Hong Kong University of Science and Technology
Department of Economics

International Finance and Open Economy Macroeconomics
ECON 5347 (M.Sc. Economics)

No. of Credits: 2
Background: First-year Macroeconomics from any university

Time: Tu 09:30am – 12:50pm (Jan 5, 12, 19)
Th 09:30am – 12:50pm; 02:00pm – 05:20pm (Jan 7, 14)
Th 09:30am – 12:50pm (Jan 21)

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Office Hours: 12:50pm-1:50pm (Jan 5, 12, 19, 21), lecture room after the class

Course Description

This course is designed as an applied and up-to-date course on International Finance and International Macroeconomics. The course will equip our students with the appropriate analytical framework, updated knowledge and investment skill in the foreign exchange market and other asset markets. The lectures will first discuss (1) actual practices in the foreign exchange market; (2) implications of traditional models on the determinants of exchange rate and their applications for foreign exchange dealers and investors; (3) implications of new models on the dynamics of exchange rate and their applications for foreign exchange dealers and investors in various types of assets; and (4) effects of market fundamentals, government policies, political and policy regimes, expectation, economic data release, news and surprises on the movements of exchange rate and other asset prices.

As asset bubbles and financial crises are extremely important to asset investors' capital gains (or losses) and the macroeconomy, the subsequent lectures will put particular emphasis on (5) theories on the seeding stage, the development stage and the final stage of currency bubbles and other asset bubbles: lessons for foreign exchange market participants, fund managers and other asset investors; (6) case application on the USD bubble in 1980-84; (7) theories on the characteristics and regularities of currency crises and the role of capital control: lessons for asset investors and policy makers; (8) hedge funds' speculative attack and currency crises: the strategy, the transmission mechanism and the results (liquidity crunch + collapse spilled over from the forward rate to the spot rate); (9) hedge funds' speculative

attack on Thai Bhat and other Asian currencies during the 1997-98 Asian Financial Crisis, Paul Krugman's policy recommendation and its adoption in Malaysia; (10) hedge funds' speculative attack on HK's stock market and currency market, and the subsequent rebound; (11) the plunges of Renminbi (RMB) during the mini RMB crisis in 2015, the two episodes of Sino-US Trade War in 2018 and 2019, the US interest rate hikes in 2022-23: lessons for policy makers, foreign exchange market participants, fund managers, and cross-country portfolio investors; and (12) Singapore's choice of not developing its SGD currency futures market and its own stock futures market, and its role of limiting the harms to Singapore's financial markets and economy during the Asian Financial Crisis: lessons for China, HK and the crisis-hit Asian economies. Specifically, the course will cover:

- actual practices in the foreign exchange market: the spot market, the forward market with banks (mainly for exporters and importers), the currency futures market (also open to speculators), non-deliverable forward (NDF), HK's RMB futures market, the currency swap market, hedging versus speculation, carry trade, uncovered and covered interest arbitrages, the role of currency futures market and covered interest arbitrage in currency attacks, and the role of speculators and arbitrageurs in currency attacks;
- the Doctrine of Impossible Trinity and its applications on the choices of exchange rate systems and monetary regimes in the US, Hong Kong, Singapore and China;
- implications of traditional models on the determinants of exchange rate and their applications for foreign exchange dealers and investors;
- implications of new models on the dynamics of exchange rate and their applications for foreign exchange dealers and investors in various types of assets;
- effects of market fundamentals, government policies, political and policy regimes (e.g., Brexit, national poll, election result, and changes in prime minister, finance minister or central bank governor); expectation, economic data release, news and surprises on the movement of exchange rate and other asset prices;
- theories on currency bubble and other asset bubble: lessons and applications for foreign exchange dealers, asset investors and policy makers;
- <u>case application 1</u>: ***the USD bubble in 1980-84***: lessons for foreign exchange market participants and cross-country portfolio investors;
- theories on currency crisis and other internal financial crises: lessons for asset investors and policy makers;
- hedge funds' strategies in their speculative attack on a currency, and the detailed transmission mechanism;
- the role of currency futures market and covered interest arbitrage in currency attacks;
- <u>case application 2</u>: ***hedge funds' speculative attack on the Asian currencies during the Asian Financial Crisis*** in 1997-98;
- <u>case application 3</u>: ***hedge funds' speculative attack on HK's stock market and currency market***;
- role of speculators and arbitrageurs in the currency attack and the stock market attack;
- <u>case application 4</u>: the ***plunges of RMB during the mini RMB crisis in 2015, the two episodes of Sino-US Trade War in 2018 and 2019, and the US interest rate hike in 2022-23***;
- the potential danger and severe capital flight if there is a war or significant escalation of tension between Mainland China and Taiwan

