new economic policies and regulations and new financial products has become increasingly daunting. On the other hand, a vast array of novel modelling, forecasting and surveillance methods has been developed in financial theory and econometrics to address these challenges. It is therefore important to equip talented professionals with the most advanced tools of economic theory, financial econometrics and statistical computation to study the manifold problems faced by the financial industry.

The Master of Science in Financial Economics (MSFE) programme addresses the need for a rigorous curriculum linking economics and econometrics to finance. The MSFE programme combines two central strengths of SMU – econometrics and finance – in a programme that meets the strong industry demand for professionals with the skills for deep analysis of increasingly complex financial problems in a new era of dynamic policy and regulation. The full-time degree programme imparts the foundational knowledge in economics and econometrics and the domain knowledge of the workings of the financial markets along with essential skills for financial accounting practices and the relevant financial law and jurisprudence.

The programme teaches students how to apply the most advanced tools in economics and econometrics to finance. Its primary strength draws on the inherent multidisciplinary nature of the programme involving faculty with expertise in economics, econometrics and finance to a larger degree, and in accounting and law to a lesser degree, thereby generating a unique "transformational" learning experience for students. Going with the theme of any coveted SMU degree and leveraging on its key geographic location, this programme provides excellent networking opportunities. Academic and industry seminars for students with applied and research tracks provides an ideal springboard for the technically sound but market orientated professionals.

ADMISSION CRITERIA
- Good university degree
- Acceptable TOEFL/IELTS scores
- A written exam (covering economics, finance and statistics) in English
- Oral interview
- Reference Letters

For more information, please visit skbi.smu.edu.sg/msfe

PROGRAMME FEES

<table>
<thead>
<tr>
<th>Application Fee</th>
<th>Registration Fee</th>
<th>Tuition Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>S$50</td>
<td>S$500</td>
<td>S$35,000</td>
</tr>
</tbody>
</table>

SAMPLE CURRICULA

RESEARCH TRACK
Term 1: Micro I and II, Macro I and II, Econometrics I and II, Comp. Statistics, Corporate Finance

APPLIED TRACK
Term 1: Micro I and II, Macro I and II, Econometrics I and II, Comp. Statistics, Corporate Finance

SCHEDULED CALENDAR OF MODULES
Synopsis of Modules

CORE COURSES (PROGRAMME, UNITS)

**Microeconomics (MSFE, 1 unit)**
This course is a graduate-level introduction to microeconomics. The objective of this module is to provide students with a sound grounding in the analytical methods of microeconomic theory used by economists. The course focuses on classical theories of consumer and producer behaviour and on the theory of competitive equilibrium.

**Macroeconomics (MSFE, 1 unit)**
This module provides students with an in-depth knowledge of the macro-economy and of recent macroeconomic phenomena through exposure to modern dynamic macroeconomic models. The course also addresses the impact of policies on growth and development, the labour market, and the business cycle. The course analyses long term growth across countries, and then analyses the labour market, and the determinants of households’ consumption and savings decisions. The two final parts cover business cycles, and the role of banks and monetary policy.

**Econometrics (MSFE, 1 unit)**
This is an advanced introduction to econometrics. This module covers the commonly used models and methods in econometrics with computer implementation using real and simulated data. There is a balanced emphasis on theory, application, and computation. The course will also give an overview of time-series econometrics, designed to introduce students to a range of material in stationary and non-stationary time series including linear and non-linear time-series analysis.

**Financial Econometrics (MSFE, 1 unit)**
The module encompasses application of econometric methods to the characterisation of financial data, and to the estimation and testing of selected models of modern finance theory. Areas to be covered include: the statistical modelling and forecasting of financial time series, with application to share prices, exchange rates and interest rates; estimation and testing of asset pricing models including the capital asset pricing model and extensions; the modelling of volatility; practical application of volatility forecasting; and estimating continuous time models.

**Computational Statistics in Finance (MSFE, 0.5 units)**
This course exposes the students to concepts of modern data analysis. This builds on a basic knowledge of introductory statistics and probability theory including elementary notions of random variables and statistical inference, and some exposure to linear algebra. This model develops both classical and simulation-based methods of computational statistics in financial data analysis.

