SMU MASTER OF SCIENCE IN FINANCIAL ECONOMICS

Helps you on your journey from the Classroom to the Boardroom.
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 regulation, 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 advanced studies.

The MSFE is a multidisciplinary programme administered by the School of Economics and combines SMU’s strengths in four specialist areas: economics, finance, accounting and law. The programme is taught by leading academic researchers in these fields, and throughout we stress the links between financial economic theory, key finance activities, financial econometric tools and actual financial data.

The MSFE is a fulltime 12-month programme of coursework taught in English. It is offered in Singapore, one of Asia’s leading financial centres. Students will gain a thorough understanding of the economic fundamentals of financial markets and institutions, financial statistical and econometric techniques, financial regulation, and securities pricing.

There are two tracks available, both stemming from a common core. The applied track prepares graduates for the financial industry and the public sector in the post-GFC world. 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 Bryce Hool
Dean, School of Economics
Singapore Management University
The genesis of any crisis is not always an accidental sequence of unfortunate events, but is often hidden in the actions of individuals or institutions under extenuating circumstances. Furthermore, while some crises are inherently unpreventable, often a timely 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 dampen 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, to 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.

The Master of Science in Financial Economics (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.

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.

Assistant Professor Aurobindo Ghosh,
Lee Kong Chian School of Business,
Programme Director,
Master of Science in Financial Economics,
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 the one hand, the challenges faced by financial managers in fathoming the implications of new economic policies and regulations and new financial products have 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 proposed 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 loud 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 will impart 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 will teach 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 will provide excellent networking opportunities. Academic and industry seminars and research projects in the Sim Kee Boon Institute for Financial Economics also provide students with valuable opportunities to enhance their preparation for professional roles in the finance industry.

Admission Criteria
- Good university degree
- Acceptable GMAT/GRE/Preparatory programme scores
- Acceptable TOEFL/IELTS scores
- A written exam (covering economics, finance and statistics) in English
- Oral interview
- Reference Letters

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

Programme Fees

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<th>Application Fee</th>
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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

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<th>Type</th>
<th>Courses</th>
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**Synopsis of Modules**

**Core Courses (Programme, Units)**

**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.

**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.

**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.

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"The MFSE degree programme leverages SMU's inter-disciplinary academic rigor, 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
The MSFE program has taught me how to analyse finance issues from a global perspective. It enables me to make an objective judgment in a complex real world case.

With the help of professors here, I have gained knowledge of the fundamental theory, as well as the project experience of dealing with real world cases. They really know how things work in the market. Using the advanced tools, I am more confident to link the data analysis to the real financial world applications. I think that is a key strength for me in the job market.

Du Ting,
MSFE, 2014
Inaugural Standard Chartered Bank MSFE Award Recipient
Financial Advisors and the Law (MSFE, 0.5 units) applied
The course will consider the circumstances in which financial advisers may be legally liable for advice which turns out badly. Topics include liability in contract, how contracts are made, express and implied terms, possibility of limiting liability, remedies for breach of contract, negligence, scope of duty of care, fraud, remedies, liabilities in both contract and tort.

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, 0.5 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.

Mathematics of Fixed Income (MSFE, 0.5 units) applied and research
This is a 6-week course on the mathematics of interest rates and bond management. Students will go through the basic theories of interest rates, including the computation of the future and present values of annuities. There will be an introduction to bond investments and the risks involved, including pricing formulas, measurement of returns, interest-rate risk, reinvestment risk and other risks. Estimation and theory of term structure will be discussed, as well as techniques for using bonds to immunize interest-rate risks.

Prajakta Kharkar, Senior Economic Analyst, Financial Stability Department, Bank of Canada
Comments and views shared are personal and do not in any way represent the views of Bank of Canada.

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.

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.

Topics in Microeconomic 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.