  - the recommended policy; and
  - the implications of the recent Sino-US political change on this risk
- case application 5: Singapore's choice of not developing SGD currency futures market and its own stock futures market (i.e., the choice was made in its national debate on the internationalization of SGD in the 1970s)
  - to be a global financial center, Singapore government did allow, support and encourage speculation in non-SGD currency futures and foreign (non-Singapore) stock futures, but did not set up exchanges for SGD currency futures and Singapore stock index futures;
  - the choice has resulted in Singapore not being directly attacked by hedge funds during the 1997-98 Asian Financial Crisis, i.e., most of the harm were done through the spillover effect from the neighboring economies, and it is the Singapore government who chose to let SGD down to mitigate the impacts created by the collapse of exchange rate in its neighboring economies
  - lessons for HK and the crisis-hit Asian economies
  - lessons for the current debate on the internationalization of RMB

Learning Outcomes

As explained in the course description, the course is an applied and up-to-date course on International Finance and International Macroeconomics. The course will equip our students with the appropriate analytical framework, updated knowledge and investment skill in the foreign exchange market and other asset markets. After the course, students would know the

(1) actual practices in the foreign exchange market;
(2) implications of traditional models on the determinants of exchange rate and their applications for foreign exchange dealers and investors;
(3) implications of new models on the dynamics of exchange rate and their applications for foreign exchange dealers and investors in various types of assets;
(4) effects of market fundamentals, government policies, political and policy regimes, expectation, economic data release, news and surprises on the movements of exchange rate and other asset prices;
(5) theories on the seeding stage, the development stage and the final stage of currency bubbles and other asset bubbles: lessons for foreign exchange market participants, fund managers and other asset investors;
(6) case application on the USD bubble in 1980-84;
(7) theories on the characteristics and regularities of currency crises and the role of capital control: lessons for asset investors and policy makers;
(8) hedge funds' speculative attack and currency crises: the strategy, the transmission mechanism and the results (liquidity crunch + collapse spilled over from the forward rate to the spot rate);
(9) hedge funds' speculative attack on Thai Bhat and other Asian currencies during the 1997-98 Asian Financial Crisis, Paul Krugman's policy recommendation and its adoption in Malaysia;
(10) hedge funds' speculative attack on HK's stock market and currency market, and the subsequent rebound;

(11) the plunges of Renminbi (RMB) during the mini RMB crisis in 2015, the two episodes of Sino-US Trade War in 2018 and 2019, the US interest rate hikes in 2022-23: lessons for policy makers, foreign exchange market participants, fund managers, and cross-country portfolio investors; and
(12) Singapore's choice of not developing its SGD currency futures market and its own stock futures market, and its role of limiting the harms to Singapore's financial markets and economy during the Asian Financial Crisis: lessons for China, HK and the crisis-hit Asian economies.

Course Intended Learning Outcomes (Course ILOs)

Students will be able to:

1. Demonstrate general knowledge about international finance and international macroeconomics. Identify the main questions and issues, and learn how to analyze them. (SILO #1 & #3)
2. Know models and theories in international finance and international macroeconomics, and how they can be applied to the real world. (SILO #1 & #3)
3. Apply concepts, principles, and models learned in this course to analyze issues and policies in international macroeconomics and the international financial markets in the real world. (SILO #1 & #3)
4. Communicate effectively in oral and written English when analyzing economic issues. (SILO #1 & #3)
5. Analyze the consequences of an international macroeconomic shock or a policy change, and hence provide investment suggestions on foreign exchange rate and other asset prices, as well as provide policy suggestions to governments and international organizations. (SILO #1 & #3)

Teaching Approach

This course is primarily delivered through lectures and case applications during lectures.

Teaching and learning activities	Roles in the course	Course ILOS addressed
Lectures	Learn key concepts and models, and their applications	1, 2, 3, 4, 5
Case Applications	Applied the concepts, models and applications to real world cases	1, 2, 3, 4, 5

Assessments

Assessments activities	Weighting	Course ILOS addressed
1 Class Participation	10%	1, 2, 3, 4, 5
3 Homework Assignments	15%×3	1, 2, 3, 4, 5
1 Final Examination	45%	1, 2, 3, 4, 5

Final Grade Descriptors

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	Demonstrates a comprehensive grasp of subject matter, expertise in problem-solving, and significant creativity in thinking. Exhibits a high capacity for scholarship and collaboration, going beyond core requirements to achieve learning goals.
B	Good Performance	Shows good knowledge and understanding of the main subject matter, competence in problem-solving, and the ability to analyze and evaluate issues. Displays high motivation to learn and the ability to work effectively with others.
C	Satisfactory Performance	Possesses adequate knowledge of core subject matter, competence in dealing with familiar problems, and some capacity for analysis and critical thinking. Shows persistence and effort to achieve broadly defined learning goals.
F	Fail	Demonstrates insufficient understanding of the subject matter and lacks the necessary problem-solving skills. Shows limited ability to think critically or analytically and exhibits minimal effort towards achieving learning goals. Does not meet the threshold requirements for professional practice or development in the discipline.