**Empirical Finance (MSFE, 1 unit)**
This module introduces key empirical research methodologies in financial economics. It illustrates the use of econometric methods in analysing financial data, such as stock and bond prices, interest rates, foreign exchange rates, commodity and futures prices and option prices. Topics include tests of asset valuation models such as the capital asset pricing model, multifactor pricing models, derivative pricing models, term structure of interest rates models and event-study analysis.

**Corporate Finance (MSFE, 0.5 units)**
This course provides students with a basic understanding of corporate finance. Students will be exposed to key financial concepts and tools commonly used by managers in making sound financial decisions. These include time value of money, risk-return trade-off analysis and cost of capital. The course also reviews the basic financial activities undertaken by firms to create value for its shareholders. These activities include investing, financing and dividend policy.

The MSFE degree programme leverages SKBI’s inter-disciplinary academic rigour, strong industry relationships and Singapore’s strategic location to offer unparalleled insights into the many challenges and opportunities of the “emerging global economy” that face practitioners, policymakers and regulators today.

Aje Saigal,
CEO, CIO, Nuvest Capital,
Ex-Managing Director, Economic Policy,
Government of Singapore Investment Corporation,
SKBI Advisory Board Member
I was motivated to apply for the MSc in Finance and Economics programme (in WBS) because it promised to be challenging and help equip me with the theory applicable to the industry. What has surprised me is the extent to which I find myself applying my economics tools in finance classes and vice versa. The past few weeks have shown me that a grounding in economics plays a big role if you want to delve deeper into financial concepts, in both empirical and theoretical work. I would definitely recommend such a course to anyone interested in understanding financial and economic relationships beyond the undergraduate level.”

Low Wen Yan
Richard Andrew,
Current student at Warwick Business School
MSc in Finance and Economics,
SMU Alumnus with double-degree in Economics and Business
Topics in Time-Series Econometrics (MSFE/MSE, 0.5 units) research
This is an overview of time-series econometrics, designed to introduce students to a range of topics in stationary and non-stationary time series, including unit root theory, state-space models, non-linear time-series analysis, and Bayesian time-series methods.

Derivative Securities (MSFE, 1 unit) research
Financial derivatives have applications across many areas of finance, such as hedging, swaps, convertible claims, and corporate decision making. The objective of this course is for students to understand profoundly the valuation of forwards, futures, options and other derivative securities, and their use in hedging risk exposures, such as commodity price risk, currency risk, interest rate risk, stock portfolio risk, and so forth. Students will be given the opportunity to explore a comprehensive online financial markets simulation system (Stock-Trak) to obtain hands-on experience (of a fund manager) in trading in the “real” market.

Game Theory (MSFE/MSE, 0.5 units) research
This is an advanced course in game theory. Students will learn the mathematical foundations of non-cooperative and co-operative game theory, and be exposed to the application of game-theoretic models to various fields in economics, including labour economics, macroeconomics, international economics, social choice and industrial organisation. Multi-stage repeated games will be discussed in the course. Students will learn the solution concept of Perfect Bayesian Nash equilibrium, and apply it to solve for a broad class of games of incomplete information.

The MSFE programme SMU offers is definitely an ice breaker for students from SWUFE. It is a great programme with supreme quality, comprehensive training and intensive drilling.”

Dean Li Gan,
Southwestern University of Finance and Economics and Professor,
Texas A&M University

The G20 has recognised that one of the key lessons from the crisis has been that in terms of technical expertise, policy makers need to be a step ahead of private sector financial analysts in order to understand and mitigate complex risks arising from the interconnected nature of financial systems.

This Master of Science in Financial Economics (MSFE) is designed so that students acquire a sound grasp of multiple disciplines including economics, econometrics, finance and accounting. Of particular importance is the fact that students will have a chance to interact first hand with renowned experts in these disciplines in the unique pedagogical style of SMU which encourages open discussion, close interaction and collective learning.

Such multidimensional expertise is critical for macro-prudential and financial stability policy making in central banks around the world. I think this course is well suited to groom a cohort of policy makers who are technically sophisticated, yet are able to establish and enforce prudent regulatory practices in the financial industry.”

Prajakta Kharkar Nigam,
ODI Fellow, LSE,
at Bank of Uganda,
SMU Alumnus with double-degree in Economics and Business Management,
Founding CEO of MILART, a social enterprise in East Africa