Use of generative AI

Students are encouraged to use generative AI to help their assignment works.

Course Outline and Lecture Schedule

Lecture	Topics	Remarks & Readings
1-2	**Actual Practices in the Foreign Exchange Market** • the spot market • the forward market with banks (limited participants) • the currency futures market (also open to speculators) • HK's RMB futures market vs Singapore's & US's NDF • the currency swap market • hedging vs speculation • carry trade • uncovered and covered interest arbitrages • the role of currency futures market and covered interest arbitrage in currency attacks, and the role of speculators and arbitrageurs in currency attacks • Singapore's choice of not developing its SGD currency futures market and its own stock futures market	Lecture notes + related readings in Yip (2019, 2018 and 2011)
	Different measures of exchange rate: • exchange rate vis-à-vis the USD: the misinterpretation problem during the mini RMB Crisis in 2015 • nominal effective exchange rate: Singapore vs Hong Kong • real effective exchange rate and relative price competitiveness: implications and limitations	Lecture notes + related readings in Yip (2016), and Yip, Tse and Dong (2023)
	The Doctrine of Impossible Trinity and its applications on the choices of exchange rate systems and monetary regimes in the US, Singapore, Hong Kong, and China	Lecture notes + related readings in Yip (2011 and 2005)
2-3	**Traditional Models on the Determinants of Exchange Rate and their Applications** • the simple supply and demand analysis • Purchasing Power Parity • The Monetary Approach **New Models on the Dynamics of Exchange Rate and their Applications** • exchange rate overshooting models (+ real property price overshooting models for the property market) • portfolio balance model • stock-flow approach and role of current account balance • Smooth Transitional Autoregressive (STAR) Models on the nonlinear adjustment speed of exchange rate: fast adjustment speed if the exchange rate deviates a lot from the equilibrium, and very slow adjustment speed or stationarity if the deviation is small	To cater for the different trainings of students, the lectures will provide brief reviews on the models and focus on their applications. Students with intention to do a Ph.D. degree should in the future do in-depth readings on the recommended journal articles. Lecture Notes + Yan and Yip (2021)

4	**Role of market fundamentals, government policies, political and policy regimes, expectation, economic data releases, news and surprises on the movement of exchange rate and other asset prices** • effects of various market fundamentals • effects of various government policies • effects of political and policy regimes (e.g., explanation of which party represents a strong USD regime while the other party represents a weaker USD regime, Donald Trump's election, Brexit and other national poll) • role of expectation on the above factors • anticipated change vs unanticipated change: asset prices have already priced-in current expectation on the above factors, unanticipated change matters • effects of various news and surprises on economic fundamentals • effects of various news and surprises before and just after Brexit poll, party election result and other political events • effects of economic data release: only the unanticipated part has effect	Lecture Notes + journal articles by Frankel and Froot + Yip's previous presentation slides in the training courses for the Citibank in HK and the Institute of Banking and Finance in Singapore
5	**Theories on Currency Bubble and Other Asset Bubbles: Lessons for foreign exchange market participants, fund managers and other asset investors** • **characteristics and regularities of the following three stages of a currency bubble** - the seeding stage - the development stage; and - the final stage • chartists vs fundamentalists • the discussion by Frankel and Froot on the role of changing ratio of chartists-to-fundamentalists on the formation of a currency bubble • case application 1: ***the USD bubble in 1980-84***, and applications to other asset bubble • lessons for foreign exchange market participants, fund managers and cross-countries portfolio investors	Lecture Notes + related readings in Yip (2011, 2018 and 2019)
6	**Currency Crisis, Other Internal Financial Crises and their Applications** • currency crisis vs other internal financial crises • role of capital control vs role of Quantitative Easing • **The Characteristics and Regularities of the various stages of a currency crisis and other financial crises** - **the early stage**: the first fall and then the subsequent plunges - **the stage of a full-blown crisis**: large number of vicious cycles and downward spirals - **the post-crisis recession**	Lecture Notes + related readings in Yip (2018 and 2019)

	• implications for foreign exchange market participants, fund managers and cross-countries portfolio investors	
7	**Hedge Funds' Speculative Attack and Currency Crisis** • speculators' strategies and the role of currency futures market and covered interest arbitrage • the mechanism and the results (liquidity crunch + collapse spilled over from the forward rate to the spot rate) • <u>case application 2</u>: - ***Hedge fund's speculative attack on the Asian currencies during the Asian Financial Crisis in 1997-98;*** - ***The role of Paul Krugman's recommendation of capital control and Malaysia's adoption in ending the crisis in Malaysia***	Lecture Notes + related readings in Yip (2011 and 2005), and Tse and Yip (2006 and 2003)
7-8	**Further Applications on Hedge Funds' Speculative Attack and Currency Crises** • <u>case applications 3</u>***: Hedge funds' speculative attack on HK's stock market and currency market*** - the linked exchange rate system in HK - speculators' strategy - the stock market defense in 1998 - Yip's and the others' proposals to re-activate covered interest arbitrage and hence bring the high HK interest rate back towards the US level - the role of HKMA's 7 measures, especially the role of exchange rate guarantee in reactivating covered interest arbitrage, thus bringing the high HK interest rate back towards the US level, and hence ending the crisis	Lecture Notes + related readings in Tse and Yip (2003 and 2006), and Yip (2011, 2005 and 1999)
	• <u>case applications 4</u>***: The plunges of RMB*** - the plunges of RMB during the mini RMB crisis in 2015, the two episodes of Sino-US Trade War in 2018 and 2019, and the US interest rate hikes in 2022-23 - the recommended solution - the potential danger and severe capital flight if there is a war or significant escalation of tension between Mainland China and Taiwan, policy recommendation - the implications of the recent Sino-US political change on this risk	Lecture Notes + related readings in Yip, Tse and Dong (2023) and Yip (2016)
	• <u>case applications 5</u>***: Singapore's choice of not developing SGD currency futures market and its own stock futures market during the debate on the internationalization of SGD in the 1970s*** - to be a global financial center, Singapore government do allow, support and encourage speculation in non-SGD currency futures and foreign (non-Singapore)	

	stock futures, but do not set up exchanges for SGD currency futures and Singapore stock index futures; - the difference in the choice has resulted in Singapore not being directly attacked by hedge funds during the 1997-98 Asian Financial Crisis (i.e., most of the harm were done through the spillover effect from the neighboring economies, and it was the Singapore government who chose to let SGD down to mitigate the impacts created by the collapse of exchange rate in its neighboring economies) - lessons for HK and the crisis-hit Asian economies - lessons for the debate on the internationalization of RMB	

Reference Books:

Yip P.S.L. (2019), From the Global Financial Tsunami to the Property Bubbles in Asia: The Need for a New Discipline in Macroeconomic Management, Scientific World: Singapore.

Yip P.S.L. (2011), China's Exchange Rate System Reform: Lessons for Macroeconomic Policy Management, Scientific World: Singapore.

Yip P.S.L. (2005), The Exchange Rate System in Hong Kong and Singapore: Currency Board versus Monitoring Band, Prentice Hall: Singapore.

Journal Articles

Yip S.L., Tse Y.K. and Dong Y.J., (2023), The Exchange Rate System Reform in China: Some Important Results, *Singapore Economic Review*.

Yip S.L. (2021), Nonlinear Adjustment of Exchange Rate and Exchange Rate Policy: Lessons from Singapore, *International Journal of Finance and Economics*, 26 (1), 171-184.

Yip P.S.L. (2018), Some Important Characteristics of Asset Bubbles and Financial Crises, *Modern Economy*, 9, 1137-1168. www.script.org/journal/me.

Yip P.S.L. (2016), China's Exchange Rate System Reform: Two Potential Mistakes and the Recommended Long-Term System, *Singapore Economic Review*, 61 (2), 1640025,1-40.

Yip P.S.L. (2014), The Risk of Property Bubbles in Hong Kong and Singapore: Another Aftershock Crisis of the Global Financial Tsunami, *Singapore Economic Review*, 59 (3), 1450026,1-53.

Tse Y.K. and Yip P.S.L. (2006), Exchange Rate Systems and Interest Rate Behaviour: The Experience of Hong Kong and Singapore, *International Review of Economics and Finance*, Vol. 15, No.2, pp 212-227.

Tse Y.K. and Yip P.S.L. (2003), The Impacts of Hong Kong's Currency Board Reforms on the Interbank Rate, *Journal of Banking and Finance*, 27, 2273-96.

Yip P.S.L. (1999), The Speculative Attack in Hong Kong amid the Asian Financial Crisis, *Asian Pacific Journal of Finance*, 2 (1), 79-92.

+ other recommended journal papers

+ updated supplementary reading materials and list of policy recommendations published

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